# SUSTAINABILITY REPORT ACEA GROUP 2022

(Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared in accordance with the GRI Standards)

# SUSTAINABILITY REPORT ACEA GROUP 2022

(Consolidated Non-Financial Statement
pursuant to Legislative Decree no. 254/2016,
prepared in accordance with the GRI Standards)

# LIST OF CONTENTS


LETTER TO THE STAKEHOLDERS 4
HIGHLIGHTS 6
DISCLOSING SUSTAINABILITY: METHODOLOGICAL NOTE 10


## 1 CORPORATE IDENTITY


GROUP PROFILE 20
Acea's history 20
Businesses and functions of the main Group companies 20
Context analysis and business model 22
Ownership structure and general economic indicators 30

INFORMATION REQUIRED BY THE EUROPEAN TAXONOMY 31
Analysis of eligibility and alignment 31
Economic and financial KPIs 34
Accounting standards and supplementary information pursuant to Regulation 2020/852 36

STRATEGY AND SUSTAINABILITY 44
Integrated strategy overview 44
The 2020-2024 Sustainability Plan and the operational goals 50

CORPORATE GOVERNANCE AND MANAGEMENT SYSTEMS 70
Corporate governance at Acea 70
Internal Control and Risk Management System 74
Management systems 85

STAKEHOLDERS AND ALLOCATION OF GENERATED VALUE 87
Stakeholders and their involvement 87
Distribution of the value generated by Acea 93


## 2 RELATIONS WITH THE STAKEHOLDERS


CUSTOMERS AND THE COMMUNITY 96
Acea Group customers: electricity and water services 96
Perceived quality 100
Quality delivered 106
Pricing 127
Customer care 128
Communications, events and solidarity 138

SUPPLIERS 147
Consolidated External Costs 147
Procurement Policies 147
Analysis of procurements and the supply chain 149
Sustainability in the selection and assessment of suppliers: from qualification to ongoing contracts 152
Health and safety along the supply chain: awareness raising and audits 154

STAFF 157
Acea's employees 157
Hours worked, salary and pension funds 162
Labour 164
Occupational health and safety 166
Human capital development and communications 169
Diversity, inclusion and welfare 176
Community life at Acea 178

SHAREHOLDERS AND INVESTORS 179
Economic flow to shareholders and investors 179
Agency ratings 180
Financial disclosure 180

INSTITUTIONS AND THE COMPANY 181
Relations with Institutions 181
The company as a stakeholder 187

WATER COMPANIES DATA SHEETS AND OVERSEAS ACTIVITIES 236
GRI CONTENT INDEX: REPORTING PRINCIPLES, UNIVERSAL STANDARDS, SPECIFIC STANDARDS AND MATERIAL TOPICS 250
INDEX OF CHARTS AND TABLES 264
ENVIRONMENTAL ACCOUNTS 267
OPINION LETTER OF THE INDEPENDENT AUDITOR 303

## RELATIONS WITH THE ENVIRONMENT

**ENVIRONMENTAL SUSTAINABILITY AND THE PRIMARY CHALLENGES 196**
Environmental and climate risks: in-depth analysis and disclosure 197
Environmental management 198
Safeguarding of land and biodiversity 199

**ENERGY SEGMENT 206**
Energy production: fossil and renewable energy sources 207
Energy distribution 209

**ENVIRONMENT SEGMENT 210**
Waste-to-energy, composting, disposal of solid and liquid waste and related services 211

**WATER SEGMENT 214**
Water quality 215
Water Safety Plans (WSPs) 217
Water losses 217
Sewerage service and treatment system 219

**THE USE OF MATERIALS, ENERGY AND WATER 222**
Consumption of materials 222
Energy consumption 222
Energy saving 224
Attention to the use of water resources 225

**EMISSIONS 227**
Atmospheric emissions 227

**WASTE 231**
Waste from the Integrated Water System 231
Waste from the environment segment 233
Waste from distribution of electricity 234
Management and minimisation of waste produced 235

# LETTER TO THE STAKEHOLDERS

In 2022, we saw significant social, geopolitical and economic events, which made the reference context very challenging. During these particular events, Acea sought to accelerate its sustainable development even further by implementing major ESG initiatives. To cite a few examples, in the water segment, we achieved a 6% reduction in water volume lost compared to 2021 (14% compared to 2020), of the total electricity sold to customers on the free market 42% was green energy, we increased the production of quality compost by 31% compared to the previous year, we focused on training for our people, delivering around 208,400 hours of training, and Acea SpA was the first Italian multiutility company to achieve UNI/PdR 125:2002 certification for gender equality.

The drive towards a future of sustainable success is expressed fully in the updated edition of the *Group's Code of Ethics* — approved by the Acea SpA Board of Directors in November 2022 — which cites sustainability, responsibility to stakeholders, and environmental protection as three of its main values and principles.

These value references only take on their full meaning when they are applied to corporate management in practice, and it is not by chance that the same *Code* outlines them in reference to investment planning, the performance of activities to achieve sustainable success, in short, the effective integration of social and environmental aspects into corporate growth strategies. After over a century of operation, Acea has demonstrated its ability to grow and constantly evolve while keeping pace with rapidly changing requirements, providing essential quality infrastructure to promote the changing environment and to be sustainable. For example, today, the processes of digitalisation and the frontiers of innovation are two industry-wide drivers. Digitalisation and computerisation have had and are having a significant impact on all activities, be it the remote management of infrastructure, which optimises processes and makes it possible to quickly catch the need for intervention, speeding up the intervention itself, or the transformation of customer contact channels, now advanced and exacting, or even how employees do their jobs. Innovation and research allow us to explore new possibilities and operating methods and encourage the evolution of the businesses we manage. Just think of the previously unimagined opportunities that the circular economy is opening up, and we must act quickly and proactively to accelerate the ecological transition for the transformation not only of businesses in Italy, but economies around the world.

Currently, research applied to our operating situation allows us to use drones to inspect networks or sophisticated artificial intelligence tools to implement predictive models on water availability, for example. This also includes the "smartification" of energy infrastructure, which is increasingly more important for developing flexible networks and "energy communities". The Group company that oversees electricity distribution, Areti, alongside RSE (*Ricerca sul Sistema Energetico*, Energy System Research), is supporting the Italian Ministry for the Ecological Transition in its *GreenPowered Future Mission* to develop smart grids. Applied research allow us to perform highly advanced analyses on emerging organic micropollutants in water, identify secondary raw materials, and explore new possibilities for reuse. Over the past year, the companies in the Environment Segment, involved in the circular economy, received two EMAS awards for cutting-edge research and experimental projects, one of which, for example, studied the reuse of fly ash and bottom ash, which are wastes products of the waste-to-energy process. The potential spaces for further evolution are therefore expanding.

Our definition of sustainable success does not overlook the preservation of the natural environment, the increased ability to adapt to and predict the climate change already happening, and the commitment to mitigating its future effects, nor does it overlook social inclusivity. For us, this means offering essential services of increasing quality, advanced infrastructure to accompany growth in the regions where we operate, and a clear commitment to health and safety, job stability, the importance of continuous training, engagement of talent and new generations, plus contribution to individual and collective well-being. These basic principles will guide the Group's future developments.

**The Chairperson**
**Barbara Marinali**

**The Chief Executive Officer**
**Fabrizio Palermo**

# HIGHLIGHTS

## RELATIONS WITH THE STAKEHOLDERS

### CUSTOMERS

**208.5** t/year **of paper saved** thanks to the web bill option **(+37%)**

**2,536** GWh **"Green" energy** sold by Acea Energia to customers on the free market **(+ 15%)**

around **40,000** people interviewed for customer and citizen **satisfaction surveys** on the services provided

### COMMUNITY

**165** **Water Kiosks** active: **38.7 million** litres supplied, **774 t** of plastic/year saved and over **2,000 t** of $CO_2$ not emitted into the atmosphere

**19th** **Press, Outdoor & Promotion Key Award**: special award for the institutional campaign **Leaders in the Ecological Transition**

around **106,000** devices with **Waidy Wow** installed, the "community for water" app

### SHAREHOLDERS AND INVESTORS

**SE Mid Index**
Acea included in the index for the first time

issued **1st** **Sustainability Rating-linked Loan by Acea**

**51%** of total institutional investors **ESG investors**

## INSTITUTIONS AND THE COMPANY

**Innovazione SMAU 2022 Award** for the project **3W - Women, Welfare and Work-Life Balance – Start-ups for a better life**

**Acea Innovation Antenna** scouting for **innovative start-ups and solutions** in Silicon Valley

**3rd Acea Innovation Day** People, Territories and Experiences through the Ecological and Digital Transition

## PERSONNEL

**Acea is the 1st** Italian multiutility company to achieve **UNI/PdR 125:2022 certification for gender equality**

**208,391 hours of training** provided in the year, of which **110,000 hours on Health and Safety**

**43% of new hires** are **under 30 years old**

## SUPPLIERS

over **€1.9 billion** the total value of the Order 2022 and **3,780 suppliers** involved

**14,724 safety inspections** at construction sites: **lower incidence of "major" non-conformities**

ESG

**339** suppliers, assessed according to the **Ecovadis** model **(+129%)**

# HIGHLIGHTS

## RELATIONS WITH THE ENVIRONMENT

### WATER

**474** **Mm³ of drinking water is supplied** by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF

**759** **Mm³ of waste water processed by** the Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF treatment plants

around **739,500** **analytical determinations** on the drinking water supplied by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF

around **66**% **recovered sludge**

### ENVIRONMENT

**36** **GWh** of electricity produced from **20,207** **kNm³ of recovered biogas**

**337** **GWh** electricity produced from **waste-to-energy**

**83**% of **recovered ash** on total produced in the waste-to-energy plants

**36,976** **t** of **Quality Compost produced (+31%)**

## PRODUCTION AND DISTRIBUTION OF ENERGY

**10,000 GWh**
requested on the electricity distribution network

**273,294 2G meters**
installed in the territory

**49%** of the **territorial protection** index (underground HV network/ total HV network)

**58 km**
of MV cable modernised and **88 secondary substations** renovated for **resilience to critical "heat waves" and "flooding" factors**

## GROUP

**350 Gwh**
of electrical consumption of the Group's member companies from **GO-certified renewable energy**
equal to around **110 kt of $CO_2$** avoided

**-13%**
of **emissions from electricity sales** (market-based) thanks to higher volumes of certified renewable energy sold

**47%**
of **waste recovered** on the total waste produced

**46%**
**of the water used** by the Company **is recovered**

# DISCLOSING SUSTAINABILITY: METHODOLOGICAL NOTE

## SUSTAINABILITY PERFORMANCE: LEGISLATIVE DECREE NO. 254/2016, REGULATION 2020/852 AND GRI STANDARD

Acea has published a report on the Group's social and environmental performance since 1999 (for FY 1998), the year when the Parent Company was listed on the stock exchange. Since then, the sustainability report complies with the annual publication frequency, is prepared according to international Guidelines[1] and is subject to third-party verification. Since the 2017 edition, the Sustainability Report has also complied with Legislative Decree no. 254/2016[2], which transposed EU Directive 95/2014 into Italian law. Under the Decree, companies that meet the conditions set out in article 2 are required to publish their sustainability performance in **a non-financial statement – individual or consolidated –** which contains information: "(...) *to an extent necessary for ensuring an understanding of the company's activity, its performance, results and the impact it produces, relating to environmental, social and employee matters, respect for human rights, anti-corruption and bribery matters, which are relevant given the activities and characteristics of the enterprise (...)*"[3].

**It is also worth noting the entry into force of Regulation 2020/852[4],** which "*establishes the criteria for determining whether an economic activity can be considered environmentally sustainable*"[5]. The Regulation - also known as "EU Taxonomy" - states, for the second year of application[6], that companies subject to the requirement to publish information of a non-financial nature include in the Non-Financial Statement – individual or consolidated – information on the activities "eligible" and "aligned" with the taxonomy and on quantitative performance indicators economic (KPI) - in particular, the turnover, CapEx and OpEx shares - attributable to them[7].

1 After also following other guidance, Acea opted for compliance with the guidelines issued by the Global Reporting Initiative (GRI), applying them starting with the 2002 Sustainability Report with the highest level of "compliance" possible and following its progressive development. In this regard, the most recent version (2021) of the set of GRI Universal Standards, in force since 1 January 2023, for reporting year 2022, provides for exceeding the accordance levels, as explained below.

2 Article 1, paragraph 1073 of the 2019 Budget Law introduced an amendment to Legislative Decree no. 254/2016, art. 3, paragraph 1, letter c, also prescribing the illustration of the methods for managing the main risks.

3 Legislative Decree no. 254/2016 as amended, in particular articles 2, 3, paragraphs 1, 4.

4 As part of the Action Plan on Sustainable Finance adopted in March 2018 by the European Commission to steer the capital market towards a more sustainable development model, in June 2020, Regulation 852/2020 was approved "*relating to the establishment of a framework that favours sustainable investments*", which entered into force on 12 July 2020.

5 Article 1 of the Regulation - *Object and scope of application* - states: *"This regulation establishes the criteria for determining whether an economic activity can be considered environmentally sustainable, in order to identify the degree of environmental sustainability of an investment"*. The economic activities that the Regulation identifies are considered for their substantial contribution to achieving 6 environmental objectives: climate change mitigation; adaptation to climate change; sustainable use and protection of water and marine resources; transition to the circular economy, also with reference to waste reduction and recycling; pollution prevention and control; protection of biodiversity and the health of ecosystems. The Regulation has currently governed the first 2 objectives, on climate change, through the *Climate Delegated Act* (2021/2139), which was supplemented, in 2022, by the *Complementary Delegated Act* (2022/1214) on activities related to the use of fossil gas and nuclear in the energy sector.

6 Article 10 of the *Disclosure Delegated Act* (2021/2178), adopted by the European Commission in July 2021, also governed the gradual entry into force of the Regulation: "*From 1 January 2022 until 31 December 2022, non-financial companies should only report the share of economic activities eligible for the taxonomy and not eligible for the taxonomy within their turnover, their capital grants and their total operating expenditure and the qualitative information referred to in section 1.2. of Annex I relevant to the information in question*". Reporting regarding "taxonomy-aligned" activities, again in relation to the first 2 environmental objectives currently governed, instead applies from 1 January 2023 for financial year 2022 ("*The key performance indicators of non-financial undertakings, including any accompanying information to be disclosed pursuant to Annexes I and II to this Regulation, shall be disclosed from 1 January 2023*").

7 Regulation 2020/852, art. 8, paragraphs 1 and 2, reads: "*Any company subject to the requirement to publish information of a non-financial nature (...) includes (...) in the consolidated statement of a non-financial nature, information on how and to what extent the company's activities are associated with economic activities considered environmentally sustainable pursuant to articles 3 and 9 of this regulation* ". (...) "*In particular, non-financial companies communicate the following: a) the share of their turnover deriving from products or services associated with economic activities considered environmentally sustainable pursuant to articles 3 and 9; and b) the share of their capital grants and the share of operating expenditure relating to assets or processes associated with economic activities considered environmentally sustainable pursuant to articles 3 and 9*". The *Disclosure Delegated Act* (2021/2178), adopted in July 2021, was "*intended to specify the content, methodology and presentation of information that must be communicated by companies*".

This *Sustainability Report*, for the financial year 2022 has been prepared in accordance with the GRI Standards[8]: and is therefore called *Acea Group's 2022 Sustainability Report (Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared in accordance with the GRI Standards)*, taking the form of an autonomous document, as permitted by the aforementioned Legislative Decree[9] (later in the document, "NFS" or "*Sustainability Report*" or*Consolidated Non-Financial Statement*").

The *Consolidated Non-Financial Statement* also includes the disclosure required by Regulation 2020/852 and by Delegated Regulations 2021/2178 and 2021/2139 (the latter supplemented by Delegated Regulation 2022/1214). The disclosure will therefore concern the same set of companies included in the NFS scope, considered significant and adequately representative of the Group pursuant to Legislative Decree no. 254/2016 (see the paragraph on *Materiality, GRI Standards and scope of the report* below). The findings that emerged are reported in the chapter *Information required by the European Taxonomy*.

*The Sustainability Report, enclosing a Summary Note*, following its approval by the Board of Directors, is available to the supervisory body and submitted for *limited assurance* by the independent auditor, with which Acea has no joint interests or other connections and appointed in order to assess the compliance thereof with Legislative Decree no. 254/2016 and its consistency with the implemented reporting standards[10]; the *limited assurance* does not concern the information and data relating to the EU Taxonomy or the requests of art. 8 of EU Regulation 2020/852 (see *Opinion Letter of the independent auditor*).

The document is disseminated through publication on the institutional website at the same time as *the Consolidated Financial Statements* and distributed during the Shareholders' Meeting.

## NON-FINANCIAL DISCLOSURE IN ITALY: THE REPORT BY CONSOB RESEARCHERS ON LISTED COMPANIES 2021

In **June 2022**, Consob researchers, with the collaboration of Methods, published the **fourth report on the reporting of non-financial information of listed companies** in Italy (2021 data). The study analyses how **151 Italian companies** subject to Legislative Decree no. 254/2016 implement the non-financial statement (NFS) obligations, with a particular focus on "*conduct that could mark progress in the cultural transformation process linked to the consideration of ESG factors*". Therefore, the research measures the integration of sustainability into corporate governance while observing other areas and documents, including **corporate governance reports** and the **remuneration policy**. In particular, the study focused on the materiality analysis and on the involvement of the Management bodies, on the strategic plans (on the websites), and on the remuneration policies, highlighting the evolution of companies with regard to the management of ESG factors. Looking at the trend in the **three-year figures** (2021 compared to 2019, where available), and using "materiality" and its representation, **all the companies** analysed **declared that they had carried out the materiality analysis**, and 81% had also provided a matrix representation (71.5% in 2019). The **involvement of top management** in the process of the materiality analysis also increased (55% in 2021, 45.7% in 2019), as did the involvement of **external stakeholders** (53.6% in 2021, 46.4% in 2019) and cases in which companies involved **external as well as internal parties** (49.7% in 2021, 39.7% in 2019). **Participation of the BoD** also showed a particular increase, which intervenes by sharing, validating or approving the results of the materiality analysis, testifying to their strategic importance (33.8% in 2021, 13.9% in 2019). Finally, another sign of the integration of sustainability into the company's vision was captured by analysing the extracts from the Strategic Plans published on the websites, which highlight the increase in references to **long-term valuable elements**, including the Sustainable Development Goals (SDG) of the 2030 Agenda (10.6% in 2021, 7.9% in 2019). The report also examined the **induction and self-evaluation programmes of the Management bodies**, as indicators of a process of continuous improvement, which records an increasing value for the inclusion of ESG issues in updating initiatives of the BoD members (35% in 2021, 18.5% in 2019) and in the Board's assessment processes (29.8% in 2021 and 13.9% in 2019). Finally, with regard to the remuneration policies of senior management as a lever for the integration of ESG factors in business management, the researchers, based on the Reports on the remuneration policy and remuneration paid (2019 and 2020 data), noted the significant increase of businesses that include **non-financial factors in the remuneration of CEOs** (47.1 in 2020 and 27.6 in 2019). In this regard, the aspects most recalled for short-term remuneration were confirmed, which, for the social area are those related to **employees** (diversity and inclusion, remote working, training, health and safety) and **customer satisfaction**, whereas for the environment area, the most consolidated topic was **$CO_2$ emissions**.

8 In 2016, when the previous version of the Guidelines (GRI-G4) were superseded and further developed, the Global Reporting Initiative (GRI) published the GRI Standards - *Consolidated set of GRI Sustainability reporting standards 2016*. Since then, GRI has also issued updates to individual standards, without having to re-edit the entire set, of which it indicates the mandatory adoption deadlines for reporting. In 2021, the new edition of the Universal Standards (GRI 1, GRI 2, and GRI 3) was published, with mandatory application from 2023 (for reporting year 2022). GRI 1 indicates the requirements to be followed for reporting "*in accordance with the GRI Standards*". For more information, go to www.globalreporting.org.

9 Legislative Decree no. 254/2016, art. 4 and art. 5, paragraph 3b.

10 Legislative Decree no. 254/2016, under art. 3, paragraph 10, provides that: "*The subject entitled to perform the statutory audit of the Sustainability Report (...) or another subject entitled to carry out the statutory audit as specifically designated*" issues "*a certification concerning the compliance of the provided information with the requirements under this legislative decree and the principles, methods and procedures provided under paragraph 3*". Namely principles and methodologies: "*provided by the reporting standard used as reference (...)*".

## MATERIALITY, GRI STANDARDS AND REPORT SCOPE

In 2022, Acea conducted a **new materiality analysis cycle** intended to **consult with stakeholders and managers to identify the main economic, governance, social and environmental topics** (so-called "material" topics) linked to the Group's businesses and **prioritise them, considering the effects associated with them** (on businesses, natural environment, society and stakeholders themselves).
The new cycle was carried out using an updated method, including in light of the changes made to the reporting standards:

- to better investigate the **double materiality perspective**, the **direct engagement of (internal and external) stakeholders was upgraded**, increasing the number of people who took part in the analysis, in particular, corporate and territorial stakeholders, and expanding the methods of engagement by introducing **an online survey to assess the topics and associated effects** which **supplemented** the traditional **focus groups** and **one-on-one interviews** held;
- to identify which **ESG aspects** have the greatest **impact on the Company** (performance, results, development, etc.), in addition to the perspective of managers, **information from the financial community** was considered by identifying the most recurring ESG topics in analyst evaluations and **further synergy was developed with the Enterprise Risk Management Unit** in analysing critical issues and opportunities presented by the managers on ESG topics;
- the **consideration of the impacts associated with the material topics was also emphasised**, and the **new criteria for evaluating their relevance were applied** (significance, extent of the impacts, remediability/probability, etc.).

The 2022 materiality analysis involved the following stages:

- a **document analysis**, conducted on around 30 documents (related to the scenario, representative of stakeholder requests, strategic and internal management, etc.), led to the identification of **15 potentially relevant topics and their main areas of impact**. These topics were shared with top management and subsequently submitted for evaluation by the Group's stakeholders and managers;
- **identification of the (external and internal) stakeholders** to be involved in the analysis using the Group Stakeholder Register, carried out in collaboration with a large number of structures at the holding and operating companies, which led to a focus on the following stakeholder categories: institutions, peers and competitors, business partners, associations, scientific community, suppliers, customers and consumer associations, employees, trade unions, the media, new generations;
- **the direct engagement of (external and internal) stakeholders**, carried out using an online **survey** to evaluate the topics (accompanied by a glossary giving their broadest meaning) and the associated areas of impact found in the document analysis (141 respondents), the creation and development of **two multistakeholder focus groups** (69 people involved) – one at business level (stakeholders identified by the operating companies) and one at corporate level (stakeholders of the holding company) – during which the impacts associated with the topics evaluated in the survey were discussed and explored, and 17 one-on-one **interviews**, mainly held with institutional stakeholders;
- the **direct engagement of Group managers** through the **survey** to evaluate the topics and associated effects and a **special meeting** attended by **36 company managers**. During the meeting, the managers, who were presented with the main results of the multistakeholder consultation, evaluated, also on the basis of several suggestions put forward by the Enterprise Risk Management Unit, the relevance of the topics proposed and the critical issues and opportunities created for the Group.

Following the focus groups, conducted by qualified facilitators, **the results were analysed** considering the opinions and contributions of stakeholders and managers in light of the impact measurement criteria defined by the GRI Standards (significance, extent, remediability, etc.) and **the output was processed**, creating the **2022 materiality matrix** and preparing **the list of material topics and associated impacts**, as perceived by the stakeholders[11].
The materiality analysis process and its results are **returned** with reports dedicated **to stakeholders and managers involved** and are **shared** with the **Ethics and Sustainability and Control and Risk Committees** and the **Board of Statutory Auditors**.

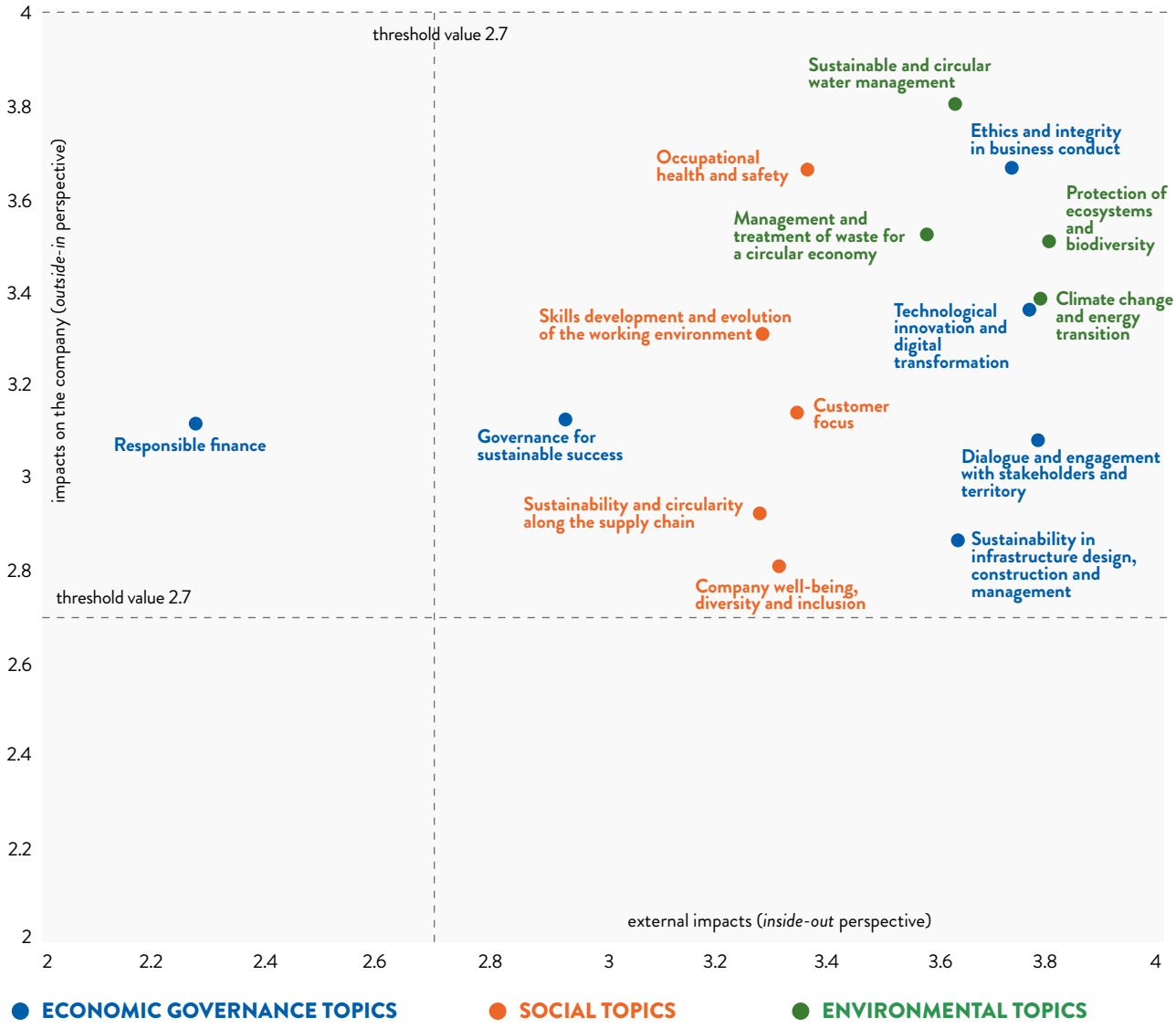
The **2022 materiality matrix** represents the topics **according to the double materiality perspective** of stakeholders and managers[12]. The matrix distributes **the 15 economic, governance, social and environmental topics**[13] into **low, medium and high relevance** (prioritised on a scale from 0-4). In particular, **14 topics** are located in the **high significance** area (score 2.8-4) and **1 in the medium significance** area (score 1.5-2.7) (see Chart no. 1).
The **positioning of the topics was determined by considering the significance evaluations** expressed by stakeholders and managers on the effects associated with each material topic as a whole, **the extent of the effects**, defined, from the *inside out perspective*, by considering the number of stakeholders involved in the effects generated and, from the *outside in perspective*, by associating effects and related topics with business indicators (EBITDA and investments), and **the level of remediability/probability of the effects** (negative, positive, etc.) evaluated based on the managerial/operational oversight of Acea.

11 The detailed list of material topics and related effects is in the Report in "*Stakeholders and Their Involvement*" section.

12 In addition to providing the list of material topics, Acea also decided to continue to represent them in a matrix (no longer required by the GRI Standards), specifically due to the greater efficacy in showing the double materiality perspective.

13 Each topic, mentioned briefly here, has a broader meaning, given in a glossary provided to all stakeholders involved in the analysis process.

**Chart no. 1 – Relevant topics for the company and its stakeholders: Acea materiality matrix – 2022**




Compared to the previous reporting cycle, the material topics decreased from 19 to 15. Nevertheless, in their broadest sense submitted to the stakeholders, the topics *Governance for sustainable success*, *Protection of ecosystems and biodiversity*, and *Technological innovation and digital transformation* now incorporate the aspects covered, in the previous analysis cycle, by the topics *Performance management systems for sustainability in the medium and long term*, *Integrated risk management (threats and opportunities)*, *Protection of air quality*, *Innovation of smart utility processes, infrastructure and services*, and *Business evolution through open innovation*.

Table no. 1 contains **the list of the 2022 material topics, in order of significance**, defined on the basis of the joint consideration of the multistakeholder and managerial perspective and their **correspondence with the reporting disclosures**.

Besides being a strategic reference, **the Acea Materiality Matrix** is necessary to identify which **aspects to include in greater or lesser detail**, depending on the results of prioritisation, and to **select the "specific disclosures" required by the adopted standards**.

Taking into account the **changes to the framework**[14], in force from 2023 for financial year 2022, this *Acea Group 2022 Sustainability Report* has been prepared **in accordance with the GRI Standards**[15]. This involves the breakdown of the performance according to:

- the new set of **Universal Standards**, which include the **requirements** and **reporting principles** (in GRI 1: Foundation 2021), the **30 disclosures of the General Standards**[16] (in GRI 2: General Disclosures 2021), and the **methods for identifying and managing material topics** (disclosures envisaged by GRI 3: Material Topics 2021);

14 In particular, the review of the Universal Standards – GRI 1: Foundation 2021, GRI 2: General Disclosures 2021 and GRI 3: Material Topics 2021, which were issued to revise and succeed the previous GRI 101: Foundation, GRI 102: General Disclosures and GRI 103: Management approach.

15 Until 2021, Acea had prepared the Sustainability Report according to the *Comprehensive* option, the highest level of compliance envisaged by the GRI Standards. Today, this option has been replaced by the change in the framework which provides for the possibility to prepare a sustainability report in accordance with the GRI Standards by meeting 9 "compliance requirements", defined in GRI 1: Foundation 2021, or to prepare a report with reference to the GRI Standards and therefore one that is not fully compliant.

16 In the previous edition of the Universal Standards, there were 56 general disclosures.

- the **individual disclosures of the Specific Standards**[17] (referring to economic and governance, social and environmental issues) **related to the material topics of high significance for Acea**, selected from 85 total disclosures, included in the 31 Specific Standards.

The latter is a new development introduced by the 2021 review of the GRI Universal Standards. The obligation to report a minimum number of disclosures in the Specific Standards no longer exists, while the relationship between individual specific disclosures and material topics is emphasised[18], to best represent the main impacts of the organisation.

In this sense, an analysis was carried out to select the specific GRI "material" disclosures, considering their correlation with the Acea material topics of high significance as well as the meaning attributed to them by the International Standards, in certain cases adapting them to the corporate reality and in others ruling out their materiality[19]. The analysis led to the identification of **71 specific "material" disclosures, contained in 23 Specific Standards**, **which are related to all Acea material topics of high significance**. The only material topic found to be of "medium significance" – *Responsible Finance* – is also discussed in the report, but to a lesser extent[20] (see Table no. 1).

**Table no. 1 – List of the Acea "material topics" in order of significance and GRI "specific disclosures" related to topics of high significance**

| TOPICS OF HIGH SIGNIFICANCE | GRI SPECIFIC DISCLOSURES |
|---|---|
| 1. SUSTAINABLE AND CIRCULAR WATER MANAGEMENT | 201-2; 301-1; 301-2; 302-1; 302-3; 302-4; 303-1; 303-2; 303-3; 303-4; 303-5; 304-1; 304-2; 304-3.` |
| 2. ETHICS AND INTEGRITY IN BUSINESS CONDUCT | 201-4; 205-1; 205-2; 205-3; 206-1; 403-1; 406-1; 413-2; 416-2; 417-1;417-2; 417-3; 418-1. |
| 3. PROTECTION OF ECOSYSTEMS AND BIODIVERSITY | 201-1; 203-2; 302-1; 302-2; 302-3; 302-4; 303-1; 303-2; 303-3; 303-4; 303-5; 304-1; 304-2; 304-3; 304-4; 305-1; 305-2; 305-6; 305-7; 306-1; 306-2; 306-3 (2016); 303-6 (2020); 306-4; 306-5. |
| 4. CLIMATE CHANGE AND ENERGY TRANSITION | 201-1; 201-2; 203-2; 302-1; 302-2; 302-3; 302-4; 302-5; 305-1; 305-2; 305-3; 305-4; 305-5; 305-6. |
| 5. TECHNOLOGICAL INNOVATION AND DIGITAL TRANSFORMATION | 201-1; 201-2; 203-1; 203-2; 301-2; 302-1; 302-2; 302-3; 302-4; 302-5; 303-1; 303-5. |
| 6. MANAGEMENT AND TREATMENT OF WASTE FOR A CIRCULAR ECONOMY | 201-2; 301-1; 301-2; 306-1; 306-2; 306-3 (2020); 306-4; 306-5. |
| 7. OCCUPATIONAL HEALTH AND SAFETY | 201-1; 403-1; 403-2; 403-3; 403-4; 403-5; 403-6; 403-8; 403-9; 403-10; 414-1; 414-2. |
| 8. DIALOGUE AND ENGAGEMENT WITH STAKEHOLDERS AND TERRITORY | 203-1; 203-2; 303-1; 304-3; 308-2; 401-1; 403-4; 406-1; 413-1; 413-2; 414-1; 416-1. |
| 9. SKILLS DEVELOPMENT AND EVOLUTION OF THE WORKING ENVIRONMENT | 201-1; 205-2; 401-1; 401-2; 401-3; 402-1; 404-1; 404-2; 404-3. |
| 10. SUSTAINABILITY IN INFRASTRUCTURE DESIGN, CONSTRUCTION AND MANAGEMENT | 201-1; 201-2; 203-1;203-2; 302-5; 303-1; 304-2; 304-3; 306-2; 308-2; 413-1; 413-2; 414-1; 414-2; 416-1. |
| 11. CUSTOMER FOCUS | 201-1; 201-2; 203-1; 203-2; 206-1; 303-1; 305-3; 416-1; 416-2; 417-1; 417-2; 418-1. |
| 12. SUSTAINABILITY AND CIRCULARITY ALONG THE SUPPLY CHAIN | 201-1; 201-2; 203-2; 204-1; 205-2; 301-1; 301-2; 302-2; 303-1; 303-5; 305-3; 306-1; 308-1; 308-2; 403-1; 403-2; 403-3; 403-4; 403-5; 403-6; 403-8; 403-9; 403-10; 414-1; 414-2. |
| 13. COMPANY WELL-BEING, DIVERSITY AND INCLUSION | 201-3; 401-1; 401-2; 401-3; 403-6; 405-1; 405-2; 406-1. |
| 14. GOVERNANCE FOR SUSTAINABLE SUCCESS | 201-2; 405-1. |
| **TOPIC OF MEDIUM SIGNIFICANCE** | |
| 15. RESPONSIBLE FINANCE | |

● **ECONOMIC GOVERNANCE TOPICS** ● **SOCIAL TOPICS** ● **ENVIRONMENTAL TOPICS**

17 The Specific Standards and their disclosures also underwent certain changes with the evolution of the framework. For example, they are no longer grouped into three "series" (200: economic, 300: environmental and 400: social), though they have maintained the same numbering and related year of publication. In the current version, there are also 31 Specific Standards (there were 34 in the past), since several have been incorporated into the general disclosures, such as GRI 307: Environmental Compliance 2016 and GRI 419: Socioeconomic Compliance 2016, which merged with the new general disclosure GRI 2-27: Compliance with laws and regulations 2021. Lastly, no change has been made to the specific disclosure 306-3: Significant spills 2016, despite there being a more recent disclosure with the same numbering (306-3: Waste generated 2020).

18 It is important to consider that the GRI Specific Standards – each of which includes a description of the management method and a certain number of disclosures – and Acea material topics both refer to contents that are far more complex and detailed than their brief name may suggest, which, given their level of detail, cannot be presented at this time. See the GRI Standards on the website www.globalreporting.org.

19 By way of example and not limited to, this has led to the exclusion of specific disclosures which, according to the meaning given to them by the GRI, are more pertinent to multinational enterprises and not suited to the reality of the Group's most significant operations.

20 The topic *Responsible Finance* is nevertheless paired with specific disclosures (201-1, 201-4, 203-1) already related to topics of high significance and, therefore, reported.

The **principle of materiality** or significance is also applied to the **definition of the "report scope"**, as envisaged both by the GRI Standards and by Legislative Decree no. 254/2016. The latter, indeed, under art. 4, states: "*To an extent necessary for ensuring an understanding of the group's business, its performance, results and the impact it produces, the consolidated declaration includes data about the parent company, its fully consolidated subsidiary companies and covers the topics pursuant to article 3, paragraph 1*".

**The qualitative and quantitative criteria** necessary to identify the companies that ensure an understanding of the Group's business, performance, results and the impact it produces, have again been measured in 2022, confirming their adequacy. **Qualitative** criteria highlight the significance of the role carried out by the companies for the Group's qualifying business (namely, companies carrying out a relevant and current role in the main businesses, or due to the services they provide, and in implementation of the industrial and sustainability plans) and territoriality (namely, the operations in the geographic area in which **almost all of the turnover is generated**, the majority of the stakeholders are located and a large part of the **managed assets** are located). **Quantitative** criteria concern, for all companies included according to the qualitative criteria, correspondence to a **minimum value over 90% of the entire scope of consolidation** with reference to specific **economic data** (turnover, CapEx and OpEx) and **social and environmental** data (customers and $CO_2$ emissions). In-depth analyses were also carried out on the Water Business, given its strategic importance, verifying, for the companies included, a minimum sector coverage of 90% on relevant data (drinking water dispensed, waste water treated), as well as on the Environment Business, detecting a coverage of around 80% of waste treated.

As regards the companies included in the scope of line-by-line consolidation of the Parent Company 2022 (see Table no. 2), the analysis led to a scope proposal, presented to the competent board committees and to the Board of Statutory Auditors. As a result, the scope was completed and, after consulting with the CFO, **shared with top management** and finally **presented to the Ethics and Sustainability and Control and Risks Committees** and to the corporate control body.

In light of the above factors, the **scope for the 2022 Acea Consolidated Non-Financial Statement (NFS)**, using the scope of the 2021 NFS, for which all companies were reconfirmed net of those that left the scope of line-by-line consolidation[21], provides for the entry of **Deco SpA**, a new company in the Environment Segment, in line with the ongoing expansion of the business, and **SF ISLAND Srl** in the Generation business unit (photovoltaic energy), albeit not yet operational[22] (see Table no. 3)[23].

**Table no. 2 – Companies included in the Parent Company's full consolidation area (2022)**

| COMPANY | REGISTERED OFFICE |
|---|---|
| Acea Ambiente Srl | P.le Ostiense, 2 – Rome |
| Aquaser Srl | P.le Ostiense, 2 – Rome |
| Iseco SpA | Loc. Surpian n. 10 - 11020 Saint-Marcel (AO) |
| Berg SpA | Via delle Industrie, 38 - Frosinone (FR) |
| Demap Srl | Via Giotto, 13 - Beinasco (TO) |
| Acque Industriali Srl | Via Bellatalla, 1 – Ospedaletto (Pisa) |
| Deco SpA | Via Vomano, 14 - Spoltore (PE) |
| A.S. Recycling Srl | Via dei Trasporti, 14 - Carpi (MO) |
| Ecologica Sangro SpA | Strada Provinciale Pedemontana km 10 Frazione Contrada Cerratina - Lanciano (CH) |
| S.E.R. Plast Srl | Contrada Stampalone, Cellino Attanasio (TE) |
| Consorzio Servizi Ecologici del Frentano "Ecofrentano" | Strada Provinciale Pedemontana km 10 - 66034 Frazione Cerratina - Lanciano (CH) |
| Meg Srl | Via 11 Settembre, 8 - San Giovanni Illarione (VR) |
| Ferrocart Srl | Via Vanzetti, 34 - Terni |
| Cavallari Srl | Via dell'Industria, 6 - Ostra (AN) |
| Italmacero Srl | Via dell'Artigianato 3 – Falconara Marittima (AN) |
| Tecnoservizi Srl | Via Bruno Pontecorvo, 1/B - Rome |
| Acea Energia SpA | P.le Ostiense, 2 - Rome |
| Cesap Vendita Gas Srl | Via del Teatro, 9 - Bastia Umbra (PG) |
| Umbria Energy SpA | Via B. Capponi, 100 - Terni |

21 In particular, these are companies operating in the photovoltaic field, for which Acea signed an agreement in December 2021 with UK infrastructure fund investor Equitix, to sell a majority stake in the newco to which Acea's photovoltaic assets already in operation or being connected to the grid in Italy have been transferred. In particular, in January 2022, AE Sun Capital Srl was established, held for 40% by Acea Produzione and 60% by the investment fund Equitix Investment Management. Since the agreement was finalised in the first quarter of 2022, several economic items are still connected to the companies that left the scope of line-by-line consolidation. In addition, the data related to the production of electricity from photovoltaic systems, connected to the subsidiary and not consolidated on a line-by-line basis, will be presented in the non-financial report in a different manner.

22 The hypothetical inclusion in the NFS 2022 of a PV company, albeit not yet operational, is essential to highlight the importance of the business and to measure its investments for taxonomy purposes. On the other hand, since they entered the scope of line-by-line consolidation in the final quarter of the year, Fergas Solar 2 and Acea Renewable 2 were excluded. The European Taxonomy Regulation also makes it possible to measure the economic items relating to the PV subsidiaries before leaving the scope of line-by-line consolidation.

23 In light of the applied criteria, the following companies are outside of the scope of the 2022 Consolidated Non-Financial Statement: Iseco, A.S. Recycling, Ecologica Sangro, S.E.R. Plast, Consorzio Servizi Ecologici del Frentano "Ecofrentano", Meg, Ferrocart, Cavallari, Italmacero, Tecnoservizi, Cesap Vendita Gas, Umbria Energy, Acea Energy Management, Acea Dominicana, Aguas de San Pedro, Acea International, Acea Perù, Consorcio Acea-Acea Dominicana, Consorcio Servicios Sur, Consorcio Agua Azul, Consorcio Acea, Consorcio Acea Lima Sur, Consorcio Acea Lima Norte, Acque Blu Arno Basso, Acque Blu Fiorentine, Acea Molise, Ombrone, Sarnese Vesuviano, Umbriadue Servizi Idrici, Adistribuzionegas, Servizi Idrici Integrati, Agile Academy, Notaresco Gas, ASM Terni, Acea Liquidation and Litigation, Fergas Solar 2, Acea Renewable 2, SIMAM, Technologies for Water Services.

| | |
|---|---|
| Acea Energy Management Srl | P.le Ostiense, 2 - Rome |
| Acea Innovation Srl | P.le Ostiense, 2 - Rome |
| Acea Dominicana SA | Avenida Las Americas - Esquina Mazoneria, Ensanche Ozama -Santo Domingo |
| Aguas de San Pedro SA | Las Palmas, 3 Avenida, 20 y 27 calle - San Pedro, Honduras |
| Acea International SA | Avenida Las Americas - Esquina Mazoneria, Ensanche Ozama -Santo Domingo |
| Acea Peru SAC | Cal. Amador Merino Reyna, 307 Miraflores - Lima |
| Consorcio Acea-Acea Dominicana | Avenida Las Americas - Esquina Mazoneria, Ensanche Ozama -Santo Domingo |
| Consorcio Servicios Sur | Calle Amador Merino Reyna 307 – Lima – Peru |
| Consorcio Agua Azul SA | Calle Amador Merino Reyna 307 – Lima – Peru |
| Consorcio Acea | Calle Amador Merino Reyna 307 – Lima – Peru |
| Consorcio Acea Lima Sur | Calle Amador Merino Reyna 307 – Lima – Peru |
| Consorcio Acea Lima Norte | Calle Amador Merino Reyna 307 – Lima – Peru |
| Acea Ato 2 SpA | P.le Ostiense, 2 - Rome |
| Acea Ato 5 SpA | Viale Roma snc - Frosinone |
| Acque Blu Arno Basso SpA | P.le Ostiense, 2 - Rome |
| Acque Blu Fiorentine SpA | P.le Ostiense, 2 - Rome |
| Acea Molise Srl | P.le Ostiense, 2 - Rome |
| Acquedotto del Fiora SpA | Via Mameli, 10 - Grosseto |
| Gesesa SpA | Corso Garibaldi, 8 – Benevento |
| Gori SpA | Via Trentola, 211 – Ercolano (NA) |
| Ombrone SpA | P.le Ostiense, 2 - Rome |
| Sarnese Vesuviano Srl | P.le Ostiense, 2 - Rome |
| Umbriadue Servizi Idrici Scarl | Via Aldo Bartocci, 29 - 05100 Terni |
| Adistribuzionegas Srl | Via L. Galvani, 17/A - 47122 Forlì |
| Servizi Idrici Integrati ScPA | Via I Maggio, 65 Terni |
| Agile Academy Srl | P.le Ostiense, 2 - Rome |
| Notaresco Gas Srl | Via Padre Frasca s.n. - frazione Chieti Scalo Centro Dama (CH) |
| ASM Terni SpA | Via Bruno Capponi 100 - Terni |
| Areti SpA | P.le Ostiense, 2 - Rome |
| Acea Produzione SpA | P.le Ostiense, 2 - Rome |
| Acea Liquidation and Litigation Srl | P.le Ostiense, 2 - Rome |
| Ecogena Srl | P.le Ostiense, 2 - Rome |
| SF ISLAND Srl | Via Cantorrivo, 44/C - Acquapendente (VT) |
| Acea Solar Srl | P.le Ostiense, 2 – Rome |
| Fergas Solar 2 Srl | Piazzale Ostiense, 2 - Rome |
| Acea Renewable Srl | Piazzale Ostiense, 2 - Rome |
| Acea Renewable 2 Srl | Piazzale Ostiense, 2 - Rome |
| Acea Elabori SpA | Via Vitorchiano - Rome |
| SIMAM SpA | Via Cimabue, 11/2 - 60019 Senigallia (AN) |
| Technologies For Water Services SpA | Via Ticino, 9 - 25015 Desenzano Del Garda (BS) |

**Table no. 3 – Scope of the Acea Group Consolidated Non-Financial Statement for 2022 (pursuant to Legislative Decree no. 254/2016 and the GRI Standards)**

| COMPANY | REGISTERED OFFICE |
|---|---|
| Acea SpA | P.le Ostiense, 2 – Rome |
| Acea Ambiente Srl | P.le Ostiense, 2 – Rome |
| Aquaser Srl | P.le Ostiense, 2 – Rome |
| Berg SpA | Via delle Industrie, 38 - Frosinone (FR) |
| Demap Srl | Via Giotto, 13 - Beinasco (TO) |
| Acque Industriali Srl | Via Bellatalla, 1 – Ospedaletto (Pisa) |
| Deco SpA | Via Vomano, 14 - Spoltore (PE) |
| Acea Energia SpA | P.le Ostiense, 2 - Rome |

| | |
|---|---|
| Acea Innovation Srl | P.le Ostiense, 2 - Rome |
| Acea Ato 2 SpA | P.le Ostiense, 2 - Rome |
| Acea Ato 5 SpA | Viale Roma snc - Frosinone |
| Acquedotto del Fiora SpA | Via Mameli,10 Grosseto |
| Gesesa SpA | Corso Garibaldi, 8 – Benevento |
| Gori SpA | Via Trentola, 211 – Ercolano (NA) |
| Areti SpA | P.le Ostiense, 2 - Rome |
| Acea Produzione SpA | P.le Ostiense, 2 - Rome |
| Ecogena Srl | P.le Ostiense, 2 Rome |
| SF ISLAND Srl | Via Cantorrivo, 44/C - Acquapendente (VT) |
| Acea Solar Srl | P.le Ostiense, 2 Rome |
| Acea Renewable Srl | Piazzale Ostiense, 2 - 00154 Rome |
| Acea Elabori SpA | Via Vitorchiano – Rome |

The scope of the *Acea Group's 2022 Sustainability Report*, albeit wider, guarantees **continuity and comparability** with the year before, as well as coverage of the companies **that ensure full understanding of the Group's activities** and **most significant sustainability performance**.
Lastly, **in compliance with the principle of completeness** required under **GRI Standards**, the *2022 Sustainability Report* includes qualitative and quantitative information regarding corporate and/or environmental matters of certain companies that are **not included within the scope of the Consolidated Non-Financial Statement**. In particular, this data relates to the **production of electricity from photovoltaic plants** attributable to AE Sun Capital, a subsidiary not consolidated on a line-by-line basis, and **environmental and social data and information** for **overseas activities** and for the following **companies operating in the Water Business**: Acque, Publiacqua and Umbra Acque, which were **included in some Group data** and **described in a dedicated chapter** (*Water companies data sheets and overseas activities)*, **giving clear evidence of their individual contribution**.

## DOCUMENT STRUCTURE AND DISSEMINATION

The *2022 Sustainability Report*, in line with previous years, is divided into three main sections: ***Corporate identity*** – which also integrates the information required by Regulation 2020/852 –, ***Relations with the stakeholders*** and ***Relations with the environment***, supplemented by the ***Environmental Account***.

The latter **comprises about 500 items and parameters** monitored which quantify the physical flows generated by the activities: the products, factors used (resources), outbound outputs (rejects and emissions) and some performance indicators.
References to the main economic-financial data and corporate governance are consistent with those given in the *Consolidated Report* and the *Corporate Governance Report* and which may derive from the latter.
The published data and information are provided by the Industrial Areas, Companies and responsible Functions (data owner); they are processed – and possibly reclassified in compliance with the reference Standards – by the internal workgroup which draws up the document and then submitted it once again to the Areas/Companies/Functions responsible for final validation, formalized by the issuing of a specific certificate.
Downstream of the audit activities by the appointed independent auditor, the report is distributed by means of storage on SDIR 1Info, **publication on the institutional website** – www.gruppo.acea.it – **and the company intranet**, as well as **the other formats provided under Legislative Decree no. 254/2016** and the implementing Consob Regulation (implemented by Resolution no. 20267 of 19 January 2018). It is also distributed together with the consolidated financial statements to the shareholders during the annual Shareholders' Meeting upon closure of the financial year.

For further information about the Sustainability Report and its contents, it is possible to write to the following email address: RSI@aceaspa.it.

**Irene Mercadante**
SUSTAINABILITY PLANNING & REPORTING UNIT

**Stefano Raffaello Songini**
INVESTOR RELATIONS & SUSTAINABILITY DEPARTMENT

# 1

# CORPORATE IDENTITY

# GROUP PROFILE

## ACEA'S HISTORY

Acea was founded in 1909 as Azienda Elettrica Municipale (AEM) to manage and develop Rome's essential water and electricity infrastructure necessary to guarantee the economic and social growth and environmental balance of Italy's capital city. The Company has been operating in the essential public services sector for over a century, with a growth trajectory that has effectively seized the opportunities presented by the market and the regulatory and social context, expanding and developing its activities and management capacity, as well as its legal composition with the listing on the Stock Exchange in 1999, and opening itself to new strategic partners.
Acea is a nationwide industrial group, active in integrated water management, electricity and gas production, distribution and sales, environmental services and activities to enable *smart communities*. The current development guidelines set out in the strategic plans are characterised **by the consolidation** of the Group's **leadership position** in the **water industry** and **the expansion** of **the regional area of interest**, mainly focused on Central Italy, and of its **businesses**, which range from the generation from renewable sources to the environmental sector and the circular economy, and from energy efficiency services to sustainable mobility infrastructure.
In this context, **digitalisation**, **technological innovation and sustainability** are the levers that enable us to improve operating efficiency, service quality, resilience and grid integration, increasing the Group's capacity to generate shared value for all of our stakeholders.

## BUSINESSES AND FUNCTIONS OF THE MAIN GROUP COMPANIES

Acea is **one of Italy's leading multi-utility companies** and operates in several public service sectors: **water** (integrated cycle), **environment** (energy development, recovering of material, waste processing and composting) and **energy** (production, distribution, energy sales and public lighting). It is the operator of reference **in the Rome area** for water and energy services; in the water sector, the Group is also present as an industrial partner of local management companies in some areas of **Central and Southern Italy** (from Tuscany to Campania). Development operations, in line with strategic guidelines, are concentrated in particular on the circular economy. In some sectors, Acea is also expanding itself geographically along the **Adriatic coast of Central Italy and in Northern Italy.**

Table no. 6 shows some representative data of the Group, while the business areas and geographical reach of the main companies are briefly detailed in Chart no. 2.

**Table no. 4 – Acea Group in numbers – 2022**

| | |
|---|---|
| **PERSONNEL** (number, by % consolidation) | **10,455** |
| **NET REVENUE** (million €) | **5,138.2** |
| **INVESTED CAPITAL** (million €) | **7,194.9** |
| *net equity debt* | *4,439.7* |
| *shareholders' equity* | *2,755.2* |
| **TOTAL BALANCE SHEET ASSETS** (million €) | **11,338.5** |
| **ELECTRICITY** | |
| generation (GWh) (gross) | 940.91 |
| *of which from renewable sources* (GWh) (gross) | *636.1* |
| *hydroelectric* | *335.3* |
| *photovoltaic* | *111.9* |
| *waste-to-energy* | *152.6* |
| *biogas* | *36.3* |
| network demand (GWh) | 10,062 |
| sales (GWh) (free and protected market) | 7,376 |
| electricity and gas customers (number) | 1,420,718 |
| **WASTE-TO-ENERGY (WTE)** | |
| electricity generation (GWh) (gross total) | 337.1 |
| waste burnt (t) | 387,346 |
| *SRF* | *289,550* |
| *pulper* | *97,796* |
| **PUBLIC LIGHTING** | |
| bulbs managed in Rome (number) | 231,347 |
| **WATER (INTEGRATED WATER SERVICE)** | |
| drinking water supplied and billed ($Mm^3$) | 626.9 |
| analytical checks on drinking water (number) | 1,538,299 |
| wastewater treatment ($Mm^3$) | 940.0 |
| inhabitants served (million) | 8.6 |

**Note**: this table aims to reflect the Group's size as accurately as possible. Economic data and receivables/payables correspond to the full list of companies consolidated on a line-by-line basis; in the photovoltaic sector, due to the importance of the business, the production of the investee company AE Sun Capital, the company established with Equitix and not consolidated on a line-by-line basis, is also included; for water, in addition to the five companies in the NFS reporting boundary (Acea Ato 2, Acea Ato 5, AdF, Gori and Gesesa), the three main investee companies that are not consolidated on a line-by-line basis (Acque, Umbra Acqua and Publiacqua) are included.

**Chart no. 2 – The businesses of the main Acea companies in the territory**

## WATER

**AdF** manages the integrated water service in 55 municipalities of the Optimal Territorial Conference 6 Ombrone, covering the province of Grosseto and part of the municipalities of the province of Siena.

**Acea Ato 2** manages the integrated water service in 89 municipalities of OTA [Optimal Territory Environment Agency] 2 Lazio Centrale - Rome.

**Acea Ato 5** manages the integrated water service in 86 municipalities of OTA 5 Lazio Meridionale - Frosinone (including 2 municipalities outside the district.

**Gori** manages the integrated water service for 74 towns located in the Sarnese Vesuviano OTA between the metropolitan city of Naples and the province of Salerno.

**Gesesa** manages the integrated water service in 22 municipalities in the Calore Irpino OTA, in the region of Benevento and surrounding province.

## ENGINEERING AND SERVICES

**Acea Elabori** provides laboratory services, research and development and engineering services (design and project management) mainly in water and environmental activities for Acea Group Companies.

## GENERATION

**Acea Produzione** manages the production of energy and heat with a power plant consisting of hydroelectric, thermoelectric and photovoltaic systems.

**Acea Solar**, a subsidiary of Acea Produzione, handles the construction of photovoltaic power plants.

**Ecogena** designs and manufactures cogeneration and trigeneration plants and works as an ESCo (Energy Service Company) providing energy efficiency services to internal customers (increased efficiency obligations pursuant to Ministerial Decree of 20 July 2014), and monitors technological innovation for energy savings.

## NETWORKS

**Areti** plans, designs and executes the actions of modernizing and developing electricity infrastructures and manages its distribution services in the towns of Rome and Formello. In Rome it manages and develops public, artistic and cemetery lighting systems.

## ENVIRONMENT

**Acea Ambiente**, with plants in Lazio, Tuscany and Umbria, handles environmental management (treatment and disposal) and the production of energy from waste, waste recovery and composting.

**Aquaser** works in the recovery, treatment and disposal stages for sludge resulting from the treatment phase of the integrated water service.

**Acque Industriali** provides brokerage and liquid waste treatment services, as well as activities related to the integrated water cycle, mainly consisting of biological sludge recovery and disposal.

**Berg** operates in the Frosinone area and works in the chemical/physical and biological treatment of solid and liquid, hazardous and non-hazardous waste.

**Demap** carries out recovery and selection of plastic and plastic and metal packaging at the plant in the province of Turin.

**Deco**, which operates in Abruzzo, designs, constructs and manages plants for the treatment, disposal and recovery of municipal solid waste and plants for energy recovery from renewable sources.

## COMMERCIAL

**Acea Energy** manages the sale of electricity and gas on the market (free and more protected), smart services (efficiency improvement and e-mobility).

**Acea Innovation** manages the activities of technological innovation and the commercialisation of the related services and products for the Acea Group.

# CONTEXT ANALYSIS AND BUSINESS MODEL

## CONTEXT ANALYSIS

Acea monitors the reference context, identifying and analysing the factors that could take on a significant role in terms of the Group's operations, such as **competitiveness**, **sustainability**, **legislative** and **regulatory areas** that can affect the achievement of strategic goals. In addition to these external factors, there is also the **internal context** of the Group, to be considered both in **organisational** terms and in relation to the **energy and environmental impacts**, the **development of human capital**, the **protection of workers' health and safety**, the protection of company assets, and the sustainable and responsible management of the **supply chain**.

### *THE ENERGY MARKET AND COMPETITORS*

Following the conversion into law of Decree Law 183/2020 "Milleproroghe" (1000 Delays) with Law 21/2021, the termination of the price protection schemes for domestic customers and micro-businesses was extended to 1 January 2023, while the **subsequent law** converting Decree Law 152/2021 implementing the NRRP, which came afterwards, defined the timings and methods for managing the transition to the free market, through a gradual protection regime. In particular, **micro-businesses** will be served through gradual protection as of 1 January 2023, by suppliers identified through auctions held in 2022, while **domestic customers** will be served through gradual protection by suppliers identified through auctions which must be held by 10 January 2024. **Vulnerable and energy poor customers** will be served on the protected market until an ad hoc offer is made available by all the sellers, as defined by ARERA.
With regard to energy sales, once the greater protection service is no longer applicable, there will be an increase in **competition** among operators and the search for **distinctive added-value elements**, which are achievable through investments in technological innovation, digitalisation and sustainability. As regards customers on the free market, Acea Energia is consolidating its position on sustainability and environmental protection by developing its range of green commercial tariffs and offering added-value products such as boilers, air conditioning units, the Acea e-mobility App for e-vehicle charging, and the option to integrate telephony services into the energy supply contract through the partnership with WindTre.

### *THE INTEGRATED WATER SYSTEM AND GAS DISTRIBUTION*

Water and gas distribution are market areas in which Acea intends to play an active role, evaluating and participating in the new tenders called for the **concession of the Integrated Water Service and gas distribution service**, by the various contracting authorities (Regions, Municipalities, Area Authorities) throughout the country. In fact, Acea Group can easily compete with other operators in the sector as it fulfils the necessary economic, financial, organisational, experience and certified system requirements. In the water industry, in particular, the Group has planned works on strategic infrastructure of interest for the National Recovery and Resilience Plan and has implemented a digitalisation process of the commercial procedures as well as the greater application of technological innovation in the management of infrastructure.

### *THE WASTE MANAGEMENT MARKET*

The Acea Group operates its waste management services through the **management of facilities** in Lazio, Tuscany, Umbria, Marche, Veneto, Piedmont, Abruzzo and the Aosta Valley.
Acea Ambiente has been investing in the circular economy for years, a commitment made concrete through the recycling and recovery of secondary raw materials, the transformation of organic waste into high quality compost and biogas for electricity production, the integration of sewage sludge treatment into its water services, the treatment of liquid waste, waste disposal, and waste-to-energy services.
The Group is continuing to expand in this sector through the acquisition of existing plants across Italy to consolidate and grow its activities and position in the consortia systems (COMIECO, COREPLA, CORIPET, CONIP, etc.) and progressively improve the performance of its plants.

### *THE ENGINEERING AND SERVICES MARKET*

On the technical services market, Acea Elabori provides cross-disciplinary services across the three key areas of the Group's operations: Water, Energy, Environment. In particular, it provides engineering services - including project design, project validation verification and construction supervision - analytical laboratory services, innovation research and specialist consultancy in the water cycle, waste cycle and energy sectors. Currently these activities are provided almost exclusively to other companies in the Acea Group (so-called "captive market") and to a minor extent to third parties ( "non-captive market").
With a view to expanding its activities on the non-captive market, in 2022 Acea Elabori participated in tenders for district-planning, surveys and measurements, modelling and plans for water and sewer systems, and plant design and works. The Principals are mainly integrated water service operators who require specialised services to support the plans to rationalise and upgrade integrated water cycle networks and plants. Participation in tenders is done through temporary joint ventures with other companies, implementing the codes of conduct provided for under the Anti-trust Model and the Organisational Regulation on Anti-trust Compliance and Prevention of Unfair Commercial Practices adopted by Acea.

### *THE ENERGY EFFICIENCY MARKET*

The **energy efficient building** market is regulated by Decree Law 34/2020 ("Relaunch Decree"), converted by Law 77/2020, which introduced tax benefits (110% super bonus), with the possibility of credit transfer and invoice discounts, for beneficiaries who carry out energy efficiency and seismic consolidation work on their buildings. In this area, the Acea Group - through the companies Ecogena, Acea Innovation and Acea Energia - has identified business development opportunities in the residential sector. The various developments in 2022, such as the amendment to the deduction rate through the 2023 Budget Law, operational challenges in the sector, low availability of supplies and skilled labour, and problems in the management of tax credits linked to the related tax incentives, reduced the opportunities initially identified and point towards the suspension of activities in the building redevelopment sector.

### *INSTITUTIONAL INVESTORS*

In 2022, **global equity markets** saw a negative trend, in particular affected by the increase in energy prices, in part due to the war in Ukraine and the increase in raw material prices, which led to increased inflation and a weakening in the growth of global GDP. **European countries felt the impact** of the tensions associated with the counter-sanctions adopted by Russia in response to the sanctions imposed by Europe and the change in energy supply policies. In this context, the **NRRP** (National Recovery and Resilience Plan) was confirmed as one of the key growth factors for Italy's economy in 2022. The European Commission disbursed the **first tranche of loans** under the NRRP in response to Italy's progress in implementing reforms and planned investments, including those to promote the **energy transition and the circular economy**. In the current macro-economic situation, **sustainable funds** have proven to be more resilient than conventional funds.

### *SUSTAINABLE DEVELOPMENT*

The war in progress in Ukraine has once again demonstrated the interconnectedness of the global situation, with effects felt throughout the world. In the **energy sector**, the block in supplies had major consequences, acting as a push to reopen plants utilising polluting energy sources. The European Union responded with the **REPower EU** plan, with the aim of reducing dependence on fossil fuels coming from abroad and accelerating the green transition. The situation in 2022 had a major impact on energy costs for businesses and families, with public institutions preparing protective responses.

In terms of **climate**, data from the EU Copernicus observatory recorded extreme climate events, record temperatures and rising greenhouse gases globally in 2022. In Europe, continuing high temperatures had repercussions for agriculture, river transport and energy management. Drought conditions also led to an increased risk of fires, resulting in an unusually high number of incidents in south-west Europe.

The global and national institutional initiatives implemented should be viewed and evaluated in this context. **COP27** on the climate, held in Egypt, and **COP15** on biodiversity, in Montreal, had objectives which included expanded protected areas and regenerating damaged ecosystems (30% by 2030). Domestically, note the **constitutional reform of articles 9 and 41** and the **National Climate Change Adaptation Plan**.

During the year, Europe adopted certain specifications and significant provisions with regards to corporate sustainability. The **Corporate Sustainability Reporting Directive**, was published in the EU Official Journal, an update of the Non-Financial Reporting Directive of 2014, which expands the range of companies subject to reporting requirements and introducing significant changes, for example double materiality, preparation of new standards and the inclusion of a disclosure in the Report on Operations. Institutional work on the **Directive relative to corporate due diligence requirements** on environmental protection and human rights within the value chain continued, which in December led the EU Council to adopt guidelines on the subject. Regulation 2020/852 ("EU Taxonomy") included in 2022 activities associated with nuclear energy and fossil fuel gasses among those potentially environmentally sustainable, governing the criteria for technical screening. Additionally, in the second year of application, it calls for reporting by companies of correlated economic KPIs in addition to eligible activities to those aligned.

### *ENVIRONMENTAL AND ENERGY IMPACTS*

The natural environment is the scenario where the activities of the Group are performed and is to be preserved with a responsible and efficient use of resources, protecting sources, safeguarding the natural areas where the plants and service networks encroach, mitigating the physical and the external impacts generated in the ecological context of the operating processes.

In November 2022, **COP27** was held in Sharm el-Sheikh. Negotiations were focussed on five themes: decarbonisation, climate adaptation, nature, food and water. The Conference ended with the issuing of the *Sharm el-Sheikh Implementation Plan*. This agreement maintains that ratified in the *Glasgow Climate Pact* (COP26), which included the commitment by signatory countries to keep global temperatures below an increase of 1.5°C with respect to pre-industrial levels and highlighted the need for a transition to a system based on renewable sources, with a reduction in the use of fossil fuels. Efforts to gradually eliminate coal were encouraged, favouring low-emission sources and promoting the elimination of fossil fuel subsidies. At the national level (*Nationally Determined Contributions* - NDC), countries which have not yet presented their decarbonisation commitments were encouraged to do so, while those that already have were asked to update them by the end of 2023. The main change involves the introduction of the "loss and damage" principle, which calls for the payment of indemnities to the most vulnerable developing countries for climate damage suffered. This principle will be implemented through the establishment of a specific Fund.

With reference to the issue of greenhouse gas emissions, again in 2022 Acea participated in the **Carbon Disclosure Project – CDP**, receiving a B grade and positioning the Company in the Management class. In 2022, in addition to publishing its first ***2021 Climate Disclosure, based on the TCFD recommendations***, Acea moved forward with a new project intended to enrich the identification of risks and medium/long-term climate scenario analysis.

### *STANDARDS IN THE REFERENCE MARKETS AT A LOCAL, NATIONAL AND SUPRA-NATIONAL LEVEL*

The regulatory context of the Acea Group is wide-ranging and articulated according to the specificity of the businesses handled and the variety of the frameworks within which the legal and regulatory disciplines intervene, which affect the business operations, from administrative authorisation profiles to those protecting the market and competition. Added to such aspects are the specific features of being a listed Company, with the related legal impacts, for example, in terms of regulating communications to the market.

As already noted, tensions on the energy market and the continued COVID-19 health emergency marked the year, above all due to the systemic effects of high energy and raw materials prices, which led to **specific legislative actions**, initiated by the Draghi government and continued by the new one, aimed at mitigating their effects.

The various provisions (Decree Law 21/2022 "Price Cuts Decree Law"; Decree Law 50/2022 "Aid Decree Law"; 2023 Budget Law) that were implemented to govern the **solidarity contributions** mechanism borne by entities in the energy sector to limit the effects of high prices for businesses and consumers are also framed in this way.

Also associated with the extraordinary energy situation and significant for its impacts on energy companies, are the provisions on **excess profits** and **suspension of unilateral changes** to electricity and gas supply contracts. Relative to the former, Decree Law 4/2022, "Supports-ter Decree Law" established compensation mechanisms for producers using renewable sources which, under certain con-

ditions, can lead to excess profits to be paid to the GSE; relative to the latter, Decree Law 115/2022, "Aid-bis Decree Law" called for companies to halt unilateral changes to energy supply contracts with regards to definition of prices, and the subsequent Decree Law 198/2022, "Thousand Extensions Decree Law" extended the period of validity (30 June), excluding application for expiring contracts.
In 2022, consultation for implementation of Directive (EU) 2020/2184 was requested, on the **quality of water destined for human consumption**, following which the Council of Ministers in December approved the preliminary examination the Legislative Decree for implementation. Important changes include the revision of regulations intended to **protect health** from negative effects deriving from contamination of water intended for human consumption, guaranteeing "health and cleanliness", also through revision of the relevant parameters and values, definition of **hygiene requirements for materials** coming into contact with potable water, the introduction of a **risk measurement and management approach** that is more effective in terms of preventive health and environmental protection, also with regard to costs and allocation of resources, strengthening the role of the Water Safety Plans (WSP), and improvement of **equitable access for all to safe potable water** and public **information** on water intended for human consumption.
In 2022, the delegated law on **restructuring regulations for local public services** was implemented with Legislative Decree 201/2022, which restructured the regulations, included among the objectives of the National Recovery and Resilience Plan (NRRP), to promote competitive dynamics that help improve the quality of public services and the results of management in the interest of citizens and users.
Also worthy of note is the preliminary approval on 16 December 2022 by the Council of Ministers of the Legislative Decree scheme to renew the **Public Contract Code**, intended to simplify regulations relative to public tenders and concessions to ensure efficient realisation of the same. The Code will apply to new proceedings starting on 1 April 2023. From 1 July 2023, abrogation of the previous Code is envisaged (Legislative Decree 50 of 18 April 2016) and application of the new norms, also for proceedings in progress.

### *REGULATION OF THE SECTOR AUTHORITY*

The Regulatory Authority for Energy, Networks and the Environment (ARERA) intervenes in Acea's business sectors (energy, water and environment) regulating their operation by defining technical and commercial service standards and regulating investment mechanisms.
With regards to **energy distribution**, ARERA defines national electricity service standards for each regulatory cycle which regulate commercial aspects (quotes, works, supply activations/deactivations, complaints procedure) and technical aspects (service and supply continuity). The V regulation period is currently active, which regulates the quality of distribution, metering and transmission services for the years 2016-2023. As of 1 January 2022, Resolution 566/2021/R/eel mandated the application of the new **capacity fee** to **electricity market** customers aimed at remunerating the **capacity market** (the system to make available electricity generation capacity), to ensure adequate production capacity is achieved and maintained to guarantee coverage of national demand as well as the necessary reserve margins.
In the **water sector**, drivers of change include progressive advancement in ARERA regulation, which prioritises operator efficiency, and the growing importance of **environmental sustainability** issues, which are the subject of political and economic strategies intended above all to fight the impact of climate change.
**Resolution 547/2019** amended and supplemented the regulations on **contract quality** with effect from 1 January 2020, establishing an incentive system divided into bonuses and penalties to be attributed from 2022 based on the performance of the operators.
In late 2022, with **Resolution 734/2022** the Authority approved the methodological note on the first preliminary findings of the proceedings for the **quantitative assessments under the contractual quality incentive mechanism** for 2020-2021. With regards to **technical quality**, with **Resolution 183/2022** the Authority approved the ranking of water service operators based on the technical quality performance achieved in the 2018-2019 two-year period, awarding - for the first time since the incentive mechanism was set up - rewards and penalties to sector operators.
In the **environmental sector**, ARERA's activities, in line with the duties assigned by Law 205/17 (art. 1, paragraph 527) are aimed at governing the integrated management of urban waste and the individual activities associated with it, guaranteeing accessibility and usability of the service throughout the country while simultaneously ensuring service provision levels and adapting the infrastructure as a whole to achieve European objectives. The remit of the Authority falls within a **multi-level sectoral governance system**, characterised by statutory responsibilities on general targets (including the **circularity targets** set by EU legislation, and the adoption of the National Waste Management Programme - PNGR) and local (regional) responsibilities on the planning of services. In this context, **Resolution 363/2021** (so-called MTR-2) for the regulatory period 2022-2025, introduces access restrictions on end-of-cycle plants and therefore aims to promote efficient management consistent with the **European waste management hierarchy** (including through an equalisation mechanism, to be adopted in 2023, aimed at providing incentives for plant solutions to recover energy and materials and discourage the use of landfill).

### *DEVELOPMENT AND TECHNOLOGICAL INNOVATION*

The Innovation Model calls for development of national and international partnerships, with players in the innovation ecosystem active in sectors of strategic interest to the Group, to activate privileged channels of access to ideas, business and technological opportunities, academic research and identify new talents to innovate business, processes and corporate products.
In this context, key actions include the continuation of Acea's participation in **Zero Accelerator**, to support the best innovative start-ups and SME developing technological projects and solutions in the **greentech** sector, as well as the **House of Emerging Technologies** in Rome, the first permanent living lab to develop the Smart City project. Also in its relations with public entities collaborative initiatives are promoted to share research and innovation commitments. This includes, for example, the Acea Elabori **Labsharing** project developed in cooperation with ENEA, intended to take advantage of their respective assets and share laboratories technologies and high level know how to support environmental research and monitoring through an approach open to innovation and sustainability.
In 2022, Acea launched and inaugurated, through its partner Mind the Bridge, an **Innovation Antenna** in Silicon Valley with the aim of forging relationships and identifying emerging technology with a significant impact on the sectors in which the Group conducts business.

Acea also works with the **academic world and with specific Observatories**, such as the Observatories for Digital Innovation, Startup Intelligence and Space Economy, all belonging to the Politecnico di Milano.

### *DEVELOPMENT OF HUMAN CAPITAL*

For every organisation people represent a fundamental asset to remain competitive in a changing economic and social context. Acea listens to the needs of its people and develops a **People Strategy**, structured into projects and initiatives.

Every year Acea prepares an Equality & Care Plan that identifies goals and associated projects for **diversity and inclusion** and **corporate welfare**. In 2022, the Group developed an Equality, Diversity and Inclusion Policy and established an Equality, Diversity & Inclusion Committee, which will guide the process of cultural evolution to promote a corporate culture on the subject. It also appointed an Equality, Diversity and Inclusion Manager, responsible for coordinating activities to prepare and monitoring an operating plan for the initiatives and to support the Committee. Acea SpA has also achieved **UNI/PdR 125:2022 certification** on gender equality.

Acea has developed an *integrated corporate welfare system*, based on listening to employees and their needs and structure around six fundamental pillars: health, psycho/physical well-being, family, reconciliation measures, economic assistance and complementary social security. Numerous initiatives have been implemented to support these pillars, including preventive medicine campaigns, support services for psycho/physical well-being and support for parents. These areas are shared with a **Bilateral Committee**, consisting of representatives from Group companies and the Unions.

As part of its **training processes**, the Group has established the *Acea Business School* Academy that provides courses on managerial, position, governance and digital issues, serving the entire group and designed with qualified partners (universities, business schools, research centres, etc.). Additionally, investment in digital skills continued in 2022.

### *SUSTAINABLE MANAGEMENT OF THE SUPPLY CHAIN*

Aware of the positive contribution that **sustainable supply chain management** can offer to protecting the environment, Acea is committed to defining purchasing methods that include intrinsic characteristics of the products and aspects of the process that limit environmental impact and foster initiatives aimed at minimising waste, reusing resources and protecting the social aspects involved in the procurement of goods, services and works. In tackling this **green procurement** issue, Acea has been using the **Minimum Environmental Criteria** in force for several years, including non-compulsory bonus aspects in its tenders.

Acea recognises the value of the companies in its **supply chain** that have chosen to be **certified in the quality, environment, safety and energy schemes** and has launched initiatives to develop and promote companies that demonstrably apply sustainability criteria, invest in safety training for their workers and use environmentally friendly means to carry out their activities.

Acea carries out second party audits on its suppliers to raise awareness and support **continuous improvement of the supply chain**. The direct involvement of suppliers and the opportunities for discussion created during periodic audits make it possible to measure the level of awareness of emerging sustainability issues and provide an opportunity to jointly consider paths to improvement. Additionally, Acea has established contractual standards that expressly require **adhesion to and compliance** with both the **Organisational Control Model 231** (if suppliers have not already provided themselves with one), and the ***Antitrust and Consumer Protection Regulation Compliance Manual*** - General Principles, as well as the ***Anti-corruption Policy*** adopted by Acea.

As part of increased monitoring of its supply chain, in 2022 Acea extended the **Group Vendor Rating** system, which includes a **bonus indicator** for aspects associated with social and environmental sustainability (Ecovadis), as a tool for analysing, assessing and monitoring supplier performance. In 2022, the number of suppliers evaluated with Ecovadis increased significantly.

### *SAFETY AND HEALTH IN THE WORKPLACE*

**Safety as a strategy**, not to be observed only for compliance purposes, is based on the desire to promote the widespread dissemination of a safety culture, involving all employees, and on the possibility of **measuring and monitoring results**. To this end, Acea runs awareness-raising campaigns on the issue and has adopted an advanced risk assessment model and implemented control and mitigation measures. ACEA has also launched a number of initiatives to raise awareness of and involvement in the issues discussed above with **its contractors and sub-contractors**, key business partners throughout the entire value chain. A Group **RSPP Coordination Committee** is active, with the aim of sharing the results of safety performance, experiences, good practices and sustainable solutions to prevent accidents in the company. The Group has adopted the *H&S (Health and Safety) Dashboard* as a tool to obtain data on workplace health and safety performance. It is updated constantly with graphs that improve analysis of the data provided by the companies of the Group.

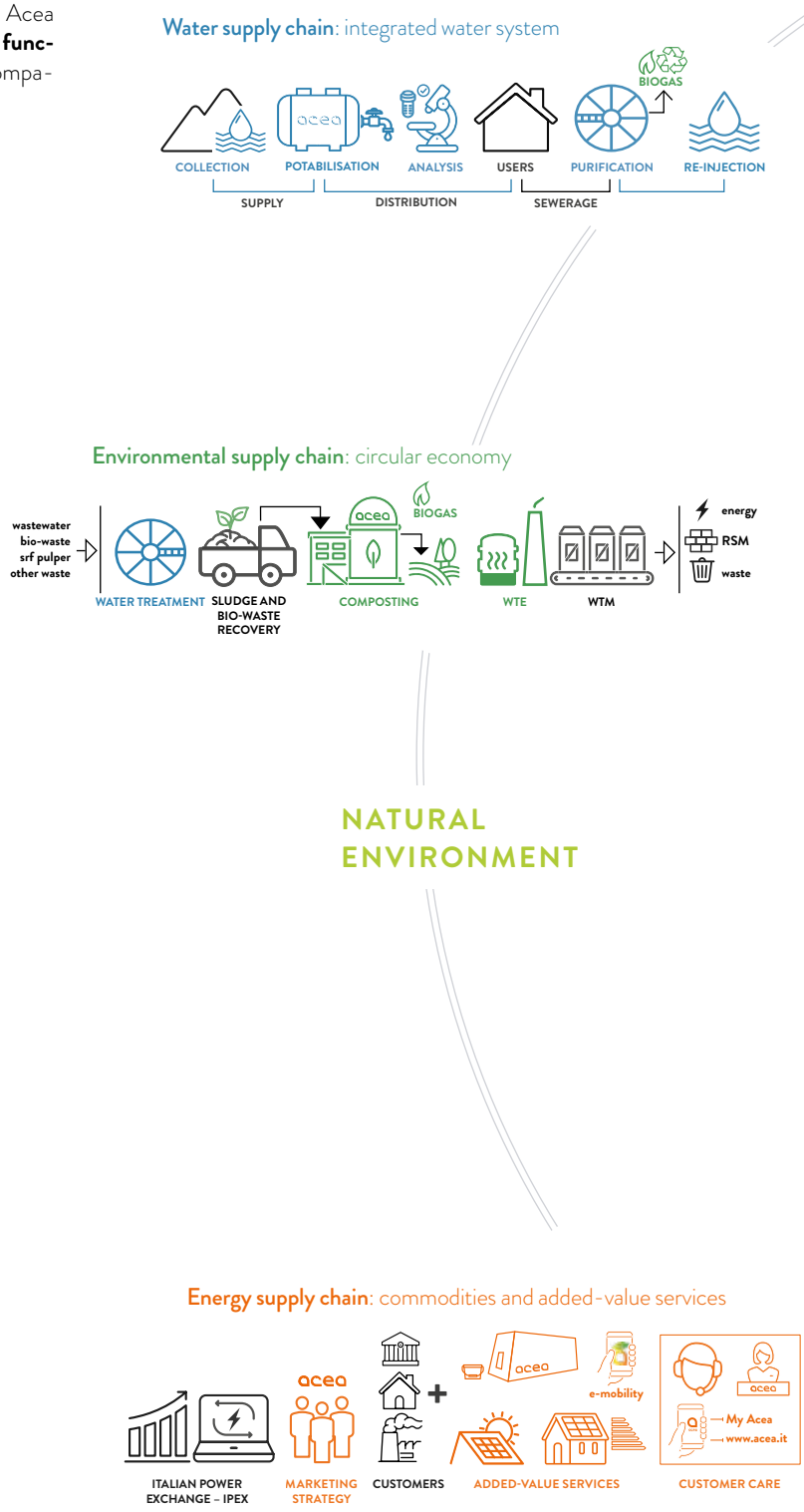
In line with Law 4 of 15 January 2021 and the requirement to protect the psycho/physical health of its employees in the workplaces envisaged under article 28 of Legislative Decree 81/08, Acea guarantees an inclusive, integrated and centred **approach to gender perspectives to prevent and eliminate violence in the workplace**. In this sense, the **Risk Assessment Document** was updated and supplemented with regards to this aspect, with more specific risk assessments for all homogeneous groups and identification of measures intended to prevent and, if necessary, contain the risk in workplaces.

The **Coronavirus Prevention Committee** has been active since 2020, the Group body responsible for carefully monitoring the epidemiological situation and developments in the emergency situation, evaluating the most appropriate actions in the exclusive interest of health, safety and prevention for all employees of the Acea Group.

## THE BUSINESS MODEL

The organisational structure (Chart no. 3) means that the Holding performs the role of steering and coordination of the Companies that make up the Group.
Acea SpA offers managerial support by means of management and legal, logistic, technical, financial and administrative services. Acea SpA's **organisational macrostructure** consists of **corporate functions**, **departments and operating segments** the operating companies report to (see Chart no. 4).

**Chart no. 3 – Acea's Business Model**



**SCENARIO**:
national policies, market, economy, innovation, sustainability,...

**GOVERNANCE POLICY STRATEGY**

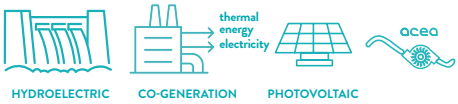
## BOARD OF DIRECTORS

- BoD'S SECRETARY
- CHAIRPERSON
- BoD'S SECRETARIAT
- RISK & COMPLIANCE
- SPONSORSHIP AND VALUE LIBERALITY
- INSTITUTIONAL RELATIONS
- INTERNAL AUDIT
- CHIEF EXECUTIVE OFFICER
- ADMINISTRATION, FINANCE AND CONTROL
- COMMUNICATIONS
- INVESTOR RELATIONS & SUSTAINABILITY
- LEGAL AFFAIRS
- HUMAN RESOURCES
- CORPORATE AFFAIRS
- TECHNOLOGY & SOLUTIONS
- COMMERCIAL AND TRADING
- CHIEF OPERATING OFFICER
- BUSINESS DEVELOPMENT, PRODUCTION AND FOREIGN STRATEGIES
- PROCUREMENT AND LOGISTICS
- REGULATORY
- WATER
- ARETI
- ACEA AMBIENTE
- ENGINEERING AND SERVICES

functional reporting

hierarchical reporting

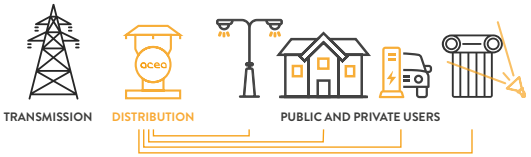
**Energy supply chain**: generation




HYDROELECTRIC CO-GENERATION PHOTOVOLTAIC

STAKEHOLDERS

**Energy supply chain**: distribution

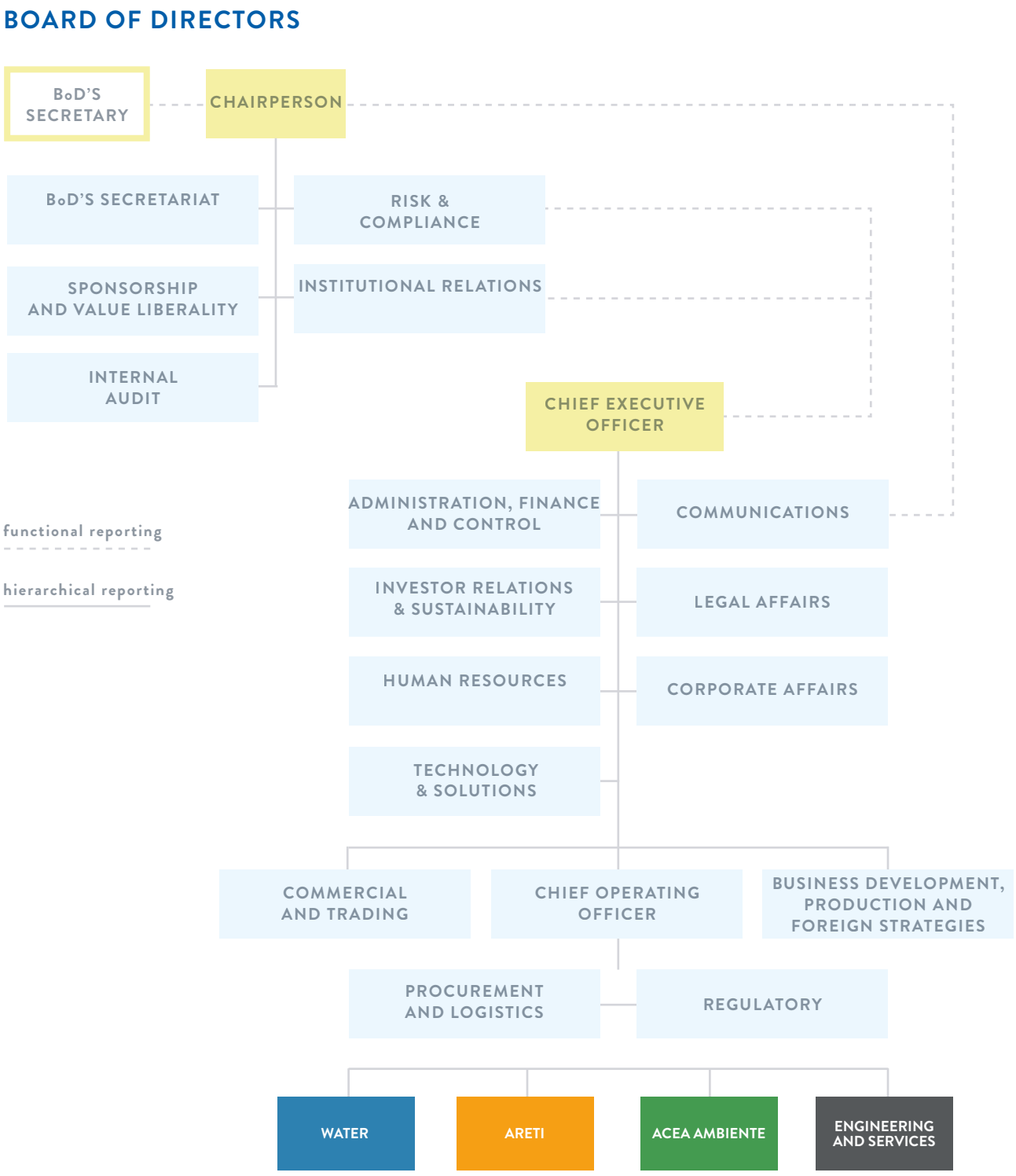



TRANSMISSION DISTRIBUTION PUBLIC AND PRIVATE USERS

**COMPLIANCE OF RISK ASSESSMENT**

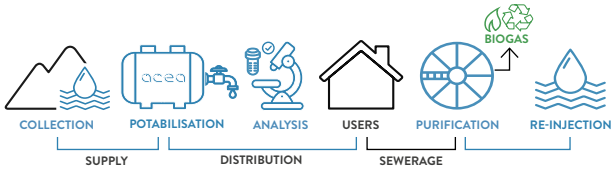
regulatory changes, regulatory framework, mega trends (social trends, environmental situation), ...

**Chart no. 4 – Acea SpA organisation chart as at 31.12.2022**




Through Companies that it has equity investments in and for which it plays the role of industrial entity of reference, the Acea Group is involved in the chains of activities shown below. The business activities are broken down in the Strategic Plan (see the section titled *Strategy and Sustainability*), which defines corporate development guidelines based on the assessments of **opportunities offered by the market**, the **regulatory and social context** of reference, the **governance system** and a thorough **identification and weighting of the risks** that can impede the achievement of the goals. Acea Group pursues corporate management that is consistent with the principles of sustainable development and pays the utmost attention to **interactions with the natural environment** and **stakeholder relations**.

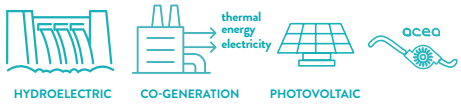
## WATER SUPPLY CHAIN: INTEGRATED WATER SERVICES




**The water supply chain**: starting from a careful analysis of springs and groundwater and the potential impacts of operational processes thereupon – for example, by defining and monitoring water districts and preparing water balances to protect resources and balance their vital flows with the needs of human consumption, Acea checks and guarantees the quality of water during collection and distribution in compliance with the regulatory standards envisaged for end uses.

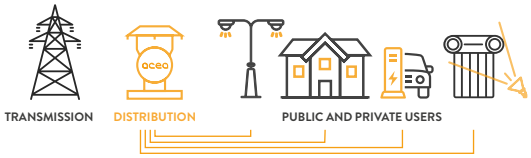
The same care is devoted to wastewater collection and treatment phases, useful to returning the resource to the environment in the best possible conditions for its natural cycle to resume. A huge effort has been made to increase the resilience of the water infrastructure, technological innovation applied to management (e.g. remote control, sensors, satellite monitoring, etc.) and the digitalisation of processes.

## ENERGY SUPPLY CHAIN: GENERATION




**Electricity production**: Through the business unit dedicated to production, Acea generates energy at hydroelectric power plants, thermoelectric power plants (high-yield cogeneration) and photovoltaic plants. In particular, Acea is strategically developing its position in the solar generation segment, including through partnership agreements with major financial operators to support the investment plan, with the aim of significantly increasing its installed capacity in the medium term.

## ENERGY SUPPLY CHAIN: DISTRIBUTION



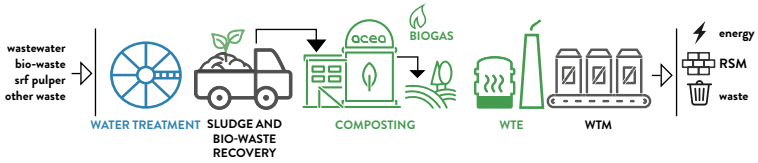

**Electricity distribution**: Acea supplies users with electricity thanks to a widespread distribution network that is constantly maintained, updated and developed according to resilience logics that support the growing electrification of consumption.

The digital and innovative development in the services, stimulated and required by a constantly evolving market, commits the Distributor to opt for smart city solutions, adopting a *demand side management* and energy efficiency outlook.

## ENERGY SUPPLY CHAIN: COMMODITIES AND ADDED-VALUE SERVICES

**Sale of energy, gas and added-value services**: commodities (energy and gas) are purchased via bilateral contracts or exchanges on market platforms (Electronic stock exchange) where Acea Energia procures supplies for itself in order to supply clients according to its commercial policies. The Company develops relations with customers, based on their type, through contact channels that are increasingly more innovative and digital. The promotion of commercial offers takes place through pull channels (shop, website, branches) as well as through sales agencies that are selected, trained and their commercial practices monitored. One area of development of the sector companies involves the creation of smart services, such as electric mobility, residential energy upgrading and widespread composting.

## GENERATION AND NETWORKS: CIRCULAR ECONOMY




**Efficient use of waste and the circular economy**: the environmental supply chain is active in efficiently using waste by reducing waste volumes, treatment, conversion into biogas, transformation into compost for agriculture and floriculture, waste-to-energy production and recycling into material that is reusable in production processes. In particular, with a view to circular economy, Acea exploits the integration into water activities to recover sludge from water purification and send it for treatment to become compost, also committing itself to the growth of its market position and operational capacity. The ongoing development involves the expansion of volumes and operating capacity, from selection to storage and treatment, as well as the types of material managed in the circuit of the circular economy (paper, iron, wood, liquid waste, plastic and metals) through the acquisition of new companies.

## OWNERSHIP STRUCTURE AND GENERAL ECONOMIC INDICATORS

Acea SpA is listed on the Italian Stock Exchange organised and managed by Borsa Italiana. The company is listed on the FTSE Italia Mid Cap index and, as of 19 December 2022, is included on the **MIB ESG** index.
**Roma Capitale** is Acea SpA's majority shareholder, holding **51% of its share capital**. As at **31 December 2022**, other significant direct or indirect equity interests were held by **Suez SA** with over 23.3% and **Francesco Gaetano Caltagirone** with approximately 5.5% (see Chart no. 5).
The portion of floating capital on the market is worth 20.2%, with **institutional investors** controlling approximately 13% of the share capital, with a geographical distribution indicating a predominance of Italian shareholders, followed by North American and British interests (see Chart no. 6).
**Retail** investors hold 5.5% of the share capital.

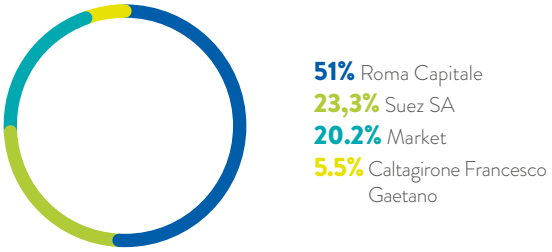
The year under review was characterised by pronounced geopolitical instability, which generated inflationary effects and volatility in the energy markets. The Group also recorded a positive performance due to cost-cutting measures, the operational efficiency achieved and the recovery of margins. **Revenues** amounted to **€ 5,138 million** while **gross operating income (EBITDA)** came to **€ 1,305 million** (approx. +4% compared to 2021). **Group profit** totalled approximately **€280 million** (approx. -11% on 2021).

**Consolidated revenues in 2022**, which amounted to **€5,138.2 million**, increased by 29.4% (€3,972 million in 2021). **External costs** increased by around 44% to approximately **€ 3.55 billion** (€2.46 billion in 2021) mainly due to electricity procurement on the free market and the gradual protection market, for the purchase of materials and services, in line with the increase in revenues and the growth in the corporate scope.
The **gross operating income** (EBITDA) of **€1,305 million is up** compared to €1,256.1 million in 2021 (approx. +4%), with regulated activities contributing 86% (including the Environment sector).
The Industrial Segments contributed to the overall value of EBITDA, as follows:

- **Water** at 51%, with €669 million, a 2.1% increase compared to 2021 (€655.3 million). This growth is due to more efficient operational management, the contribution of Group companies to Shareholders' Equity and the technical quality performance bonus received by companies consolidated on a line-by-line basis;
- **Energy infrastructure** for 27%, with €352.2 million, down 5.2% compared to the previous year (€371.6 million) due to a reduction in the WACC which was partially offset by lower operating costs and the positive effects of the resilience plan;
- the **Production** for 7%, with €89.8 million, a 13% increase compared to the previous year (€79.5 million). This result reflects pricing trends on the energy market, as well as the lower hydroelectric production, deconsolidation of the photovoltaic business and the price caps introduced by Decree Law "*Sostegni ter*";
- **Commercial and trading** for 7% at €90 million, up 11.8% (€80.5 million in 2021), mainly due to energy efficiency activities, partly offset by lower margins on the free energy market;
- **Environment** for 8%, with €101.6 million, a 59.5% increase compared to the previous year (€63.7 million). This data reflects the positive effects of the price of energy sold from WTE, the exemption of the Terni plan from the obligation to purchase $CO_2$ quotas, and the change in the scope of consolidation.

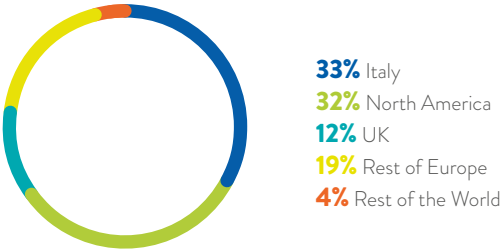
The **Foreign** and **Engineering and Services** areas and the **Parent Company** had a neutral effect on Group EBITDA.

**Chart no. 5 – Ownership structure as at 31.12.2022**




Source: CONSOB

**Chart no. 6 – Geographical representation of Acea institutional investors**



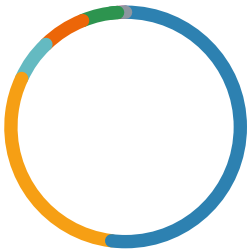

**NOTE**: The percentages shown in the table represent the weight of Shareholders, by geographical area, in relation to the total number of Institutional Investors.

**Table no. 5 – The main economic and equity data of the Acea Group (2021-2022)**

| (in € million) | 2021 | 2022 |
|---|---|---|
| **net revenues** | **3,972** | **5,138.2** |
| operating costs | *2,737* | *3,861* |
| *staff costs* | *275.8* | *305.1* |
| *external costs* | *2,461.2* | *3,556.1* |
| income/(expense) from non-financial investments | *21.0* | *27.9* |
| **gross operating margin (EBITDA)** | **1,256.1** | **1,305** |
| **gross operating margin (EBIT)** | **581.1** | **565.9** |
| financial management | (85.9) | (85.7) |
| investments management | 7.8 | 17.8 |
| **profit/(loss) before tax** | **503** | **498** |
| income tax | 150.7 | 186.8 |
| **net profit/loss** | **352.3** | **311.2** |
| profit/loss attributable to third parties | 39 | 31 |
| **net profit/(loss) of the Group** | **313.3** | **279.7** |

**Chart no. 7 – Contribution of the industrial segments to overall EBITDA (2021-2022)**

% OF EBITDA **2021**



**INDUSTRIAL SEGMENTS**

**52%** Water
**30%** Energy Infrastructure
**6%** Generation
**6%** Commercial and trading
**5%** Environment
**1%** Engineering, Overseas, Holding

% OF EBITDA **2022**

**INDUSTRIAL SEGMENTS**

**51%** Water
**27%** Energy Infrastructure
**7%** Generation
**7%** Commercial and trading
**8%** Environment
**0%** Engineering, Overseas, Holding

The **operating result (EBIT)** was **€565.9** million (-2.6% on 2020). The value reflects the increase in amortisation and depreciation related to investments for the period, write-downs of receivables attributable to business growth, and the introduction of a stress scenario for the Group's main companies.

# INFORMATION REQUIRED BY THE EUROPEAN TAXONOMY

As noted in *Disclosing sustainability: methodological note*, to which reference should be made, 2023 marked the second year of application, in the context of non-financial reporting for 2022, of the provisions introduced by the "European Taxonomy" approved with **Regulation 2020/852**[24] and included in the **the Sustainable Finance Action Plan (SFAP)** launched by the European Commission[25] in 2018. The purpose of the Taxonomy is to identify the "degree of environmental sustainability" of an investment[26], increasing the transparency of the market to the benefit of consumers and investors.
The Taxonomy is centred on **six environmental objectives** — climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, including waste reduction and recycling, pollution prevention and control, and protection and restoration of biodiversity and ecosystems — and introduces an international **classification system to identify environmentally sustainable economic activities.**

In 2021, the European Commission adopted the Climate Delegated Act[27] which defines the **first two climate objectives** (mitigation and adaptation), establishing technical screening criteria for economic activities that can substantially contribute to their achievement while causing no significant harm to the other environmental objectives. In 2022 the Commission published the *Complementary Delegated Act*, modifying the Climate Delegated Act[28] by introducing activities and the relative technical screening criteria for **natural gas** and **nuclear energy**. As a result of that integration, **the Taxonomy now identifies 13 sectors** that include a total of **109 economic activities**, of which 86 are able to substantially contribute to both the climate change mitigation and adaptation objectives, 8 contribute to mitigation only and 15 contribute to adaptation only.
For financial year 2022, non-financial undertakings subject to the Regulation, such as Acea, are required to publish information[29] on the **percentage proportion** of certain **quantitative economic performance indicators (KPIs)** - turnover, capital expenditure (CapEx) and operating expenditure (OpEx) - **attributable to the economic activities managed that are eligible and aligned**[30] **or not aligned to the Taxonomy**, with reference to the first two climate objectives[31].

## ANALYSIS OF ELIGIBILITY AND ALIGNMENT

In 2022 Acea carried out the preliminary activities required under the reporting obligations defined by the *Disclosures Delegated Act*, developing a **cross-disciplinary and synergetic project** involving the

24 Official Journal of the European Union, Regulation (EU) 2020/852 of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088. The Regulation is implemented through the gradual adoption of Delegated Acts.

25 See the Sustainable Growth Action Plan, European Commission, COM (2018) 97 final and the Strategy for financing the transition to a circular economy, European Commission, COM (2021), 390 final.

26 See article 1 of EU Regulation 852/2020 and Assonime Circular no. 1 of 19 January 2022, *the European Regulation on the taxonomy of environmentally sustainable activities: disclosure requirements for companies.*

27 In particular, the *Climate Delegated Act*, European Commission, C (2021) 2800 final, adopted on 4 June 2021 and entering into force on 1 January 2022.

28 The *Climate Delegated Act*, European Commission, C (2022) 631, adopted on 15 June 2022 and entered into force on 1 January 2023.

29 The *Disclosure Delegated Act*, European Commission, C (2021) 4987 final, 2021, adopted in July 2021 and entering into force on 30 December 2021, defined the reporting methods that must be adopted by parties falling within the scope of application of the Regulation.

30 Including partial alignment.

31 The full application of the Regulation, presumably from 2024 for the 2023 reporting year, will provide for the assessment of the eligibility and alignment of the economic activities identified by the Taxonomy for the remaining four environmental objectives which have not yet been regulated.

Administration, Finance and Control Department, the Investor Relations and Sustainability Department and the Companies included within the reporting boundary of the *Consolidated Non-Financial Statement*[32].

Specifically, the **eligibility analysis** was updated for this year, with the aim of identifying the activities conducted by the Group that correspond to those listed and described in Annexes I and II of the *Climate Delegated Act* - focused respectively on the climate change mitigation and adaptation objectives - and taking into account the Complementary Delegated Act. This analysis led to a slight reduction in the number of eligible **activities** from **27** to **22,** associated with **5 sectors** identified by the Regulation[33]. Of these eligible activities, **20** may contribute to the achievement of **both the climate change mitigation and adaptation objectives**, while **2 contribute to the mitigation objective only**.

The reduction in the number of eligible activities is attributable to the exclusion of activities potentially carried out by the Group but not actually conducted in the year under review, which therefore were not associated with economic KPIs during the reporting year, and activities which, on closer analysis, were not in fact applicable or were more appropriately associated with another operating area described by the Regulation.

Furthermore, in compliance with the provisions of the Regulation, the **alignment to the Taxonomy of Acea's eligible activities** was analysed to identify the Group's environmentally sustainable activities according to three sets of criteria:

- **substantial contribution criteria**[34]: for each eligible activity, the compliance with the technical screening criteria was verified to establish its substantial contribution to achieving the mitigation and/or adaptation objective;
- **Do No Significant Harm (DNSH)** criteria[35]: analysis of the technical and regulatory requirements to ensure that the activity not only substantially contributes to at least one Taxonomy objective but also does not cause any significant harm to any of the other environmental objectives;
- **minimum safeguards**[36]: analysis to verify that the activities that contribute substantially to at least one environmental objective and do not cause significant harm to the others are carried out in compliance with the minimum social safeguards set out in the Human and Employment Rights Regulation.

The **technical screening criteria for a substantial contribution** identify quantitative thresholds that establish the limits within which an activity can be considered environmentally sustainable and/or describe the qualitative characteristics that make an activity aligned without the need to meet specific technical thresholds.

With regard to the DNSH criteria, please note that Annexes I and II of the *Climate Delegated Act* define the **conditions under which eligible activities do no harm to the other environmental objectives**. These criteria may consist of **specific provisions** or **general "recurring" criteria.** In the first case, the requirements are specific to the activity under analysis and limited checks must be carried out. Recurring criteria, however, are outlined in the five Appendices to Annexes I and II of the Climate Delegated Act, which mostly refer to compliance with European or national standards or the performance of assessment activities. The Group has adopted two approaches for the DNSH analysis: for the specific criteria, the capacity of each individual activity to meet the requirements was evaluated, while for "recurring criteria" (the Appendices), the best practices available for each Business Area were considered in order to guarantee, where possible, compliance with the requirements for each eligible activity.

To complete the alignment analysis of the Taxonomy-eligible activities, Acea verified the compliance with the **minimum safeguards** which introduce into the assessment of the environment sustainability of an economic activity, the minimum human and employment rights protections required, as established by the relative international standards[37] (see the dedicated box).

## VERIFICATION OF COMPLIANCE WITH THE MINIMUM SAFEGUARDS

Italian human and employment rights law governs these principles and their relative specific aspects such as privacy, health and safety, corruption, fair competition, tax and environmental protection. As well as acting in compliance with the national laws in force, Acea also conducts its business according to a sustainable and inclusive growth strategy, operating in line with the Universal Declaration of Human Rights, the ILO Conventions and the principles issued by the United Nations Global Compact, of which it is a signatory. This commitment is enshrined in the Group *Code of Ethics*, the most recently updated version of which was produced in collaboration with internal resources and external consultants specialised in corporate ethics, and approved by the Acea Board of Directors on 9 November 2022. The *Code of Ethics* states that: Acea considers as inalienable in the definition of its values the UN Universal Declaration of Human Rights for the respect of natural and universal rights, the International Labour Conventions and Recommendations issued by the International Labour Organization (ILO), such as those relating to fair treatment and non-discrimination, the protection of child labour, the fight against forced labour, the freedom to form trade unions and the right to collective bargaining, the European Union's Charter of Fundamental Rights."

Acea monitors the topics that underpin the minimum safeguards of the Regulation through the use of prescriptive instruments (such as Group policies, Guidelines, etc.) and organisational and operating models (appointed units, procedures, management and control systems).

32 See *Disclosing sustainability: methodological note* for the process of defining the scope and the list of companies therein. Note that these Companies, identified for their adequate representation of the performance and the impacts generated by the Group (pursuant to Italian Legislative Decree no. 254/2016), cover, with reference to the KPIs set out by Regulation (EU) 2020/852, 91% of the turnover, 95% of the CapEx and 94% of the OpEx of the full list of companies consolidated on a line-by-line basis.

33 In particular, the activities managed by the Group, considered eligible, fall under the following sectors: Energy; Water supply, sewerage, waste management and remediation; Transport; Construction and real estate; Professional, scientific and technical activities.

34 Articles 10, 11, 12, 13, 14, 15, 16, 19 of Regulation (EU) 2020/852.

35 Article 17 of Regulation (EU) 2020/852.

36 Article 18, section 1 of Regulation (EU) 2020/852, specifically, OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight core conventions identified in the ILO Declaration on Fundamental Principles and Rights at Work and the International Bill of Human Rights.

37 Please also consult the *Final Report on Minimum Safeguards*, published by the Platform on Sustainable Finance in October 2022.

These include:
***Code of Ethics***: a set of principles and rules of conduct that underpin the Organisation, Management and Control Model and apply to "*all persons who, in any capacity, directly or indirectly, permanently or temporarily, in Italy or abroad, operate in the interest of Acea and its subsidiaries", which guide all corporate practices "towards all stakeholders*", also with the help of contractual clauses for adherence to specific social obligations for those who work on behalf of the company.
***Whistleblowing***: a confidential and restricted channel for employees and external parties to report potential conduct in breach of the *Code of Ethics*, supported by an ad hoc procedure for handling such reports;
***Ethics Officer***: a collegiate body that manages the reporting system and monitors compliance with the values expressed in the *Code of Ethics* in relations with all Group stakeholders.
Organisation, Management and Control Model: a management system pursuant to Legislative Decree 231/2001 that identifies the procedures developed to mitigate the risk of offences committed by directors, managers or employees in the interest or to the advantage of the Group, which is constantly being revised and updated. The *Code of Ethics*, the Organisation, Management and Control Model and the relative Oversight Committee each represent an essential component of a broader and more structured **Internal Control and Risk Management System (ICRMS)** adopted by Acea.
**Antitrust Compliance Programme, Antitrust and Consumer Protection Compliance Manual, Organisational Regulations for Antitrust Compliance and Unfair Commercial Practices** and **Guidelines for Antitrust Compliance and Consumer Protection**: rules and safeguards to prevent and counteract anti-competitive behaviour and to protect the consumer and the principle of fair competition, which must be adhered to by Group personnel, commercial partners, suppliers and partners.
**Anti-corruption Policy:** set of rules, controls and safeguards to prevent corruption and bribery offences against the public and private individuals, supported by the Corruption Prevention Management System (ISO 37001, in the process of being adopted).
**Privacy Governance Guidelines:** guidelines for implementing policies to protect the personal data of employees, customers, suppliers, shareholders, partners and persons whose personal data are processed by the Group and that ensure the application of the GDPR.
**Management and Sustainability Systems Policy, Quality, Environment, Energy and Safety Management Systems**: to promote a culture of quality, respect for the environment, occupational health and safety and energy saving.
**Equality, Diversity & Inclusion Committee**, **Equality, Diversity & Inclusion Policy**, Procedure on the **Protection, Inclusion, Promotion of the Diversity and Well-being of Workers**, **Diversity & Inclusion Plan and Dashboard**: initiatives to assess risks and actions to be taken to promote diversity, inclusion and equal opportunities, also engaging with employees to consider their opinions and proposals.
**Health and Safety Management System**, **QASER questionnaire, Vendor rating, Ecovadis model:** tools for managing the health and safety of people both within the organisation - specific training, risk assessment and continuous monitoring - and outside the Group, as in the case of contracted works and services, to oversee every phase of the relationship between supplier and company, including assessing suppliers' performance on indicators relating to punctuality, quality and safety, and ESG criteria.
**Tax Management Procedure:** outlines and regulates the roles and responsibilities of the parties involved as well as the tax management auditing activities[38].

Based on the analyses, in 2022 Acea identified, out of a total of **22 eligible activities, 14 fully aligned activities, 6 partially aligned activities**[39] and **2 non-aligned activities.** For all eligible activities, the substantial contribution to the climate change **mitigation** objective was evaluated (see Tables 6, 7, 8 and 9).

In particular, observing the **distribution of eligible and aligned activities, including only partially aligned activities, for each business area**[40], and considering that certain activities are eligible for several operating sectors, in the **water** business area there are 6 eligible activities in the "*Water supply, sewerage, waste management and remediation*" sector, and, following the verification of the Substantial Contribution and DNSH criteria, there are three fully aligned activities and three partially aligned activities. CapEx associated with the activity "Material recovery from non-hazardous waste", coupled with the climate change mitigation objective, were valued as part of a **CapEx Plan** aimed at expanding Taxonomy-aligned economic activities. Acea Ato 2 also planned the construction of a treatment plant for the sand from the treatment processes and from the sewage network cleaning, which will make it possible to recover up to 80% of the solid input material. Total CapEx sustained during the year was €0.05 million, while total investments over the course of the Plan will amount to approximately €8 million. The plant is expected to be completed by 2024 and therefore the aligned economic activity will be expanded, in line with the Regulation, within a period of less than five years.
In the **Environment** business area, which operates in the waste processing sector, there are six eligible activities (attributable to the "Energy" and "Water supply, sewerage, waste treatment and remediation" sectors), of which 4 were aligned, 1 partially aligned and 1 not aligned; in the **Generation** business area, which operates in the field of electricity production, there are 8 eligible activities (attributable to the "Energy" (including "Gas"), "Transport", "*Construction and real estate activities*" and "Professional, scientific and technical activities" sectors), of which 6 are fully aligned, 1 partially aligned and 1 not aligned; in the **Energy Infrastructures** business area, operating in the electricity transmission and distribution sector, there are 3 eligible activities (attributable to the "Energy" and "*Construction and real estate activities*" sectors), 2 of which, following verification of the substantial contribution and DNSH

38 In the *Final Report on Minimum Safeguards*, published in October 2022 by the Platform on Sustainable Finance, the topic of taxation considered the OECD Guidelines for Multinational Enterprises and was considered relevant to risk management purposes. In view of this, while not directly applicable to Acea given the nature of its business, the matter is also discussed here (see also the chapter on Institutions and the Company for more details).

39 Partial alignment may occur in the case that for the same activity, certain Companies in the business area are aligned and others are not aligned, or when for certain companies in the area, the activity meets the technical screening criteria only for a portion of the plants/infrastructure.

40 Companies belonging to several business areas may be eligible for the same activity; consequently, the total number of eligible activities in the sector is higher than the number of eligible activities at Group level. See The Corporate Identity and the Relations with the Environment section of this document for more details of the activities in each business area.

criteria, were fully aligned and 1 partially aligned (only marginally misaligned); in the **Engineering and Services** business area, which operates in a range of research, innovation, design and laboratory activities for Group companies[41], there is 1 aligned activity (in the "Water supply, sewerage, waste treatment and remediation" sector); finally, in the **Energy** business area (commercial and trading activities) there are 6 eligible activities (in the "Water supply, sewerage, waste treatment and remediation"[42],, "Transport", "Construction and real estate activities" and "Professional, scientific and technical activities" sectors), **all of which are aligned**. Electricity sales, which represent the Group's core business and accounted for 52% of the Group's turnover in 2022, are excluded, as sales are not currently included in the list of activities listed in Annexes I and II of the Climate Delegated Act for the first two climate targets.

## ECONOMIC AND FINANCIAL KPIs

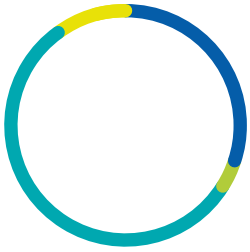
In accordance with the applicable reporting obligations, and in line with the "Accounting standards and supplementary information pursuant to Regulation 852/2020", the Group has calculated the percentages of **turnover, CapEx and OpEx related to its Taxonomy-aligned activities, and eligible but not aligned activities** (see Tables 6, 7, 8 and 9 for details).

In this context, it is important to emphasise that the percentages reported below do not represent a summary of the Group's sustainability performance, as reported in this document, but correspond to the specific disclosure required by Regulation 852/2020 on the environmental goals defined therein (specifically the climate change objectives). As such, these indicators should be considered limited to the purposes of the Taxonomy and separate to the broader scope of the ESG sustainability initiatives promoted by the Group.

Considering the Group's economic performance as at 31 December 2022, **aligned turnover** amounted to **30%** of the total, while eligible but not aligned turnover was **4%**. **72%** of Acea's total **CapEx** is aligned (**5%** eligible but not aligned) with the Taxonomy, while **68%** of **OpEx** is Taxonomy-aligned (**12%** eligible but not aligned). Please note that a residual part of the three KPIs (**9%** of turnover, **5%** of total CapEx and **6%** of OpEx considered under the Taxonomy[43] and attributable to the companies outside the reporting boundary of the NFS) is not subject to assessment.

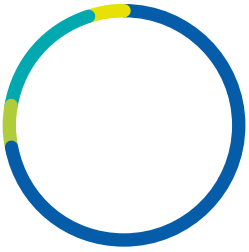
**Chart no. 8 – Percentage turnover, CapEx and OpEx attributable to Group activities that are aligned, eligible but not aligned, not eligible and not assessed**

**Turnover**
**€5,138 million of which**
**€1,542 million aligned**



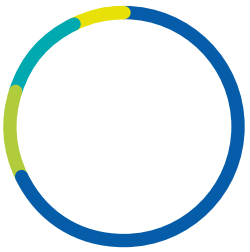
**30%** Aligned
**4%** Eligible but not aligned
**57%** Non eligible
**9%** Not assessed

**CapEx**
**€1,115 million of which**
**€801 million aligned**



**72%** Aligned
**5%** Eligible but not aligned
**18%** Non eligible
**5%** Not assessed

**OpEx**
**€164 million of which**
**€112 million aligned**



**68%** Aligned
**12%** Eligible but not aligned
**14%** Non eligible
**6%** Not assessed

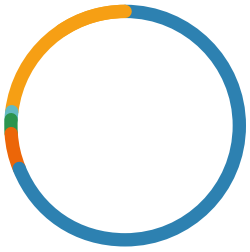
41 Intercompany activities are removed from the accounting of the KPIs, in accordance with the Regulation.

42 For the operation of the mini composting plants (Smart Comp), linked to the Composting of organic waste.

43 The above values of Turnover, CapEx and OpEx are in accordance with the guidance provided by the Disclosures Delegated Act and calculated in line with the accounting standards section.

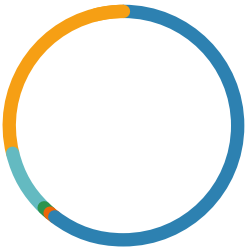
**Chart no. 9 – Percentage turnover, CapEx and OpEx aligned to the Taxonomy, by Business Area**

**Aligned turnover**
**€1,542 million**



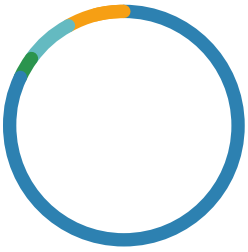
**0%** Holding
**69%** Water
**5%** Commercial and trading
**2%** Environment
**1%** Generation
**23%** Energy Infrastructure
**0%** Engineering and services

**Aligned CapEx**
**€801 million**



**0%** Holding
**61%** Water
**1%** Commercial and trading
**1%** Environment
**9%** Generation
**29%** Energy Infrastructure
**0%** Engineering and services

**Aligned OpEx**
**€112 million**



**0%** Holding
**82%** Water
**0%** Commercial and trading
**3%** Environment
**7%** Generation
**8%** Energy Infrastructure
**0%** Engineering and services

The interpretation of the data by Industrial Segment shows the unique contributions to the Group's alignment, in particular:

- out of total Group turnover in 2022, which amounted to **€5,138 million**, **€1,726 million** are attributable to **eligible** activities, of which **€1,542 million** are **Taxonomy-aligned**. The two Business Areas that contribute the most to alignment are **Water** with **69%** of the total aligned turnover (€1,062 million) and **Energy Infrastructure** with **23%** (€360 million);
- out of total Group **CapEx** in 2022 considered for the purposes of the Taxonomy, which amounted to **€1,115 million**, **€864 million** are attributable to **eligible** activities, of which **€801 million** are **Taxonomy-aligned**. The two Business Areas that contribute the most to alignment are Water and Energy Infrastructure; specifically, investments in the Water area represent **61%** of total aligned CapEx (€488 million) and **29%** in the **Energy Infrastructure** area (€299 million);
- out of total Group **OpEx** in 2022 **considered for the purposes of the Taxonomy**, which amounted to **€164 million**, **€131 million** are attributable to **eligible** activities, of which **€112 million** are **Taxonomy-aligned**. In this case, the two Business Areas that contribute the most to alignment are the **Water** area at **82%** of total aligned OpEx (€91 million) and the **Energy Infrastructure** area at **8%** (€9 million).

Acea has drawn up a **Green Financing Framework** and, on the basis of this, in January 2021 issued the Group's first **Green Bond**, totalling **€900 million** to support initiatives focused on **four main areas**: water resource management; energy efficiency; circular economy; and green energy. With reference to the KPIs on CapEx and turnover described above, the **contribution of green bond issues in 2022** was 18% of aligned CapEx and 0.4% of aligned turnover.

## ACCOUNTING STANDARDS AND SUPPLEMENTARY INFORMATION PURSUANT TO REGULATION 2020/852

This section explains the **accounting policy**, i.e. the method for constructing the **percentages of turnover, CapEx and OpEx** associated with the eligible and aligned activities that the Group has defined on the basis of the indications shown in Annex 1 of Delegated Act (EU) 2021/2178.

For the purposes of allocating the amounts of **turnover**, **CapEx** and **OpEx** to the eligible and aligned activities, Acea has defined a clear and viable hierarchy of sources, used with respect to the quantitative and qualitative reporting requirements. Specifically, Acea has reconstructed the indicators using the information reported in the general, business and regulatory accounts: the percentage of KPIs relating to each individual economic activity is calculated on the total turnover, investments and total ordinary costs relating exclusively to the types of OpEx provided for by the European Taxonomy.

For the calculation of the **eligible turnover** the numerator used was the portion of consolidated net revenue generated by the sale of products or services, including intangible, associated with economic activities eligible for the Taxonomy, and the denominator was the total net revenue[44].

**Net turnover** was identified by using the data of the consolidated financial statements prepared according to international accounting standards and making reference to the provisions of IAS1, section 82, lett. a).

Specifically, to create the indicator, the items "Revenue from sales and services" and "Other revenue and proceeds" of the consolidated income statement were used as reference; no amounts connected to economic activities included in the Taxonomy conducted for the Group's internal consumption are present.

For the calculation of **the eligible CapEx** the numerator used was the portion of capital expenditure posted to the assets of the consolidated financial statements associated with eligible activities and defined based on the criteria under point 1.1.2.2. of the Delegated Act and the denominator was the total capital expenditure quantified on the basis of the criteria under point 1.1.2.1. of the Delegated Act.

In particular, the denominator includes the increases to the tangible and intangible assets during the year considered before amortisation, write-down and any revaluation, including those deriving from recalculations and reductions of value and excluding fair value changes.

For the purpose of creating the indicator, the capital expenditure was identified using data from the consolidated financial statements, with reference to the provisions of *a) IAS 16 "Property, plant and equipment"; b) IAS 38 "Intangible assets"* and *c) IFRS 16 "Leasing"*. The values reported do not include amounts associated with economic activities included in the Taxonomy relative to expenditure capitalised according to *d) IAS 40 "Investment property"* and *e) IAS 41 "Agriculture"* since these are not applicable for the Group.

For the calculation of the **eligible OpEx**, the numerator used was the portion of operating expenses associated with the eligible activities and defined on the basis of criteria under point 1.1.3.2 of the Delegated Act and the denominator was the total operating expenses quantified on the basis of the criteria under point 1.1.3.1. of the Delegated Act.

The latter includes direct non-capitalised costs that relate to research and development, building renovation measures, short-term lease, maintenance and repair, and any other direct expenditures relating to the day-to-day servicing of assets of property, plant and equipment by the undertaking or third party to whom activities are outsourced that are necessary to ensure the continued and effective functioning of such assets.

For the creation of the indicator, the operating expenses were identified using data from the consolidated financial statements, prepared according to international accounting standards. Specifically, the items "Personnel costs" and "External costs" included in the Consolidated Income Statement were used as reference (pro rata). With respect to the provisions contained in the Delegated Act, when defining the eligible operating costs, Acea considered all daily maintenance and necessary costs to ensure the continued and effective functioning of the assets, meaning that the operating expenditure included all maintenance expenses of the assets, including the portions of costs for the purchase of materials, services and personnel costs directly attributable to the maintenance activity. Specifically, for the OpEx KPI, only non-capitalised direct costs related to research and development, building renovation measures, short-term lease, maintenance and repair as well as any other direct expenditure related to the day-to-day maintenance of property, plant and equipment, either by the company or by third parties to whom these tasks are outsourced, necessary to ensure the continuous and effective operation of these assets, were considered in accordance with the Regulation.

In addition to the provisions of the legislation, the Group also decided to calculate and represent the "normalised" turnover, CapEx and OpEx KPIs, i.e. using as denominator the consolidated values net of the non-assessed portion, attributable to the Companies not included in the NFS scope (equal to 9% of the turnover, 5% of the CapEx and 6% of the OpEx).

In line with the Models for Key Performance Indicators (KPIs) for non-financial undertakings contained in Annex II of the Delegated Regulation (EU) 2021/2178, the **proportion of turnover, CapEx** and **OpEx** of the Acea Group in 2022 **from products or services associated with Taxonomy-aligned economic activities** are reported below.

44 Pursuant to art. 2, point 5 of Directive 201334/EU.

**Table no. 6 – Percentage turnover of the Acea Group from products or services associated with Taxonomy-aligned economic activities - disclosure for 2022**

| | | | | Substantial contribution criteria | | | | | | DNSH criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute turnover | Percentage of turnover | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Minimum safeguards | Percentage turnover aligned to the taxonomy, 2022 | Percentage turnover aligned to the taxonomy, year N-1 | Category (enabling activity)[45] | Category (transitioning activity)[46] |
| | | (€000) | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. TAXONOMY ELIGIBLE ACTIVITIES** | | | **36.91** | | | | | | | | | | | | | | | | | |
| **A.1 Environmentally sustainable activities (Taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| Electricity generation using solar photovoltaic technology | 4.1 | 5,627 | 0.12 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.12 | N/A | | |
| Electricity generation from hydropower | 4.5 | 3,865 | 0.08 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.08 | N/A | | |
| Transmission and distribution of electricity | 4.9 | 352,484 | 7.54 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 7.54 | N/A | E | |
| District heating/cooling distribution | 4.15 | 11,000 | 0.24 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.24 | N/A | | |
| Construction, extension and operation of water collection, treatment and supply systems | 5.1 | 680,789 | 14.56 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 14.56 | N/A | | |
| Renewal of water collection, treatment and supply systems | 5.2 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Construction, extension and operation of waste water collection and treatment | 5.3 | 381,511 | 8.16 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 8.16 | N/A | | |
| Renewal of waste water collection and treatment | 5.4 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Collection and transport of non-hazardous waste in source segregated fractions | 5.5 | 15,188 | 0.32 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.32 | N/A | | |
| Anaerobic digestion of sewage sludge | 5.6 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Anaerobic digestion of bio-waste | 5.7 | 9,212 | 0.20 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.20 | N/A | | |
| Composting of bio-waste | 5.8 | 57 | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Material recovery from non-hazardous waste | 5.9 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Landfill gas capture and utilisation | 5.10 | 836 | 0.02 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.02 | N/A | | |
| Infrastructure enabling low-carbon road transport and public transport | 6.15 | 1,089 | 0.02 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.02 | N/A | E | |
| Installation, maintenance and repair of energy efficiency equipment | 7.3 | 72,352 | 1.55 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 1.55 | N/A | E | |
| Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) | 7.4 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | E | |

45 Pursuant to article 16 of Regulation 2020/852, an economic activity that contributes substantially to one or more of the environmental objectives specified in Article 9 by directly enabling other activities to make a substantial contribution to one or more of those objectives, provided that such economic activity: (a) does not lead to a lock-in of assets that undermine long-term environmental goals, considering the economic lifetime of those assets; and (b) has a substantial positive environmental impact, on the basis of life-cycle considerations.

46 Pursuant to article 10, section 2 of Regulation 2020/852, an economic activity for which there is no technologically and economically feasible low-carbon alternative that contributes substantially to climate change mitigation where it supports the transition to a climate-neutral economy consistent with a pathway to limit the temperature increase to 1,5 0C above pre-industrial levels, including by phasing out greenhouse gas emissions, in particular emissions from solid fossil fuels, and where that activity: (a) has greenhouse gas emission levels that correspond to the best performance in the sector or industry; (b) does not hamper the development and deployment of low-carbon alternatives; and (c) does not lead to a lock-in of carbon-intensive assets, considering the economic lifetime of those assets.

| | | | | Substantial contribution criteria | | | | | | DNSH criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute turnover | Percentage of turnover | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Minimum safeguards | Percentage turnover aligned to the taxonomy, 2022 | Percentage turnover aligned to the taxonomy, year N-1 | Category (enabling activity)[45] | Category (transitioning activity)[46] |
| | | (€000) | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings | 7.5 | 7,621 | 0.16 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.16 | N/A | E | |
| Installation, maintenance and repair of renewable energy technologies | 7.6 | 506 | 0.01 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.01 | N/A | E | |
| Professional services related to energy performance of buildings | 9.3 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| **Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)** | | **1,542,137** | **32.98** | **100** | **0** | **0** | **0** | **0** | **0** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **32.98** | **N/A** | | |
| **A.2 Activities that are Taxonomy-eligible but not environmentally sustainable (not taxonomy-aligned activities)** | | | | | | | | | | | | | | | | | | | | |
| Electricity generation from bioenergy | 4.8 | 969 | 0.02 | | | | | | | | | | | | | | | | | |
| Transmission and distribution of electricity (*)[47] | 4.9 | 2 | 0.00 | | | | | | | | | | | | | | | | | |
| District heating/cooling distribution (*) | 4.15 | 8,110 | 0.17 | | | | | | | | | | | | | | | | | |
| High-efficiency co-generation of heat/cool and power from fossil gaseous fuels | 4.30 | 2,212 | 0.05 | | | | | | | | | | | | | | | | | |
| Construction, extension and operation of waste water collection and treatment (*) | 5.3 | 169,189 | 3.62 | | | | | | | | | | | | | | | | | |
| Renewal of waste water collection and treatment (*) | 5.4 | - | 0.00 | | | | | | | | | | | | | | | | | |
| Collection and transport of non-hazardous waste in source segregated fractions (*) | 5.5 | 3,614 | 0.08 | | | | | | | | | | | | | | | | | |
| Anaerobic digestion of sewage sludge (*) | 5.6 | - | 0.00 | | | | | | | | | | | | | | | | | |
| **Turnover of activities that are taxonomy-eligible but not environmentally sustainable (not taxonomy-aligned activities)** | | **184,095** | **3.94** | | | | | | | | | | | | | | | | | |
| **Total (A1 + A2)** | | **1,726,231** | **36.91** | | | | | | | | | | | | | | **32.98** | | | |
| **B. TAXONOMY NON-ELIGIBLE ACTIVITIES** | | | | | | | | | | | | | | | | | | | | |
| **Turnover of Taxonomy non-eligible activities (B)** | | **2,950,147** | **63.09** | | | | | | | | | | | | | | | | | |
| **Total (A+B)** | | **4,676,379** | **100** | | | | | | | | | | | | | | | | | |

47 In Tables 6, 7 and 8, activities marked by an asterisk (*) are partially aligned.

**Table no. 7 – Percentage CapEx of the Acea Group from products or services associated with Taxonomy-aligned economic activities - disclosure for 2022**

| | | | | Substantial contribution criteria | | | | | | DNSH criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute CapEx | Percentage CapEx | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Minimum safeguards | Percentage turnover aligned to the taxonomy, 2022 | Percentage CapEx aligned to the taxonomy, year N-1 | Category (enabling activity) | Category (transitioning activity) |
| | | (€000) | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| **A. TAXONOMY ELIGIBLE ACTIVITIES** | | | **81.54** | | | | | | | | | | | | | | | | | |
| **A.1 Environmentally sustainable activities (Taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| Electricity generation using solar photovoltaic technology | 4.1 | 62,810 | 5.93 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 5.93 | N/A | | |
| Electricity generation from hydropower | 4.5 | 4,847 | 0.46 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.46 | N/A | | |
| Transmission and distribution of electricity | 4.9 | 198,133 | 18.70 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 18.70 | N/A | E | |
| District heating/cooling distribution | 4.15 | 2,934 | 0.28 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.28 | N/A | | |
| Construction, extension and operation of water collection, treatment and supply systems | 5.1 | 214,674 | 20.26 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 20.26 | N/A | | |
| Renewal of water collection, treatment and supply systems | 5.2 | 93,263 | 8.80 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 8.80 | N/A | | |
| Construction, extension and operation of waste water collection and treatment | 5.3 | 171,909 | 16.23 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 16.23 | N/A | | |
| Renewal of waste water collection and treatment | 5.4 | 7,583 | 0.72 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.72 | N/A | | |
| Collection and transport of non-hazardous waste in source segregated fractions | 5.5 | 482 | 0.05 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.05 | N/A | | |
| Anaerobic digestion of sewage sludge | 5.6 | 365 | 0.03 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.03 | N/A | | |
| Anaerobic digestion of bio-waste | 5.7 | 7,979 | 0.75 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.75 | N/A | | |
| Composting of bio-waste | 5.8 | 517 | 0.05 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.05 | N/A | | |
| Material recovery from non-hazardous waste | 5.9 | 47 | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Sostituire con: Landfill gas capture and utilisation | 5.10 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Infrastructure enabling low-carbon road transport and public transport | 6.15 | 4,771 | 0.45 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.45 | N/A | E | |
| Installation, maintenance and repair of energy efficiency equipment | 7.3 | 79 | 0.01 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.01 | N/A | E | |
| Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) | 7.4 | 7 | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | E | |
| Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings | 7.5 | 30,572 | 2.89 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 2.89 | N/A | E | |

| Economic activities | Code(s) | Absolute CapEx | Percentage CapEx | Substantial contribution criteria: Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | DNSH criteria: Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Minimum safeguards | Percentage turnover aligned to the taxonomy, 2022 | Percentage CapEx aligned to the taxonomy, year N-1 | Category (enabling activity) | Category (transitioning activity) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (€000) | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | % | E | T |
| Installation, maintenance and repair of renewable energy technologies | 7.6 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | E | |
| Professional services related to energy performance of buildings | 9.3 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| **CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)** | | **800,970** | **75.60** | **100** | **0** | **0** | **0** | **0** | **0** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **75.60** | **N/A** | | |
| **A.2 Activities that are Taxonomy-eligible but not environmentally sustainable (not taxonomy-aligned activities)** | | | | | | | | | | | | | | | | | | | | |
| Electricity generation from bioenergy | 4.8 | 81 | 0.01 | | | | | | | | | | | | | | | | | |
| Transmission and distribution of electricity (*) | 4.9 | - | 0.00 | | | | | | | | | | | | | | | | | |
| District heating/cooling distribution (*) | 4.15 | 96 | 0.01 | | | | | | | | | | | | | | | | | |
| High-efficiency co-generation of heat/cool and power from fossil gaseous fuels | 4.30 | 2,716 | 0.26 | | | | | | | | | | | | | | | | | |
| Construction, extension and operation of waste water collection and treatment (*) | 5.3 | 39,027 | 3.68 | | | | | | | | | | | | | | | | | |
| Renewal of waste water collection and treatment (*) | 5.4 | 20,756 | 1.96 | | | | | | | | | | | | | | | | | |
| Collection and transport of non-hazardous waste in source segregated fractions (*) | 5.5 | 148 | 0.01 | | | | | | | | | | | | | | | | | |
| Anaerobic digestion of sewage sludge (*) | 5.6 | 11 | 0.00 | | | | | | | | | | | | | | | | | |
| **CapEx of activities that are taxonomy-eligible but not environmentally sustainable (not taxonomy-aligned activities)** | | **62,835** | **5.93** | | | | | | | | | | | | | | | | | |
| **Total (A1 + A2)** | | **863,806** | **81.54** | | | | | | | | | | | | | | **75.60** | | | |
| **B. TAXONOMY NON-ELIGIBLE ACTIVITIES** | | | | | | | | | | | | | | | | | | | | |
| **CapEx of Taxonomy non-eligible activities (B)** | | **195,619** | **18.46** | | | | | | | | | | | | | | | | | |
| **Total (A+B)** | | **1,059,425** | **100** | | | | | | | | | | | | | | | | | |

**Table no. 8 – Percentage OpEx of the Acea Group, considered pursuant to the Disclosures Delegated Act, from products or services associated with Taxonomy-aligned economic activities - disclosure for 2022**

| | | | | Substantial contribution criteria | | | | | | DNSH criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Economic activities | Code(s) | Absolute OpEx | Percentage OpEx | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Minimum safeguards | Percentage turnover aligned to the taxonomy, 2022 | Percentage OpEx aligned to the taxonomy, year N-1 | Category (enabling activity) | Category (transitioning activity) |
| | | (€000) | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | E | T |
| **A. TAXONOMY ELIGIBLE ACTIVITIES** | | | **85.21** | | | | | | | | | | | | | | | | | |
| **A.1 Environmentally sustainable activities (Taxonomy-aligned)** | | | | | | | | | | | | | | | | | | | | |
| Electricity generation using solar photovoltaic technology | 4.1 | 2,837 | 1.85 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 1.85 | N/A | | |
| Electricity generation from hydropower | 4.5 | 3,050 | 1.99 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 1.99 | N/A | | |
| Transmission and distribution of electricity | 4.9 | 8,630 | 5.63 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 5.63 | N/A | E | |
| District heating/cooling distribution | 4.15 | 819 | 0.53 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.53 | N/A | | |
| Construction, extension and operation of water collection, treatment and supply systems | 5.1 | 60,193 | 39.29 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 39.29 | N/A | | |
| Renewal of water collection, treatment and supply systems | 5.2 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Construction, extension and operation of waste water collection and treatment | 5.3 | 30,987 | 20.23 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 20.23 | N/A | | |
| Renewal of waste water collection and treatment | 5.4 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Collection and transport of non-hazardous waste in source segregated fractions | 5.5 | 41 | 0.03 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.03 | N/A | | |
| Anaerobic digestion of sewage sludge | 5.6 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Anaerobic digestion of bio-waste | 5.7 | 2,710 | 1.77 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 1.77 | N/A | | |
| Composting of bio-waste | 5.8 | 117 | 0.08 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.08 | N/A | | |
| Material recovery from non-hazardous waste | 5.9 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| Landfill gas capture and utilisation | 5.10 | 15 | 0.01 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.01 | N/A | | |
| Infrastructure enabling low-carbon road transport and public transport | 6.15 | 812 | 0.53 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.53 | N/A | E | |
| Installation, maintenance and repair of energy efficiency equipment | 7.3 | 991 | 0.65 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.65 | N/A | E | |
| Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings) | 7.4 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | E | |
| Installation, maintenance and repair of instruments and devices for measuring, regulation and controlling energy performance of buildings | 7.5 | 477 | 0.31 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.31 | N/A | E | |

| Economic activities | Code(s) | Absolute OpEx | Percentage OpEx | Substantial contribution criteria | | | | | | DNSH criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Climate change mitigation | Climate change adaptation | Water and marine resources | Circular economy | Pollution | Biodiversity and ecosystems | Minimum safeguards | Percentage turnover aligned to the taxonomy, 2022 | Percentage OpEx aligned to the taxonomy, year N-1 | Category (enabling activity) | Category (transitioning activity) |
| | | (€000) | % | % | % | % | % | % | % | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | Y/N | % | E | T |
| Installation, maintenance and repair of renewable energy technologies | 7.6 | 129 | 0.08 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.08 | N/A | A | |
| Professional services related to energy performance of buildings | 9.3 | - | 0.00 | 100 | 0 | 0 | 0 | 0 | 0 | Y | Y | Y | Y | Y | Y | Y | 0.00 | N/A | | |
| **OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)** | | **111,808** | **72.99** | **100** | **0** | **0** | **0** | **0** | **0** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **Y** | **72.99** | **N/A** | | |
| **A.2 Activities that are Taxonomy-eligible but not environmentally sustainable (not taxonomy-aligned activities)** | | | | | | | | | | | | | | | | | | | | |
| Electricity generation from bioenergy | 4.8 | 114 | 0.07 | | | | | | | | | | | | | | | | | |
| Transmission and distribution of electricity (*) | 4.9 | 0 | 0.00 | | | | | | | | | | | | | | | | | |
| District heating/cooling distribution (*) | 4.15 | 412 | 0.27 | | | | | | | | | | | | | | | | | |
| High-efficiency co-generation of heat/cool and power from fossil gaseous fuels | 4.30 | 2,754 | 1.80 | | | | | | | | | | | | | | | | | |
| Construction, extension and operation of waste water collection and treatment systems (*) | 5.3 | 15,427 | 10.07 | | | | | | | | | | | | | | | | | |
| Renewal of waste water collection and treatment systems (*) | 5.4 | - | 0.00 | | | | | | | | | | | | | | | | | |
| Collection and transport of non-hazardous waste in source segregated fractions (*) | 5.5 | 13 | 0.01 | | | | | | | | | | | | | | | | | |
| Anaerobic digestion of sewage sludge (*) | 5.6 | - | 0.00 | | | | | | | | | | | | | | | | | |
| **OpEx of activities that are Taxonomy-aligned but not environmentally sustainable (not taxonomy-aligned activities)** | | **18,721** | **12.22** | | | | | | | | | | | | | | | | | |
| **Total (A1 + A2)** | | **130,529** | **85.21** | | | | | | | | | | | | | | **72.99** | | | |
| **B. TAXONOMY NON-ELIGIBLE ACTIVITIES** | | | | | | | | | | | | | | | | | | | | |
| **OpEx of Taxonomy non-eligible activities (B)** | | **22,657** | **14.79** | | | | | | | | | | | | | | | | | |
| **Total (A+B)** | | **153,186** | **100** | | | | | | | | | | | | | | | | | |

As indicated in the previous table, Acea is also eligible in the context of one of the six activities regarding **energy production from nuclear and fossil fuels**, regulated by the Complementary Delegated Act: this is **activity 4.30** "High-efficiency co-generation of heat/cool and power from fossil gaseous fuels"[48] which, following the analyses performed, was found **not to be aligned**; the table below, simplified with respect to the standard model in Annex III of the Delegated Act, shows the relative KPIs for turnover, CapEx and OpEx.

**Table no. 9 – Taxonomy-eligible but not aligned nuclear and fossil gas related economic activities**

| Economic activities | | amount and proportion | | | | | |
|---|---|---|---|---|---|---|---|
| | | CCM + CCA | | Climate change mitigation (CCM) | | Climate change adaptation (CCA) | |
| | | amount (€000) | % | amount (€000) | % | amount (€000) | % |
| **Turnover** | | | | | | | |
| (...) | | | | | | | |
| 5 | Amount and proportion of taxonomy eligible but not taxonomy-aligned economic activity referred to in Section **4.30** of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of turnover | 2,212 | 0.05 | 2,212 | 0.05 | - | 0 |
| (...) | | | | | | | |
| 7 | Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of the turnover | 1,724,020 | 36.87 | 1,724,020 | 36.87 | - | 0 |
| 8 | Total amount and proportion of taxonomy eligible but not taxonomy aligned economic activities in the denominator of the turnover | **4,676,379** | **100** | **4,676,379** | **100** | **-** | **0** |
| **CapEx** | | | | | | | |
| (...) | | | | | | | |
| 5 | Amount and proportion of taxonomy eligible but not taxonomy-aligned economic activity referred to in Section **4.30** of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of CapEx | 2,716 | 0.26 | 2,716 | 0.26 | - | 0 |
| (...) | | | | | | | |
| 7 | Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in the denominator of CapEx | 861,090 | 81.28 | 861,090 | 81.28 | - | 0 |
| 8 | Total amount and proportion of taxonomy eligible but not taxonomy aligned economic activities in the denominator of CapEx | **1,059,425** | **100.00** | **1,059,425** | **100.00** | - | 0 |
| **OpEx** | | | | | | | |
| (...) | | | | | | | |
| 5 | Amount and proportion of taxonomy eligible but not taxonomy-aligned economic activity referred to in Section **4.30** of Annexes I and II to Delegated Regulation 2021/2139 in the denominator of OpEx | 2,754 | 1.81 | 2,754 | 1.80 | - | 0 |
| (...) | | | | | | | |
| 7 | Amount and proportion of other taxonomy-eligible but not taxonomy-aligned economic activities not referred to in rows 1 to 6 above in denominator of the OpEx | 127,775 | 83.41 | 127,775 | 83.41 | - | 0 |
| 8 | Total amount and proportion of taxonomy eligible but not taxonomy aligned economic activities in the denominator of OpEx | **153,186** | **100.00** | **153,186** | **100.00** | - | 0 |

48 Activity 5 pursuant to Annex III, Standard templates for the disclosure referred to in Article 8(6) and (7) of Delegated Regulation (EU) 2022/1214 of the European Commission.

# STRATEGY AND SUSTAINABILITY

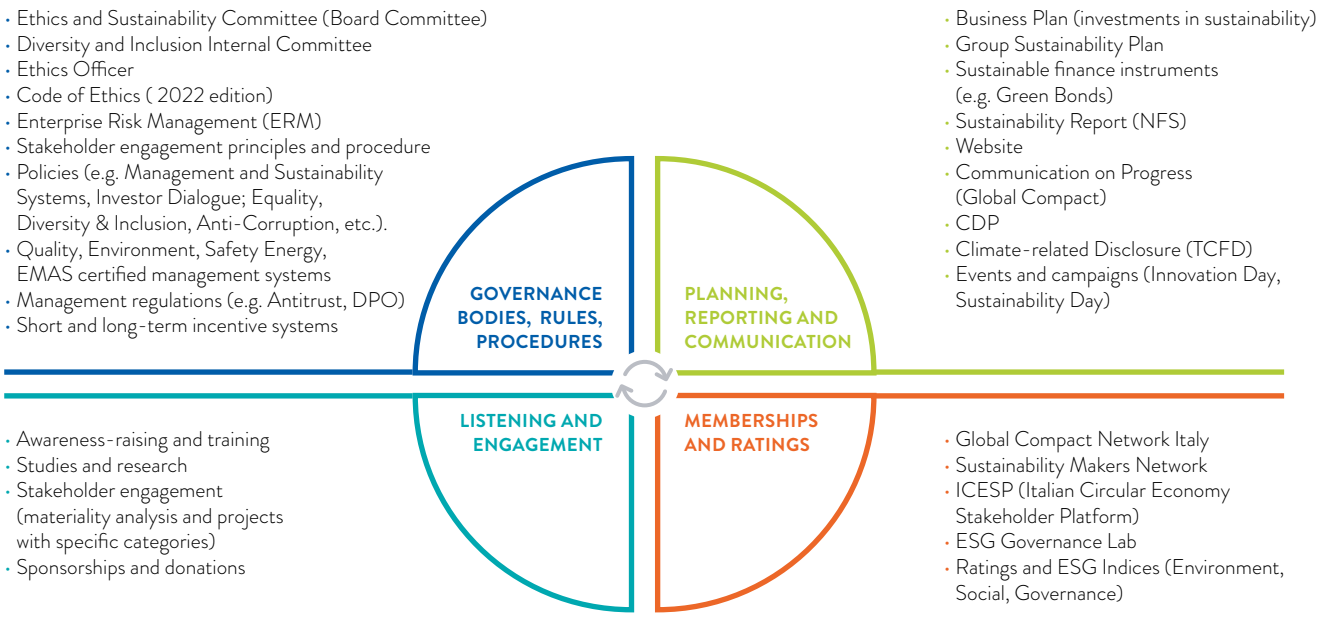
## INTEGRATED STRATEGY OVERVIEW

The core values and principles enshrined in the Code of Ethics of the Acea Group, updated at the end of 2022, highlight the link between business strategy and sustainability. In particular, the Code emphasises that: "Acea intends to conduct its business while respecting the principles of sustainable development and contributing to the pursuit of the UN Sustainable Development Goals (2030 Agenda) (...) Acea also operates in line with the principles issued by the United Nations Global Compact, to which Acea has formally and substantially subscribed. *Acea is aware that the services it provides underpin the fundamental rights of individuals and the influence, even indirect, that its activities have on people's living conditions, on the economic and social development of the areas in which it operates, and on the general well-being of the community.* That is why it plans its investments and conducts its business to pursue sustainable success in the medium to long term (...) and works to integrate care for the social and environmental aspects of its business with corporate growth strategies (...)[49]".

Therefore, Acea's strategic planning seizes the opportunities offered by the evolution of the reference framework and the new economic, social and environmental challenges, reconciling the industrial dimension and the sustainability aspects with the business objectives.

The concept of a **business management strategy oriented towards "sustainable success"**, which Acea also pursues through the use of tools and policies (see Chart no. 10), is also studied extensively through discussions with the **institutional sphere, experts and other companies**. Acea promotes this dialogue directly through initiatives such as the Innovation Day event (see box in the chapter on Institutions and the Company), which included in-depth studies on Smart Cities, Open Innovation and the ecological transition, or otherwise as an active participant in other events such as Ecomondo, Maker Faire, the Water Festival, etc.

**Chart no. 10 – Sustainability tools**




Acea's commitment is appreciated by external observers, analysts specialised in ESG and the market. In this sense, Acea's strong positioning in the **Integrated Governance Index** (see the chapter *Corporate governance and management systems*) is demonstrated by the improving trend in the Group's rating by the Gender Equality Index of Bloomberg (see the chapter *Personnel*), the "innovation" awards received (see the chapter *Institutions and the Company*), the positioning in the ratings of the CDP - Carbon Disclosure Project, the improvement in the rating outlook given by Standard Ethics, the entry onto the ESG MIB Index and the assessments issued by ESG analysts (see the chapter *Shareholders and Investors*).

49 Acea Group Code of Ethics (2022 edition), Sustainability, Responsibility to Stakeholders and Environmental Protection, in the section Core Values and Principles

## ACEA SUSTAINABILITY LEADER IN 2022

Acea was named on the list of the 200 most sustainable Italian companies published by Sole24Ore and Statista. The evaluation process was carried out on a sample of 1,500 publicly traded companies with the highest turnovers in Italy that publish a sustainability report, and analysed **40 environmental, social and governance indicators** included in the reports. The analysis generated a score for each of the three areas on a scale from 0-100, and these were used to calculate the final score, also out of 100. The 200 companies with the highest final score were published in the Sole24Ore "Sustainability Leaders" dossier.

The **2020-2024 Business Plan**, which guides the Group, was defined by taking into consideration **5 mega trends** which mark the evolution of utilities**: sustainability and circular economy; customer focus; energy transition; innovation and digitisation; increased competitiveness on the market.**

In particular, the **Business Plan** has divided the **Group's growth guidelines** into **5 strategic pillars summarised** by the acronym **GRIDS**:

- **Growth**: Growth driven by the regulated market;
- **Renewables**: investment in renewables;
- **Innovation**: investment in new innovative services;
- **Delivery**: Results exceeded targets;
- **Sustainability**: increasing focus on the environmental impact and circular economy.

**The total business investments** ,envisaged in the Plan, amount to **€4.3 billion**.

## MAIN ACTIONS AND STRATEGIC OBJECTIVES OF THE 2020-2024 BUSINESS PLAN BY BUSINESS AREA

| business area | strategy |
|---|---|
| **WATER**<br>*Development of a Smart Water Company for sustainable use of water by improving the quality and efficiency of the service*<br>*Expansion through participation in new tenders in other territories.* | • installation of **smart water meters** and **districting** of the network<br>• virtuous path of **water resource protection with reduction of losses**<br>• **rationalisation of small treatment plants**<br>• **optimisation** of network **performance** through the **Water Management System**<br>• **securitisation of supply** with work on the **strategic Peschiera and Marcio aqueducts** |
| **NETWORKS**<br>*Major player in the energy transition with enabling projects for increased electrification and integration of distributed generation.* | • investments for **network resilience** with interventions on specific substations<br>• **network digitisation** through remote control and IoT solutions<br>• network maintenance to improve **service continuity**<br>• **2G smart meter**installation<br>• new **Network Service** Management Centre |
| **ENVIRONMENT**<br>*Consolidation of the market towards the circular economy including in a "one-stop-shop" logic.*<br>*Accelerated closing of the waste cycle in Central Italy.* | • **consolidation of core business**in energy recovery (WtE) and disposal of unsorted waste and organic fraction<br>• strengthening **Waste to Material (WtM) supply chains in view of the circular economy** (e.g. plastic, paper)<br>• further **development in the special waste sector,** also in **synergy with the Group's** water (e.g. sludge) and WtE (e.g. ash) **activities**<br>• development **of industrial synergies** |
| **ENGINEERING AND SERVICES**<br>*Development of a building oriented company for turnkey management of construction and engineering activities* | • focus on **core engineering activities**<br>• construction of plants through the **internalisation of construction activities** in an EPC perspective<br>• **reducing construction time** and strengthening **laboratory activities**<br>• development of a **research centre** |

**ENERGY (COMMERCIAL AND TRADING)**

*Commercial growth in central and southern Italy, also supported by the elimination of greater protection and "digital" offers. Development of a Services-Based Company to strengthen customer relations and enhance Acea Group brands*

- reinforcement in the **reference territories**and **growth in Central and Southern Italy**
- **cross-selling and up-selling opportunities** from full market liberalisation and **a push for dual fuel offerings**
- commercial strategy focused on **digital channels, including through a new customer management platform**
- developments of the **segment and mobility** with installation of **columns**and**value-added services**
- **energy efficiency services** offer
- **Smart Comp** installation with system managed remotely through an IoT platform developed by Acea
- installation of residential **photovoltaic** and **solar thermal** systems

**GENERATION**

*Growth of the PV portfolio to seize opportunities from the energy transition and decarbonisation process*

- growth in **generation from renewable sources** to seize opportunities offered by the **decarbonisation process**, whether through the construction of **new PV plants** in industrial and agricultural areas and through M&A transactions

In line with the industrial development guidelines, **the 2020-2024 Sustainability Plan,** divided **into a governance level,** intended to consolidate the integration of sustainability into the Company's governance, **and into five operating macro-objectives**, split into **127 targets by 2024** and their KPIs, shows the **unique traits assumed by sustainability** for the Group, in the practical management of production and organisational processes and in relations with stakeholders (see boxes and charts 11 and 12). The 2020-2024 Sustainability Plan was defined with the **involvement of the organisational structures** (internal departments of the Parent Company and Operating Companies[50]), taking into account the **material topics for 2019** defined by engagement with stakeholders, and remaining in line with the objectives of the **European Green Deal** and the **Agenda 2030 Sustainable Development Goals** that are relevant to Acea's businesses. Following the update of the 2022 materiality analysis, alignment with the most relevant topics identified during the multi-stakeholder engagement process was verified and confirmed.

**The investments envisaged in the 2020-2024 Business Plan related to sustainability targets** totalling **€2.1 billion**. In 2022, **the progress of the targets**, illustrated in detail in the following section, as well as **the amount of investments made in the year** was monitored, which, as at 31 December 2022, was around **€437 million**; in total, in the 2020-2022 three-year period, the Business Plan investments related to sustainability targets amounted to **around €1.2 billion**.

## THE GOVERNANCE LEVEL OF THE SUSTAINABILITY PLAN 2020-2024: CROSS-CUTTING OBJECTIVES FOR INTEGRATION

| governance areas | strategy |
|---|---|
| SUSTAINABILITY IN THE RISK ASSESSMENT | • consideration of material ESG topics in the **risk management** model;<br>• assess**risks and impacts** on **safety and the environment** and **mitigate them**, including by adopting **certified management systems** |
| SUSTAINABILITY IN THE STRATEGY | • highlighting the **total value generated by the Group** with an integrated reading of economic and sustainable development |
| SUSTAINABILITY IN THE REMUNERATION POLICY | • enhancing the **objectives aimed at promoting sustainability impacts** by integrating them into the **performance management models** |
| SUSTAINABILITY CULTURE SPREAD | • involving internal and external stakeholders in the matter by disseminating the "**sustainability culture**" |
| SUSTAINABILITY FOR SHAREHOLDERS AND INVESTORS | • integrating financial with**ESG elements** in communications and **relations with shareholders and stakeholders** |
| SUSTAINABILITY IN THE REGULATION SECTOR | • identifying **sustainability topics** in the **evolving trends** of national and European **regulations** |
| SUSTAINABILITY IN THE MANAGEMENT OF PEOPLE | • developing an **advanced, collaborative labour-management relations model** that meets new social needs |
| SUSTAINABILITY IN PROCUREMENT | • promoting sustainability along the **supply chain**, while being mindful of the relevant best practices |

50 A target to increase the amount of energy produced from biogas (renewable source) was also defined for the Company Deco, which entered into the NFS reporting boundary in 2022.

## THE OPERATIONAL LEVEL OF THE 2020-2024 SUSTAINABILITY PLAN: SPECIFIC FEATURES OF THE 5 MACRO-OBJECTIVES

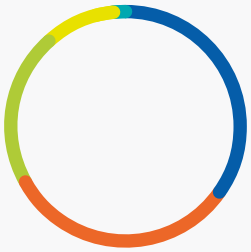
| macro objective | strategy |
|---|---|
| PROMOTING A FOCUS ON THE CUSTOMER | • increasing the **technical and commercial quality** of the **services,while consolidating digital services**;<br>• improving the **customer experience** and the **contact channels** so that they fully meet customers' needs; |
| ENHANCING STAFF FOR THE GROUP'S GROWTH | • **training,employee involvement** and increasing **organisational well-being**, including the protection and promotion of **diversity**<br>• enhancing sustainability in **performance management systems**; |
| QUALIFYING PRESENCE IN THE REGIONS AND PROTECTING THE ENVIRONMENT | • increasing **resilience of water and electricity infrastructure** to ensure security of supply, adaptation to climate change and support for energy transition;<br>• **limiting impacts** on the natural environment, protecting the land and biodiversity and using resources more efficiently;<br>• streamlining and **contributing** to the **decarbonisation of the energy system**, with the increase of production from renewable sources and the consequent reduction of $CO_2$emissions;<br>• reducing the **city's** environmental **impacts** through smart green services for customers and the **development of circular economy initiatives**;<br>• promoting sustainability along the **supply chain**, raising awareness of customers and students on sustainability issues, with a structured approach to **stakeholder involvement**; |
| PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN | • **disseminating the culture of safety and prevention along the internal and external value chain;**<br>• increasing **verification and control activities** and actions to ensure the health and safety of customers; |
| INVESTING IN INNOVATION FOR SUSTAINABILITY | • applying **innovative technologies** for network management (digitisation, remote control, IoT) in a **smart city** perspective and in other production and organisational processes;<br>• developing synergies in **research** and **innovation** for **knowledge sharing** as well as **project implementation**, including in association with start-ups and scientific partnerships. |

**Chart no. 11 – The 2020-2024 Sustainability Plan in numbers**

## 127 targets

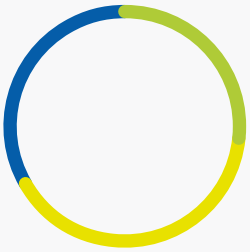
- **PROMOTING A FOCUS ON THE CUSTOMER** — 18 targets (14%)
- **ENHANCING STAFF FOR THE GROUP'S GROWTH** — 15 targets (12%)
- **QUALIFYING PRESENCE IN THE REGIONS AND PROTECTING THE ENVIRONMENT** — 58 targets (46%)
- **PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN** — 14 targets (11%)
- **INVESTING IN INNOVATION FOR SUSTAINABILITY** — 22 targets (17%)

**€ 2.1 billion**
invested from 2020-2024
related to sustainability targets



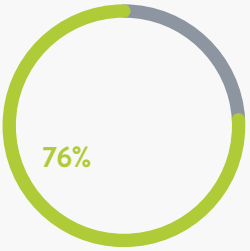
€ **723.5** million Acea Ato 2
€ **670.5** million Areti
€ **444.9** million Acea Ambiente
€ **212.0** million Acea Produzione
€ **29.3** million Acea Innovation

**100% of the material topics**
covered (high and medium relevance)
**15 material topics**

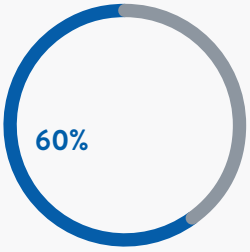


**4** Environmental
**6** Social
**5** Governance

**96/127** targets
**related to the SDGs**



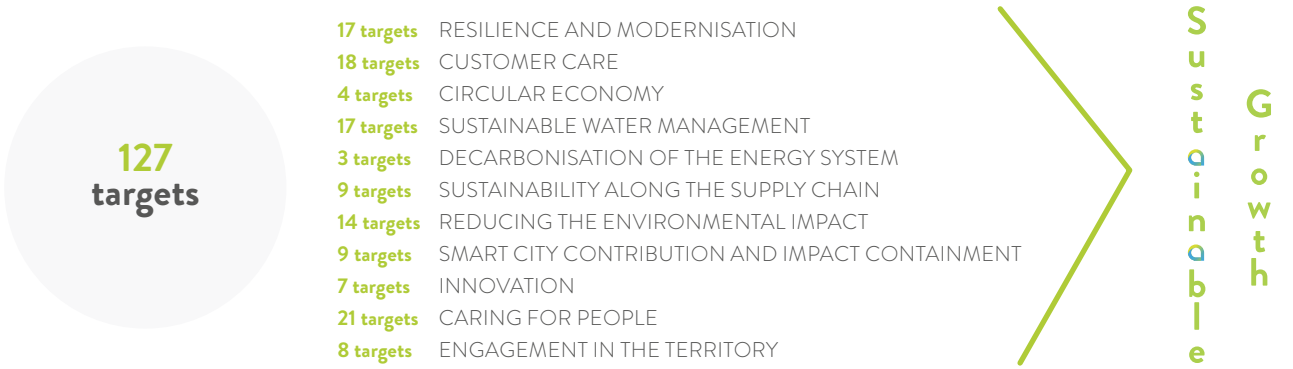
**76/127** targets
**in line with the Green Deal**




(16) **1.** Guaranteeing the supply of clean, economical and secure energy
(34) **2.** Mobilising the industry for a clean and circular economy
(2) **3.** Building and renovating with a focus on energy and resource efficiency
(4) **4.** Accelerating the transition to sustainable and intelligent mobility
(19) **5.** Preserving and restoring ecosystems and biodiversity
(12) **6.** Working towards "zero pollution" for a toxin-free environment

**NOTE**: Each target can be related to multiple material topics, SDGs and Green Deal objectives

**Chart no. 12 – The sustainability strategy guidelines**




The **Management and Sustainability Systems Policy**[51] adopted by Acea also sets out the **principles**, **values** and **commitments** made by the Group, and is an **integral part of the Management Systems** in accordance with ISO 9001, ISO 14001, ISO 45001 and ISO 50001 (see also the section *Management Systems*). The Policy sees the following values as **fundamental elements for sustainability**:

- promotion of a **culture of quality**;
- **respect** for **the environment** and **preservation of ecosystems**;
- **fighting climate change**:
- the **development of people** and **safety at workplace**;
- the **efficient management of resources**;
- the **assessment of** the **risk and the economic, social and environmental impacts**;
- participation in the **well-being of the community** and the development of an **ongoing dialogue with stakeholders**;
- the promotion of creativity and **technological and organisational innovation**.

51 The Policy, updated in November 2020, can be found on the institutional website, www.gruppo.acea.it.

## THE 2020-2024 SUSTAINABILITY PLAN AND THE OPERATIONAL GOALS

The **2020-2024 Sustainability Plan**, as already mentioned, **acts on governance and operational levels**, identifying 8 cross-cutting objectives aimed at incorporating sustainability into the governance of the company and 5 macro-objectives for the Group. The **5 operational macro objectives** are broken down into **15 frameworks for action, 25 operational objectives**, as illustrated in the figure, and **127 objectives for 2024** and **related KPIs** that allow the **progressive achievement thereof to be monitored**. Details of the Plan, the KPIs and the actions during the year are shown below; these are described briefly and where necessary described in more detail in the document. It is envisaged that **the Plan will be updated periodically**, especially at an operational level, so that consistency with changes to the management and strategic industrial guidelines of the Group is ensured.

### GOVERNANCE LEVEL
#### THE 8 OBJECTIVES

**Acea is committed to the adequate integration of sustainability in corporate governance by:**

- the consideration of material ESG issues in its business risk management model; the assessment of safety and environmental risks and impacts of its activities with the aim of keeping them under control and reducing them also through the adoption of certified management systems;
- the integrated reading of economic, financial and sustainability data so as to present the overall value generated by the Group;
- the enhancement of corporate sustainability objectives within management performance models;
- the dissemination of a "sustainability culture" through initiatives of awareness and engagement of internal and external stakeholders;
- the integration of financial aspects with the Group's sustainability objectives and ESG (Environmental, Social, Governance) aspects in its communication and relations with shareholders and investors;
- the reading of evolutionary trends of regulations both at a national and European level with respect to issues related to sustainability in the areas the company works in;
- the development of an advanced labour-management relations model able to meet new social needs and focused on the well-being of the company and employees;
- sustainable supply chain management, implementing the best procedures in the fields of supply management and circular procurement.

## OPERATING LEVEL
### THE 5 MACRO-OBJECTIVES (*)

## 1 PROMOTING A FOCUS ON THE CUSTOMER

**Improving communication with customers**
- Developing web presence and digital channels in compliance with the Group's communication and positioning needs

**Improving the quality of services**
- Improve the sales quality of services
- Improving the technical quality of services

## 2 ENHANCING STAFF FOR THE GROUP'S GROWTH

**Professional enhancement, training and development of skills**
- Enhancing and boosting Human Capital skills
- Investing in the development and improvement of the staff assessment and recruitment system

**Involving people in the Group's identity**
- Boosting the level of engagement of the company population
- Defining and promoting an employer branding plan

**Organisational inclusion and well-being**
- Identifying and improving the organisational well-being of the entire company population
- Enhancing diversity and promoting inclusion

## 3 QUALIFYING PRESENCE IN THE REGIONS AND PROTECTING THE ENVIRONMENT

**Reducing the environmental impact**
- Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)
- Promoting an efficient use of resources, thus facilitating circular economy
- Taking initiatives to protect the territory and limit impacts on the natural environment
- Enhancing certified environmental and energy management systems

**Improving sustainability along the supply chain**
- Implementing sustainability logics in procurement procedures

**Contributing to the well-being of the community**
- Promoting activities with positive impact on the collectivity and on the territories where the company works

**Consolidating relations with the territory**
- Contributing to create awareness on social and environmental matters
- Facilitating the engagement of stakeholders in company projects with the aim of creating shared values

## 4 PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN

**Health and safety at workplace for Group workers**
- Promoting a culture of health and safety at workplace

**Health and safety at workplace for contractors and subcontractors**
- Creating awareness among contractors on health and safety at workplace

**Health and safety of the communities with which the Group operates**
- Ensuring the health and safety of the customers of the reference territory for the various services provided

## 5 INVESTING IN INNOVATION FOR SUSTAINABILITY

**Organisational innovation**
- Promoting "smart" processes and working methods

**Technological and process innovation**
- Promoting the resilience of the urban territory and innovation from a smart city perspective
- Implementing remote control systems and remote interventions
- Applying new technologies in leak detection and other operations

**Creating and promoting knowledge**
- Developing research projects in partnership with other relevant departments

(*) Each objective is divided into multiple targets and KPIs in the detailed Plan to which reference is made.

# 2020-2024 SUSTAINABILITY PLAN TARGETS: KPIs AND ACTIONS FOR 2022

## MACRO-OBJECTIVE NO. 1 PROMOTING A FOCUS ON THE CUSTOMER

| OPERATIONAL OBJECTIVES | TARGET FOR 2024 - FUNCTIONS/OWNER COMPANIES OF THE PROCESS | KEY PERFORMANCE INDICATORS | 2022 ACTIONS |
|---|---|---|---|
| **SCOPE OF ACTION 1: IMPROVING COMMUNICATION WITH CUSTOMERS** | | | |
| **Developing web presence and digital channels in compliance with the Group's communication and positioning needs** | Ensuring alignment between the structure of the website and corporate communication needs in terms of effectiveness, transparency and quality of content, recognised through prominent positions in sector rankings.<br>**ACEA SpA – COMMUNICATION (digital and corporate media)** | Acknowledgements in sector analyses/rankings during the year:<br>Yes/No= **Yes**<br>**Annual target reached** | Acea received the Fortune Italia Best in Communication 2022 for the effectiveness and quality of its communications about the Group's projects and values to the media and on its website. During the year, the website content was updated in line with the Consolidated Financial Statements and Sustainability Reports produced in 2021, and new editorial content about the main company projects was added, emphasising the focus on promoting human capital, the commitment to improving the efficiency of the services it provides, and local and community initiatives. Meanwhile, the website design was updated, new Homepage navigation features were added and the Stories and Events sections were redesigned. Moreover, three dynamic contact forms were added and the Acea Innovation mini website went live. |
| | Creation of a website for Areti with effective, useful information intended for users of electricity distribution (intermediate target to 2021).<br>**ACEA SpA – COMMUNICATION (digital and corporate media)** | Site realisation:<br>Yes/No= **Yes**<br>**Target for 2021 achieved** | Target for 2021 achieved in 2021 with the creation of the website. |
| | Consolidation of presence on social channels with increased brand awareness through effective and engaging communication.<br>**ACEA SpA – COMMUNICATION (digital and corporate media)** | No. of social media followers in the reporting year > no. of social media followers in the reporting year -1= **93,789>77,001**<br>**Annual target reached** | During the year specific content was posted on each social media channel, highlighting Acea's commitment to the local region, to sustainability, to innovation and to people. Ad hoc editorial plans and marketing influencer projects increased the visibility of events and sponsorships. In line with the company's strategy and brand proposition, the Areti LinkedIn page and Waidy Wow Instagram channels were developed and managed. |
| | Encourage customers to use digital channels and reach, every year, 25% of Acea Energia's consumer and micro-business customer base with at least 1 access per year to the reserved area.<br>**ACEA ENERGIA** | Customers who have logged in at least 1 time in the last 12 months/"consumer" and "micro-business" customer base= **409,787/1,021,647= 40.1% (average across the two markets: 41.0% ML and 39.5% SMT)**<br>**Annual target reached** | Acea Energia is implementing a multichannel platform model that, thanks to simplified processes, aims to provide a high quality, personalised customer experience. The new MyAcea Energia app was developed with a new chat function, the member's area of the MyAcea Energia website was redesigned and the Acea Con Te loyalty programme was updated, improving the engagement mechanisms and increasing the functions of the Business Portal. |
| | Creating at least one communication campaign per year intended for customers regarding the use of the MyAcea and online payment of bills app (reducing the impact of producing paper bills, reducing times, reducing movements, etc.).<br>**ACEA SpA – COMMUNICATION (communication planning & portfolio management)** | Implementation of a communication campaign:<br>Yes/No= **Yes**<br>**Annual target reached** | The My Acea app ad campaign ran in April and May 2022 on digital and radio channels, and was repeated in June and July on the radio. |
| **SCOPE OF ACTION 2: IMPROVING THE QUALITY OF SERVICES** | | | |
| **Improve the sales quality of services** | Improving the real time measurement of the customer experience through the Net Promoter Score (NPS) based on indicators of courtesy/professionalism and perceived service quality.<br>NPS annual target: courtesy/professionalism indicator > 70%; perceived service quality indicator > 50%.<br>**ACEA ENERGIA** | NPS courtesy/professionalism indicator = **81.9%**<br>NPS perceived service quality indicator= **60.5 % (average between the two markets; in detail ML 60% and SMT 64%)**<br>**Annual target reached** | During the year the Company assigned management contracts to several suppliers to minimise inefficiency risks, and began to consistently benchmark KPIs and qualitative/commercial performance. It also extended the service hours and outsourced the Unregulated Market chat service to increase service accessibility and omnichannelity. |

| | | | |
|---|---|---|---|
| | Ensure access to the digital service point within 5 working days of booking.<br>**ACEA ATO 2 AND ACEA ATO 5** | Average waiting days for branch appointment (< of 5 days) = **Acea Ato 2: 3 days**; **Acea Ato 5: 4.75 days. Annual target reached** | The Digital Service Point service was consolidated in 2022. Acea Ato 2 insourced the service in June, improving service quality and the ability to resolve customer queries in the first instance. As of December 2022 there are 20 Waidy Points across Italy that enable customers to manage their commercial activities by video call, supported by a digital facilitator. Acea Ato 5 adopted technological systems and solutions to improve communication and increase the effectiveness of the digital contact channels by offering new services (digital switching and takeover). |
| **Improve the sales quality of services** | Improving the quality of metering systems by replacing 21,000 meters per year.<br>**ACEA ATO 5** | No. of meters replaced/No. of meters to be replaced = **22,961/21,000, i.e. 109% Annual target reached** | Over 22,900 meters were replaced during the year, giving priority to the oldest meters. |
| | Replacing some 317,000 meters to improve the quality of measurement systems.<br>**GORI** | No. of meters replaced/No. of meters to be replaced = **80,607/317,000, equal to 25% (54,431 in 2020, 13,257 in 2021 and 12,919 in 2022)** | During the year, around 12,900 meters were replaced; the slower replacement rate was influenced by the rescheduling of a number of projects. |
| | Improvement in the management of appointments with the end customer for technical/commercial services and reduction of unfulfilled appointments by 20% (2019 figure: 11%), with the introduction of new operating methods (single freephone number and additional services) that facilitate direct and personalised contact.<br>**ARETI** | Missed appointments/total appointments reporting year < missed appointments/total appointments year 2019 = **3,102/23,243, or 13.3% > 11.45% in 2019 (increase of 3%)** | As of 2022, the computer systems allow the preparation of up-to-date reports that are made available to operators responsible for scheduling appointments, allowing them to classify users by category. Furthermore, as of October Areti manages the appointment diary of external companies directly. Despite this, the percentage of missed appointments rose compared to 2019. |
| | Implementing in the design of strategic water infrastructure works (Marcio - Peschiera Aqueducts) of devices, criteria, recognised protocols for the maximization of benefits in sustainable terms (benefits for the protection of the territory, landscape, economic development).<br>Getting Envision certification on at least one strategic works project.<br>**Acea Ato 2 and ACEA ELABORI** | Preliminary assessment of the Marcio and Peschiera aqueducts projects with positive results:<br>**Yes/No= Yes on Peschiera Aqueduct (in 2020)**<br>Envision certification obtained on the design of at least one strategic work (Marcio and/or Peschiera Aqueducts) = **No** | A Sustainability Report on the new upper section of the Peschiera Aqueduct was prepared in line with the relevant NRRP regulations, and the authorisation process was launched in compliance with Decree Law 77/21. For the Marcio Aqueduct, the document on the application of the Minimum Environmental Criteria has been finalised and the authorisation process in compliance with Decree Law 77/21 is in its final stages. The formal receipt of the Final Assessment of the Services Conference and the Environmental Impact Assessment is pending. |
| **Improving the technical quality of services** | Increase the Group's operational capacity in the execution of works (from design to construction), implementing the contracts managed by Acea Elabori in EPC Contract up to amounts > € 55M to 2024, with the consequent improvement in the quality of works (centralised coordination of the entire process, reduction in time, optimisation of costs, standardisation of processes).<br>**ACEA ELABORI** | Obtaining SOA certification for Acea Elabori:<br>Yes/No= **Yes**<br>Annual amount of construction activities managed under EPC Contract = **€11.6 M** | 8 tender procedures for the supply of goods and services were launched; in 2022, 5 projects were launched and 7 are in completion, managed under EPC Contract. |
| | Increase in treatment capacity in 13 municipalities by building 8 new treatment plants and upgrading 5 existing ones: +6.9 times more population equivalent (PE) treated than in 2019.<br>**ACEA ATO 5** | Purification potential in PE/ purification potential in PE in 2019 (target scope) = **18,800/8,000, equal to an increase of +2.35 times PE** | In 2022 work on the Roccasecca Scalo treatment plant was completed; work on the Monte San Giovanni Campano Colli treatment plant is in progress; work on the Fontana Liri and Villa Latina Pontecorvo treatment plants is in various stages of the planning phase. |
| | Increase in the capacity and efficiency of Acea Ato 2's purification plants through upgrades at 10 plants (+39% of population equivalent treated compared to the 2019 figure, equal to 164,175 PE) and the decommissioning/centralisation of 36 treatment plants, which will affect approximately 188,000 PE.<br>**ACEA ATO 2** | Purification potential in PE/ purification potential in PE in 2019 (target scope) = **170,171/164,175, equal to an increase of 3.7%**<br>Decommissioned/centralised treatment plants= **17 (7 in 2020, 6 in 2021, 4 in 2022)**<br>PEs affected by the centralisation of treatment plants= **59,370 (15,730 in 2020, 26,540 in 2021 and 17,100 in 2022)** | During the year a further four treatment plants were decommissioned: Carchitti, Morosina, Parco della Tiburtina, Santa Palomba. |

| | | | |
|---|---|---|---|
| | To expand the treatment capacity and cover the sewage service through 21 interventions on the plants (17 to expand the treatment capacity and 4 to cover the service): + 6% of population equivalent treated and + 6% of users covered by the purification service compared to 2019 data (equivalent to 314,422 PE treated and 184,882 users covered by the service, respectively).<br>**AdF** | Purification capacity in PE/ purification capacity in PE in 2019<br>% users covered by sewage service/% users covered by sewage service 2019 | In 2022, project design activities continued, leading to the preparation of 5 final projects and 2 executive projects; the works implementation phase at the Montiano plant was launched. |
| **Improving the technical quality of services** | Replacing 40 of the current 361 thermal substations serving the remote-heating network (11%), for greater service efficiency and service reliability.<br>**ACEA PRODUZIONE** | No. of thermal substations replaced/total district heating substations= **35/361, i.e. 10% (of which 30 in 2020 and 5 in 2021)** | Activities were postponed to give priority to more urgent projects. |
| | Replacement/installation of 18 valves on the district heating distribution network to perform out-of-service interventions, thus reducing the impact on serviced utilities.<br>**ACEA PRODUZIONE** | No. of valves replaced or installed/No. valves to be replaced or installed= **12/18 (of which 8 in 2020 and 4 in 2021)** | Activities were postponed to give priority to more urgent projects. |
| | Compared to 2019 base levels, reducing the troubleshooting times of Public Lighting systems in line with the zonal prioritisation defined considering the relevance of the area (e.g. aggregation sites): critical - 6 h; high - 15 h; average - 19 h; low - 23 h.<br>Base levels measured in 2019 by relevance: CRITICAL - 1 day and 12 h, HIGH - 1 day and 7 h, MEDIUM - 1 day and 11 h and LOW - 1 day and 11 h.<br>**ARETI (Public Lighting)** | CRITICAL relevance<br>HIGH relevance<br>MEDIUM relevance<br>LOW relevance | The target and related KPIs are currently being revised to take into account the updated operating methods. |

## MACRO-OBJECTIVE NO. 2 EMPOWERING PEOPLE FOR THE GROUP'S GROWTH

| OPERATIONAL OBJECTIVES | TARGET FOR 2024 - FUNCTIONS/OWNER COMPANIES OF THE PROCESS | KEY PERFORMANCE INDICATORS | 2022 ACTIONS |
|---|---|---|---|
| **SCOPE OF ACTION 1: PROFESSIONAL ENHANCEMENT, TRAINING AND DEVELOPMENT OF SKILLS** | | | |
| | Unroll at least one training initiative per year on sustainability issues (e.g. circular economy, SDGs, Green Deal) aimed at 100% of the company population, with the aim of increasing the number of people involved each year.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. initiatives activated/initiatives to be activated per year = **4/1**<br>No. employees involved in the reporting year > no. employees involved in the reporting year 1 = **4,259 > 3,249 in 2021**<br>**Annual target reached** | In 2022 the second edition of "Sustainable Action" was published, involving 42 colleagues; the "Company 2030" training programme aimed at raising awareness of the Sustainable Development Goals of the UN 2030 Agenda continued and the "Sustainability and Digital" webinar was delivered as part of the "Being Digital" programme. |
| **Enhancing and boosting Human Capital skills** | Raise the level of digitisation through the implementation of at least 1 awareness/ skills orientation campaign per year targeting 100% of the company's population, with the aim of involving at least 10% of employees per year (about 500 employees arc Plan).<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. campaigns launched = **1 survey and 28 courses**<br>No. of persons involved/ total persons informed = **6,763/6,763** | 28 courses were launched/implemented during the year (16 digital, 6 vocational) as part of the Digital Area Training Plan with over 2,000 participants; a communication campaign (on the intranet) was carried out to inform Group employees on the evolution of Acea's Digital Mindset and video recordings of the courses were made available. A new survey was carried out, confirming the overall increase in the Group's digital skills with an average of +13% achieved on across the Digital DNA skill set. |
| | Support Active Ageing policies by carrying out at least two initiatives a year that stimulate the transfer and enhancement of skills between the different generations in the company, involving a greater number of people each year than the previous year.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of initiatives to be launched/ total initiatives launched= **3/2**<br>No. of people involved in the reporting year > no. of people involved in the reporting year -1 = **863 in the training courses and approx. 400 in the webinars**<br>Note: Due to the nature of the initiatives implemented, which are aimed at different target groups and use different methodologies, it is not always possible to calculate the second KPI, i.e. progressively increase the population involved. | In 2022 three training courses were launched (new trainers, on-the-job trainers and "expert" trainers) as part of the "Trainer Training" project. Furthermore, as part of the Corporate Family Responsibility 2022 project, a webinar open to the entire company workforce and focused on the topic of generational exchange was launched. |

| | | | |
|---|---|---|---|
| **Investing in the development and improvement of the staff assessment and recruitment system** | Promote in external selection processes the use of tools dedicated to a structured evaluation of the candidate (tests, screening through artificial intelligence and machine learning, virtual tests) enhancing talent and promoting inclusion.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of external selection processes activated through dedicated tools/total external selection processes activated = **256/256**<br>**Annual target reached** | Acea increased the number of agreements with undergraduate and masters programmes aimed at recruiting new graduates to the Company, and attended 19 Career Days, meeting more than 3,500 students. A paragraph on Diversity and Inclusion was added to the staff recruitment procedure and a training course was delivered to all recruiters; the selection process involved tools such as challenges, Digital Mindset tests and personality tests linked to the Acea leadership model, video interviews and business case analyses. The "candidate experience" and "Careers" sections of the Group website were updated. Job advertisements were distributed on the Instagram and Tiktok social media channels. |
| | Progressive extension of objectives aimed at promoting sustainability impacts to the entire population with respect to MBO assessed with performance management systems.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of resources with sustainability target in MBO/total resources in MBO = composite target: **= 578/578, equal to 100%**<br>**Annual target reached** | In the MBO incentives scheme, a component open to the entire company workforce registered for the scheme was confirmed; the component is linked to the economic and financial targets at Group level and a composite (four criteria) sustainability target. A composite sustainability target was also continued for the second cycle of the 2022-2024 Long-Term Incentives Plan. |
| **SCOPE OF ACTION 2: INVOLVING PEOPLE IN THE GROUP'S IDENTITY** | | | |
| **Boosting the level of engagement of the company population** | Ensuring that 100% of the company population is informed of the strategic choices, mission and policies of the Group, and increasing the feeling of aggregation and belonging to the Group, implementing at least 6 initiatives/year to this end.<br>**ACEA SpA – COMMUNICATION (Media relations and internal communications)** | % of the company population reached by the information= **100%**<br>No. of initiatives carried out during the year/ initiatives to be carried out = **at least** 6/6<br>**Annual target reached** | In 2022 3 "Connected with Acea" events were held and 6 associations were hosted as part of the "Acea Solidarity Mondays" programme. An awareness-raising campaign on the Code of Ethics was continued, and other communication campaigns about the Leadership and Performance Management Model were developed. In September the Acea Green Cup was held, involving all Group Companies in a sports event and a Sustainability Contest. Meanwhile, support for company welfare initiatives continued, such as Acea Camp, Orientiamoci, Out of Office, Sostegno Donna, and Previeni con Acea. |
| | Increase the sense of belonging to the company by carrying out at least 2 initiatives per year with a social impact on the territory involving the Group employees concerned and informing 100% of the employees about these initiatives.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of initiatives launched/total initiatives to be launched= **3/2**<br>**Annual target reached** | The "GenerAzione Connessa" School-Work Project was held during the year, involving 15 schools and around 300 fourth-grade students (10 Professional Technical Colleges and 5 Colleges) in Lazio, Tuscany, Umbria and Campania, through 14 Sustainability Ambassadors and 9 Acea STEM women. Acea also took part in Race for the Cure with a team of 100 colleagues and family members to support research and raise awareness about prevention. Finally, Acea participated in the food support project "Solidarity Taxi" throughout the Rome region in collaboration with the Christian Associations of Italian Workers of Rome. |
| **Defining and promoting an employer branding plan** | Implement at least one initiative per year, identified through internal surveys and aimed at strengthening the employer brand identity, involving 100% of the company population.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | Implementation of internal investigations: Yes/No= **Yes**<br>No. of initiatives launched/no. of initiatives to be launched= **1/1**<br>No. of employees who responded to surveys and/ or joined initiatives/no. of employees involved = **250 people involved in writing the Manifesto**<br>**Annual target reached** | A Diversity&Inclusion survey entitled "*La Diversità secondo noi*" was conducted, involving the entire company workforce. The results of the survey fed into the development of a number of initiatives, such as the definition of the Equality Manifesto - "Diversity and Inclusion in the Acea Group", developed with contributions from more than 250 people, produced in both paper format and as a video, and shared with the entire corporate population and on the Group's YouTube channel. |

## SCOPE OF ACTION 3: ORGANISATIONAL INCLUSION AND WELL-BEING

| | | | |
|---|---|---|---|
| | Designing and developing a training course related to organisational well-being, also aimed at mitigating any effects of work-related stress (Legislative Decree 81/01), addressed to a significant sample of Acea SpA employees, equal to about 10% of the Acea SpA corporate population.<br>**Acea SpA – HUMAN RESOURCES (Workplace safety)** | Designing the training course: Yes/No= **Yes**<br>No. trained employees/total employees (Acea SpA target perimeter)= **100/703, i.e. 14%**<br>**Target for 2024 achieved** | Target for 2024 achieved in 2021; however, in 2022 other training initiatives were carried out, with 4,040 hours of training devoted to the "I-Care Professional - Mirroring" project, which involved 295 people. |
| **Identifying and improving the organisational well-being of the entire company population** | Involve the entire company population in at least 2 information initiatives, also envisaging periodic follow-ups (surveys) and/or prevention campaigns aimed at promoting primary and secondary prevention, correct lifestyles and psychophysical well-being.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. information actions with periodic follow-up (surveys) and/or prevention campaigns carried out/No. information actions and/or prevention campaigns to be carried out = **6/2**<br>No. of participating employees /total company population= **2,390(*)/6,763**<br>(*) the figure may include employees who took part in several initiatives<br>**Annual target reached** | In 2022 a number of programmes were held: "Previeni con Acea" (4 days of endocrinological, dermatological and breast screening); "Wellness" (a platform promoting discounted entry at a network of sports facilities, live streaming courses, nutritional courses); "Out of Office" (a street-gym event to promote the adoption of healthy physical routines); and "Bike sharing" with 20 e-bikes for work-related travel. A support channel was also established for female employees: "Sostegno donna". Finally, a survey was conducted to identify the emerging needs in the fields of prevention and well-being, and to collect feedback on the initiatives implemented. |
| | Improving welfare services in the area of health care and supplementary pensions and developing at least 2 information campaigns per year aimed at 100% of employees to increase awareness of the services offered by the company.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of information campaigns carried out/No. of information campaigns to be carried out = **2/2**<br>No. of employees participating in welfare services/company population = **392(*)/6,763**<br>(*) the figure may include employees who took part in several initiatives | During the year two information campaigns were carried out, aimed at promoting the importance of supplementary healthcare within the Group's welfare plan and to raise awareness about the health insurance services: remote medical and pharmacy services, health check-ups, and orthodontic treatment. |
| | Improving work-life balance for parents and caregivers by promoting 3 initiatives per year to support employees with children and elderly parents.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of initiatives launched/total initiatives to be launched = **3/3**<br>**Annual target reached** | A free care giver service was established, aimed at providing personalised consultancy services and guidance to support the management of educational and/or social and care needs; furthermore, a careers guidance service ("Orientamoci") was set up for employees' children, as well as the Acea Camp summer camp for younger children. |
| | Inform 100% of employees about 2 initiatives/year aimed at raising awareness of diversity and inclusion issues.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | No. of informed employees/no. of employees to be informed= **6,763/6,763**<br>No. of initiatives launched/total initiatives to be launched = **6/2**<br>**Annual target reached** | In 2022 the Equality Diversity and Inclusion policy was defined, the Group Equality, Diversity and Inclusion Committee was established, the Equality, Diversity and Inclusion Manager was appointed and certification UNI/PdR 125:2022 on gender equality was obtained. |
| **Enhancing diversity and promoting inclusion** | Designing and developing a training action consisting of in-depth studies on specific diversity-related topics. The aim of the project is to share knowledge aimed at the cultural growth of resources.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | Training action planning: Yes/No= **Yes**<br>No. of employees involved in the training project/no. of employees to be involved= **33/33**<br>**Target for 2024 achieved** | During the year a training course on D&I in the employee recruitment process was delivered to all Group recruiters, focusing on aspects such as how to value each resource without unconscious bias. In particular, the course explored issues surrounding the assessment tools used, the interview process, job adverts and recruitment channels. |
| | Ensure supervision of the process of integration and reintegration of sensitive resources with congenital and acquired disabilities in the company.<br>**Acea SpA – HUMAN RESOURCES (Workplace safety)** | Cases handled by the disability unit: Yes/No= **Yes**<br>**Annual target reached** | Once the most critical phase of the Covid-19 pandemic was over, partial return to work for employees with disabilities was authorised to enable participation in health and safety training projects. The training course "La Gestione delle Emergenze – Conoscenze e Consapevolezza" (Emergency Management – Knowledge and Awareness) was delivered to around 600 employees, addressing the topic of "Emergency and Disabilities" and illustrating the most efficient evacuation assistance measures for the various "categories" of disabilities (motor, sensory, cognitive), including temporary disabilities. |

## MACRO-OBJECTIVE NO. 3 QUALIFYING PRESENCE IN THE REGIONS AND PROTECTING THE ENVIRONMENT

| OPERATIONAL OBJECTIVES | TARGET FOR 2024 - FUNCTIONS/OWNER COMPANIES OF THE PROCESS | KEY PERFORMANCE INDICATORS | 2022 ACTIONS |
|---|---|---|---|
| **SCOPE OF ACTION 1: REDUCING THE ENVIRONMENTAL IMPACT** | | | |
| Planning and implementing actions aimed at fighting climate change (mitigation and adaptation) | Acquisition/construction of photovoltaic plants for a total of 747 MW of installed power with consequent expected reduction of the emission intensity index of plants managed by Acea Produzione up to 40 g $CO_2$/kWh (-55% compared to 89 g $CO_2$/kWh in 2019).<br>**ACEA PRODUZIONE** | MW installed/MW to be installed= **101/747 (*)** g$CO_2$/kWh produced (and percentage reduction compared to 2019)= **100.9 g$CO_2$/kWh (+ 13% )**<br>Increase in the coefficient due to the significant reduction in hydroelectric production as a result of historically low water contributions (contributions 23% lower than the historical average)<br>(*) the figure includes the capacity of the investee company not consolidated on a line-by-line basis. | The installed photovoltaic power and production capacity of Acea Produzione and its indirectly and directly associated companies is 101 MW; the energy produced by the plants, which amounted to 111,939, enabled a saving of 40,298 tonnes of $CO_2$. |
| | Reducing energy (electricity and gas) consumption of the company headquarters and other offices through energy efficiency measures with expected savings of over 900 MWh (232 MWh for the headquarters and 700 MWh for the Data Center) compared to pre-construction consumption (equal to 3,320 MWh/y for the headquarters and 4,115 MWh/y for the Data Center) and, for the company headquarters, savings of 13,800 $Sm^3$ compared to pre-construction consumption (equal to 118,500 $Sm^3$/y).<br>**ACEA SpA (Energy Manager)** | MWh pre-construction – MWh post-construction= **7,435 - 6,503 = 932 MWh saved (*)**<br>$Sm^3$ pre-construction – $Sm^3$ post-construction= **118,500 - 103,985 = 14,515 (*)**<br>(*) estimated figures | A photovoltaic plant is currently being designed for the company headquarters, and restructuring works to improve the efficiency of Floor 9, Building C and install window films on part of the building are being developed. A project to replace the UPS at the Data Center is being developed. |
| | Implementing energy leakage reduction interventions on the grid (voltage change, low-leakage transformers, etc.) and other efficiency enhancement interventions that will enable achieving around 8,500 MWh energy savings, around 2,677 tonnes of reduction of $CO_2$ emissions and saving around 1,589 TOE over the course of the Plan.<br>**ARETI**<br>**Note: the 2021 target has been revised in light of the reduction in electricity consumption in both 2020 and 2021 following the pandemic** | MWh saved/MWh net distributed= **744/9,408,392 (for a total of 3,641 MWh saved of which 1,770 in 2020 and 1,127 in 2021)**<br>t of $CO_2$ not emitted= **1,311 (637 in 2020, 406 in 2021 and 268 in 2022) (*)**<br>TOE saved= **681 (331 in 2020, 211 in 2021 and 139 in 2022) (*)**<br>(*) calculation made with the 2019 location-based conversion factor, the same one used to define the target | The main energy efficiency measures carried out in 2022 concerned: the installation of around 170 transformers with very low losses, the reclassification of 85 substations and the abolition of 4.6 km of reduced section cable. |
| | Reduction by around 200 tonnes of $CO_2$ emissions through vehicle fleet renewal with the introduction of electric cars.<br>**ARETI** | t of $CO_2$ not emitted= **55.9 (5.2 in 2020, 26.6 in 2021 and 24.1 in 2022) (*)**<br>(*) value net of energy consumed, calculated with the 2019 location-based conversion factor, the same one used to define the target | Around a dozen electric Kangoo vehicles were deployed as research laboratories to detect faults on public and private lighting systems. |
| | Increasing the resilience of the electrical system through maintenance/network development projects with a consequent reduction of the intervention risk index (IRI) by 40% and the involvement of approximately 2,600 secondary substations by 2022.<br>**ARETI** | No. of substations involved in the interventions= **2,219 (635 in 2020, 1,099 in 2021 and 237 in 2022)**<br>Change in the annual percentage of the IRI (post-intervention value/pre-intervention value)= **- 17%, i.e. - 63% accumulated with the value from 2020-2021 (*)**<br>(*) ratio between the change in the IRI associated with the projects concluded in 2020-2021-2022 included in the Resilience Plan (presented to ARERA in June 2021) and the pre-intervention IRI on the network involved | Works were completed to improve grid resilience on 33 lines for the critical factor "Flooding" and the same number for the critical factor "Heatwaves". |

| | | | |
|---|---|---|---|
| | Optimising biogas cogeneration (44,000 MWh of energy generated from biogas/year) in 3 compost plants, with consequent increase in green energy produced, and converting the Aprilia plant for the production of biomethane.<br>**ACEA AMBIENTE and DECO** | MWh/year from renewable sources of biogas = **36,315 MWh**<br>Conversion of Aprilia Plant: Yes/No= **No** | In 2022 the ordinary management of the Orivieto, Monterotondo Marittimo, Aprilia and Deco plants continued.<br>Progress on the authorisation procedure for biomethane production at the Aprilia plant is pending. |
| | Increasing the resilience of the aqueduct system serving Rome and the Metropolitan City through new strategic works on the Peschiera and Marcio Aqueducts: achievement of 28% progress of the works on the Peschiera Aqueduct and completion (100%) of the authorisation phase for the works on the Marcio Aqueduct.<br>**ACEA ATO 2** | % of progress of Peschiera Aqueduct construction work= **0%**<br>% of progress of Marcio Aqueduct design/authorisation phase= **60%** | The project integration for the works on the Peschiera Aqueduct was completed, in line with Decree Law 77/2021 on the NRRP Governance, and the other authorisation procedures have begun; for the Marcio Aqueduct, the Technical and Economic Feasibility Study drawn up according to the same standards was completed. With regard to the Marcio Aqueduct, the tender procedures for an Integrated Contract were started. |
| | Designing and constructing 11 strategic works in order to increase the water supply safety and the resilience of the aqueduct system serving OTA 2 Central Lazio and the surrounding OTAs.<br>**ACEA ATO 2** | No. of works initiated: **1** | The planning reports for 9 works were developed during the year. For 4 of these, funded under the NRRP, a Technical and Economic Feasibility Study was developed and the procedures and tenders for an Integrated Contract are underway. Works are also in progress for the restoration and renovation of the Monte Mario Water Centre. |
| | Developing a quality-quantity assessment programme for at least 60% of the sewerage system serving the City of Rome to orient actions and mitigate the effects of parasitic water/rainwater and improving the resilience of systems to exceptional weather events.<br>**ACEA ATO 2** | km verified sewerage system/ km total managed sewerage system= **876/2,646, equal to approximately 33% (of which 34 in 2022, 571 in 2021 and 271 in 2020)** | The Water Parasite study on the Roma Sud plant was completed, including studies on water from channel ditching, white and grey water, and seepage water from surface water tables. |
| **Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)** | Defining an annual water supply plan to cover 10 Municipalities (equal to 48% of inhabitants served) which includes climate and regional development predictions in order to identify needs more quickly and improve the service: maximum difference between the volume actually supplied and the volume predicted by the model less than 30%.<br>**AdF** | No. of municipalities covered by the water supply plan= **5**<br>% of inhabitants served covered by the water supply plan/ inhabitants served 2019= **87,577/386,123, equal to 22.7%**<br>Water delivered in the municipalities included within the scope of the Plan ($Mm^3$)/ demand identified through forecasting models ($Mm^3$)= **11,721/13,394 (87.5%) (maximum difference between the volume actually delivered and the volume forecast by model = 12.5%)** | In 2022, the Supply Plan was refined and rolled out to three municipalities according to a structured plan, which includes a monthly supply model per municipal area, classified by user categories; a rainfall and source data monitoring dashboard; a remote user data dashboard to monitor for consumption curves; and a model for forecasting flow rates. |
| | Contributing to the decarbonisation of the energy system through upgrades to the anaerobic digestion sections of the treatment plants in Rome North and Rome East, necessary for the transformation of the biogas produced on site into biomethane for subsequent feeding into the gas network of 1 $MSm^3$ of biomethane.<br>**ACEA ATO 2** | % of progress of upgrading works in Rome North and Rome East= **70%**<br>$Sm^3$ of biomethane fed into the network | The authorisation process for the construction of the Biogas Upgrading plants for the Roma Nord and Roma Est treatment plants was completed in 2022 with the granting of the authorisations by Roma Capitale.<br>While neither project received grants as the maximum limit had already been met, the projects were both included in the final ranking of Proposals accepted for funding under the NRRP. |
| | Increasing efficiency of the Company's electricity consumption through the completion of management and structural interventions in the integrated water service plants, with expected increased energy efficiency equal to 12 GWh, 5% of which certified by Energy Efficiency Certificates (white certificates).<br>**ACEA ATO 2** | % of target achieved= **55%, equal to around 6.57 GWh (1.86 in 2020, 2.61 in 2021 and 2.10 in 2022)**<br>GWh certified EEC/GWh total greater efficiency | During the year, energy efficiency works were carried out (including the replacement of the control dashboards at the La Storta and Santa Palomba water centres and the optimisation of the control automation system of the blowers in the oxidation section of the Cerquette treatment plant). The documentation for the approval of EECs is being processed by the GSE. |
| | Overall 2% reduction in total electricity consumption by Acea Ato 5 (2019 figure: 77,707 MWh) through greater efficiency of 10 plants related to the water network and 1 to the water treatment network.<br>**ACEA ATO 5** | kWh saved estimated from efficiency improvement/consumption **2019= 1,678,933/77,707,000, equal to 2.2% (410,600 in 2020, 456, 663 in 2021 and 811,670 in 2022)** | In 2022, works were conducted to improve the efficiency at 17 water sites (wells, aqueduct connections, lifting systems) and at the Ceccano treatment plant. |

| | | | |
|---|---|---|---|
| | Increasing customer awareness of the sustainability of electricity consumption through specific initiatives aimed at promoting and increasing the purchase of "green" energy.<br>**ACEA ENERGIA** | Awareness-raising activities: Yes/No= **Yes**<br>MWh of green energy sold to customers on the free market (reporting year) > MWh of green energy sold to customers on the free market (previous year)= **2,536,000>2,196,000 (*)**<br>(*) the 2022 figure is estimated; the 2021 figure was rectified following consolidation<br>**Annual target reached** | As of 2021, Acea Energia has offered new domestic and SME customers on the unregulated market the 100% ECO tariff, which provides for the supply of electricity certified with a "guarantee of origin" and gas with emissions that are offset by purchasing VER (Verified Emission Reduction) certified carbon credits. The Company also promotes the installation of high energy efficiency products (boilers, air conditioning units) and e-mobility services for recharging electric vehicles at domestic customers' homes through awareness-raising campaigns on digital channels and social media. |
| | Reducing the consumption of primary energy sources by business customers through the manufacture of combined electrical and thermal energy production plants for a total electrical power of 6 MW and expected savings of approximately 1,500 TOE/year.<br>**ECOGENA** | MW installed<br>TOE saved | Offers were made to prospective customers for the construction of cogeneration or trigeneration plants. In particular, Ecogena was included in the final selection phase for the award of a contract for the construction of a 3.3 MW plant. A 2 MW trigeneration plant is under construction. Scouting activities continued. |
| **Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)** | Maintaining full use of "green" energy to meet the internal electricity needs of the main Group Companies, equal to around 400,000 MWh/year and over 140,000 tonnes of $CO_2$/year avoided.<br>**ACEA ENERGY and ACEA ENERGY MANAGEMENT** | MWh (domestic consumption) supplied with green energy= **350,000** (*) t $CO_2$ avoided = **126,000 (*)(**)**<br>(*) estimated figures;<br>(**) the calculation was made with the 2019 location-based conversion factor, the same one used to define the target | Despite the rising costs of electricity and GOs, in 2022 most Group Companies continued to procure green energy for consumption in 2022, for a total of about 350 GWh (equivalent to about 126,000 tonnes of $CO_2$ avoided). |
| | Carrying out energy efficiency improvements at the "Saltatoi" and "Luco" water pumping stations, which are particularly energy intensive, with the aim of reducing the specific consumption of electricity by 30% and 4% respectively compared to the pre-construction consumption in 2019 (Saltatoi 1.92 kWh/$m^3$; Luco 1.28 kWh/$m^3$).<br>**AdF** | (Consumption of kWh/$m^3$ in reporting year/ consumption of kWh/$m^3$ pre-construction at the Saltatoi plant) -1= **1.18/1.92 kWh/$m^3$ for a reduction of 39%.**<br>(Consumption of kWh/$m^3$ in reporting year /consumption of kWh/$m^3$ pre-construction at Luco plant)- 1 (from 2023) | For the "Luco" pump, an application for access to the energy savings certification mechanism (Energy Efficiency Certificates-EECs) was submitted to the GSE in 2022 and subsequently accepted. In addition, works to improve energy efficiency were started.<br>For the "Saltatoi" plant, the first post-intervention report on energy savings achieved through the improvement of the EnPI indicator [kWh/$m^3$] was submitted to the GSE, with the issue of EECs still pending. |
| | Design of a quali-quantitative monitoring network of the main local aquifers, hydrogeological analysis, measurements and physical modelling of them and installation of 5 flow gauges, aimed at sustainable resource management and improved prediction of deficits due to climatic variations.<br>**GORI** | % of progress of network design= **100%**<br>% of progress of aquifer hydrogeological analysis, measurements and physical modelling= **50%**<br>No. of flow gauges installed/no. of flow gauges to be installed = **5/5** | Collaboration continued during the year with DISTAR - Department of Earth, Environmental and Resource Sciences of the University of Naples Federico II, to conduct studies on the quality of groundwater in the Sarnese Vesuviano district. |
| **Promoting an efficient use of resources, thus facilitating circular economy** | Reducing lost volumes of water by 27% compared to 2019 (2019 figure: 308.5 $Mm^3$ in lost volume) including through the installation of 2,500 pressure and flow gauges for remote monitoring of the water districts.<br>**ACEA ATO 2** | % reduction in lost volume of water compared to the 2019 value = **17%, reaching 255.4 $Mm^3$ of lost volume (*)**<br>No. of pressure meters and installed capacity = **1,450 (354 in 2020, 641 in 2021 and 455 in 2022)**<br>(*) estimated data; the 2022 data are consistent with the calculation methods indicated by the Authority and do not include the municipalities of Civitavecchia and Percile, in order to maintain the reporting boundary used in 2019 and to allow verification of the achievement of the improvement targets. | In 2022, 1,373 km of water network was divided into districts and an additional 455 meters were installed. |
| | Reducing lost volumes of water by 29.5% compared to 2019 (2019 figure: 92.8 $Mm^3$ in lost volume).<br>**ACEA ATO 5** | % reduction in lost volume of water compared to the 2019 value = **24%, reaching 70.7 $Mm^3$ of lost volume (*)**<br>(*) estimated figures | As at 31/12/2022, 9 Municipalities have been divided into districts and works to improve the efficiency of the water network are underway in another 4 (Cassino, Frosinone, Ferentino and Sora). |

| | | | |
|---|---|---|---|
| | Reduction in lost volumes of water by around 26% compared to 2019 (2019 figure: 27.4 $Mm^3$ in lost volume) through district planning interventions and systematic water leak searches.<br>**AdF** | % reduction in lost volume of water compared to the 2019 value = **20.1%, reaching 21.9 $Mm^3$ of lost volume (*)**<br>(*) estimated figures | In the year, interventions were carried out on over 429 km of network for the creation of new remotely controlled water districts, 19,728 meters were installed, and 2,531 km km of network was expected. |
| | Reducing lost volumes of water by 20% compared to 2019 (2019 figure: 10 $Mm^3$ in lost volume)<br>**GESESA** | % reduction in lost volume of water = **1%, reaching 9.97 $Mm^3$ of lost volume (*)**<br>(*) estimated figures | In 2022, an analysis of the most inefficient municipalities was carried out in order to prioritise interventions; production meters and utility meters were installed at sources and certain districts were restructured. The implementation of strategic TLC systems to reduce losses has been launched, while reclamation works, pipeline replacement and the installation of automated systems are underway to avoid wasting water resources. |
| | Reducing lost volumes of water by 33% compared to 2019 (2019 figure: 101.0 $Mm^3$ volume lost) including by replacing 148 km of deteriorated pipelines.<br>**GORI** | % reduction in lost volume of water = **22%**, reaching **78.6 $Mm^3$ lost volume** km of pipeline replaced/km of pipeline to be replaced = **67.4/148 (49 in 2020, 14 in 2021 and 4.4 in 2022)** | 4.4 km of the network were replaced, 483 others were districted and 1,528 km were surveyed through leak detection activities. |
| **Promoting an efficient use of resources, thus facilitating circular economy** | Constructing plants for electricity/thermal energy production (1 cogeneration from biogas, 2 photovoltaic, 1 mini-hydroelectric) at Integrated Water Service sites to cover internal consumption for around 2,700 $MWh_e$ of electricity and 2,500 $MWh_t$ of thermal energy produced per year, equal to around 1,550 $tCO_2$ avoided in total per year.<br>**AdF** | Plant Construction: Yes/No= **No**<br>$kWh_e$ electricity produced and consumed on site<br>$kWh_t$ thermal energy produced and consumed on site $tCO_2$ avoided | The executive design of the photovoltaic and mini-hydro plants was started and the construction phases of the anaerobic digesters were for the construction of the biogas cogeneration plant were launched. |
| | Carrying out projects to recycle purified wastewater mainly for irrigation or for production processes up to 8 $Mm^3$/year of reused wastewater.<br>**ACEA ATO 2** | $Mm^3$/year of reused wastewater= **1.8** | The Risk Management Plan for the reuse of water for irrigation purposes from the Fregene treatment plant is currently being drafted; for the project, a funding application has been made for funding from the CIS - Acqua Bene Comune Call by the Consortium that will use the reused water. |
| | Manufacturing a treatment plant for the sand from the treatment processes and from the sewage network cleaning, which will make it possible to recover up to 80% of the solid input material.<br>**ACEA ATO 2** | Progress of work execution schedule/expected completion times<br>Recovered material/incoming material | The process for the Environmental Impact Assessment of the plant was completed during the year and the executive design was launched; the project is currently on schedule. |
| | Increasing the overall waste treatment capacity to around 2,900,000 tonnes (equivalent to around 120% more with respect to the 2019 data).<br>**ACEA AMBIENTE** | authorised overall t capacity in reporting year/overall t capacity expected by 2024= **2,562,865/2,900,000, equal to 88%**<br>t of treated waste/overall t of treated waste (2019 figure)= **189,717/286,772, equal to 66% (*)**<br>(*) figure from scope of consolidation | In 2022, the Group consolidated its position in the waste sector with the acquisitions of the "Grasciano Hub" and the companies Serplast, Tecnoservizi, and Italmacero. The management of the acquired plants continued and two Acque Industriali plants were closed. |
| | Facilitating the circular economy process and strengthening the waste-to-material chain thanks to the recovery of raw and secondary materials from the waste input of dedicated plants (target by 2024: 88% RSMs recovered)<br>**ACEA AMBIENTE** | t RSMs recovered/t waste input= **182,615/246,236 equal to 74% (*)**<br>(*) figure from scope of consolidation | The management of the plants continued. In 2022 the Companies Serplast, Tecnoservizi and Italmacero were acquired. |

| | | | |
|---|---|---|---|
| | Raising customer awareness about the use of the digital channels, with the objective of reaching 60% of active users associated with MyAcea and increasing the adoption of web bills: around 400,000 users with digital billing (equal to around 60 t/year of paper saved).<br>**ACEA ATO 2** | No. of utilities registered on MyAcea/total active utilities of Acea Ato 2 = **362,918/754,569, equal to 48.1%**<br>No. of active web bills= **385,353**<br>t paper saved per year= **78.3** | In 2022 the new version of MyAcea Acqua, the MyAcea customer area, was launched on the website and app, offering a clearer and simplified user experience. Works to integrate the new CRM system Salesforce also began. |
| | Increasing the adoption of web bills, reaching around 50,000 users who have chosen the digital bill option (over 250% more compared to the 2019 data, equal to 14,218) with expected paper savings of around 9 t/year.<br>**ACEA ATO 5** | No. of active web bills = **53,869, increase of 279%**<br>t paper saved per year= **6.5**<br>**Target for 2024 achieved** | In 2022 a campaign to strengthen customer master data was completed, with the aim of collecting digital contact details and facilitating the activation of the interactive billing service. |
| | Promoting the digitisation of processes and raising customer awareness about the use of the digital channels with the objective of increasing the number of users with web billing by 229% compared to 2019: around 368,000 digital bills (equal to around 11.04 t/year of paper saved) in relation to 92,000 users.<br>**AdF** | No. of users with web billing/no. of users with active web billing in 2019 = **87,631/28,192, equal to 211% more**<br>No. of users with active web billing= **87,631**<br>t paper saved per year= **10.9** | Two communications campaigns were organised: one integrated and constant campaign on the main contact points (print media, social media, advertising, online newspapers and interactive online banners) and a "Loyalty Bonus" campaign, a one-off incentive of €5 for customers who activate and maintain web & banking membership for one year). The project to restructure business processes using the Salesforce system is also underway, including the simultaneous and immediate activation of online billing. |
| | Increasing the number of web bills to 25% of total users (57,142 users in 2019), for around 3 t of paper saved.<br>**GESESA** | No. of active web bills = **9,344, around 16% of users**<br>t paper saved per year= **1.5** | As well as communication campaigns, Gesesa invested in digitalising and revising its processes, and added the option for users to sign up to online billing. |
| **Taking initiatives to protect the territory and limit impacts on the natural environment** | Increasing the use of web bills: around 150,000 users with digital billing (over 150% more than the 2019 figure of 58,500 users) equal to around 21 t of paper saved per year.<br>**GORI** | No. of active web bills= **221,408**<br>t paper saved per year= **30.6**<br>**Target for 2024 achieved** | In 2022 the Online Billing service was promoted on the main physical and digital customer contact points. |
| | Increasing the use of web bills: 400,000 users with the digital bill option (equivalent to around 60 t of paper saved/year).<br>**ACEA ENERGIA** | No. of active supplies with web bill option= **489,146 (322,054 ML and 167,092 SMT)/400,000**<br>t paper saved per year= **80.7**<br>**Target for 2024 achieved** | In 2022 services to promoted to improve the customer experience while also protecting the environment, such as online billing. Sustainability is at the heart of Acea Energia's strategy, and was driven through ad hoc communication campaigns and the engagement activities planned as part of the Acea Con Te loyalty programme, with the new Green Lovers section and the increase of sustainability bonuses. |
| | Increasing the digitisation of processes, specifically in sales relations on the free market: 80% of contracts digitised, equal to 14 t/year of paper saved.<br>**ACEA ENERGIA** | % of contracts digitised= **46.7%**<br>t paper saved per year= **11.6** | During the year, works were completed to digitalise processes aimed at improving the customer experience, resulting in a steady increase in the percentage of digital contracts. |
| | Removing 200 pylons by modernisation of the electrical supply system as well as high voltage transmission.<br>**ARETI** | No. of pylons removed/no. of pylons to be removed= **119/200 (22 in 2020, 48 in 2021 and 49 in 2022)** | Another 49 pylons were demolished, including 9 along the Flaminia - Smistamento Est line and 35 on the Laurentina - Castel Romano (1 and 2) line. |
| | Contributing to the recovery of the ecosystem and the protection of biodiversity, through functional interventions to remove pollution from the hydrographic basin of the Sarno river, including the construction and/or restoration of function of the sewerage network and the consequent collection and treatment of the area's inhabitants (around 70,500) and the elimination of 78 illegal discharges into the environment.<br>**GORI** | No. of illegal discharges eliminated/ no. of illegal discharges to be eliminated= **8/78**<br>Inhabitants covered by the sewerage and treatment service/ inhabitants in the target scope | Another outlet in the municipality of Nocera Inferiore, which flowed directly into the Cavaiola stream, was closed during the year, bringing 30,000 inhabitants into area served by the treatment system. |
| | Increasing treatment efficiency by 6.2% in terms of reduction of $BOD_5$ on 7 treatment plants being upgraded (purification efficiency of the $BOD_5$ in 2019 equal to 86.7%).<br>**ACEA ATO 5** | $[(BOD_{5in}-BOD_{5out}/BOD_{5in})$ reporting year - $(BOD_{5in}-BOD_{5out}/BOD_{5in})$ 2019]* 100= **[((300-29,3)/300)-((300-40)/300)]*100=3.6%** | In 2022 revamping works on the Serrone La Mola plant were completed and works on the Anagni Ponte Piano plant are underway. |

| | | | |
|---|---|---|---|
| **Taking initiatives to protect the territory and limit impacts on the natural environment** | Increasing purification efficiency by 4% with respect to the 2019 figure (year of acquisition of treatment plants > 100,000 inhabitants equivalent treated) in terms of reducing SST of all plants managed (equal to 85% in 2019).<br>**GORI** | (SSTin - SSTout / SSTin) x 100 = **89%, +4% compared to 2019**<br>**Target for 2024 achieved** | Targeted interventions to improve treatment efficiency were conducted. |
| | Reducing waste from the thermal renewal processes (Terni and San Vittore del Lazio plants) by building a treatment and recovery plant for 100% of the ash produced.<br>**ACEA AMBIENTE** | Plant construction:<br>Yes/No= **No**<br>t of ash recovered/t of ash produced | The plant authorisation process was completed during the year and an overall technical assessment of the project is being carried out. |
| | Reducing the annual amount of dehydrated/dried sludge leaving the treatment plants managed by Acea Ato 2 by 45% (compared to 2019 volumes equal to 70,505 tonnes) by means of actions aimed at improving the efficiency and industrialisation/innovation of sludge lines.<br>**ACEA ATO 2** | % of reduction= **10.2** | Different types of plants are being designed/constructed: dryers (work in progress on the Roma Sud and Cobis plants); ozonolysis (activities also started at one treatment plant and planned at three others); dewatered sludge plant at Roma Nord and Roma Est, yet to be built. |
| | Design and installation, following a feasibility study, of a sludge dryer at a treatment plant, in order to reduce the amount of dehydrated/dried sludge produced by the treatment plants managed by Acea Ato 5 by 75% (compared to 2019 volumes, equal to 11,352 tonnes).<br>**ACEA ATO 5** | Design status (0-100%)= **5%**<br>Construction status (0-100%)<br>% reduction | The design phase of the dryer is ongoing, with topographical and geological surveys carried out in 2022.<br>However, the authorisation process at the competent bodies is temporarily suspended. |
| | Reduction of the annual amount of sludge disposed of by the treatment plants managed by AdF by 40% (compared to 2019 volumes, equal to 8,975 tonnes) through the construction of the sludge centralisation plant in Grosseto San Giovanni.<br>**AdF** | Plant construction:<br>Yes/No= **Yes**<br>% of reduction= **45.4**<br>**Target for 2024 achieved** | Monitoring activities and other works aimed at ensuring that the thermochemical hydrolysis plant continues to operate at full capacity were carried out in the year. |
| | 240 t reduction of non-dehydrated sludge, equal to 35% of the volumes recorded in 2019 (700 t), thanks to the use of centrifuges for sludge dehydration.<br>**GESESA** | Reduction % of non-dehydrated sludge= **-7%** | Sludge dewatering processes were conducted using the belt press at the San Biase treatment plant in the municipality of Telese Terme, with the centrifuge at the Cagni treatment plant in the municipality of Forchia, and with the filter press installed at the Portelle treatment plant in the municipality of Castelpoto. |
| **Enhancing certified environmental and energy management systems** | Obtaining and maintaining ISO 14001 certification for companies with an environmental impact in the scope of the NFS.<br>Obtaining and maintaining ISO 50001 certification for energy-intensive companies (>10,000 TOE equivalent) in the scope of the NFS.<br>**ACEA SpA - RISK & COMPLIANCE (Integrated certification systems)** | ISO 14001 Certified companies/Companies in scope= **15/16 (*)**<br>ISO 50001 Certified companies/Energy-intensive companies in scope= **7/7 (**)**<br>(*) the denominator does not include the companies in the photovoltaic sector that are not yet operational (Ecogena and Acea Innovation), as these are not relevant to the certification.<br>(**) Acque Industriali is no longer considered an energy-intensive business and is excluded from the denominator. | Of the 16 main operating companies that represent the majority of the Group's impact, 15 are ISO 14001 certified; of the 8 most energy-intensive companies, 7 are ISO 50001 certified. Acque Industriali is no longer considered relevant to the energy certification following certain plant closures. |

## SCOPE OF ACTION 2: ENCOURAGING SUSTAINABILITY ALONG THE SUPPLY CHAIN

| | | | |
|---|---|---|---|
| | Achievement of an average of 26 points (20 points for Acea Ato 5) of technical scores referring to green/sustainable criteria (i.e. certifications, high efficiency engines, reuse/ recycling/recovery of materials used, plastic reduction, eco-friendly product design, eco-friendly packaging, etc.) in tenders carried out with the most competitive bid for the procurement of supplies and services.<br>**ACEA ATO 2; ACEA ATO 5; ARETI** | Sum of green/sustainable score awarded*tender starting amount/total tender amount for calls carried out with the most competitive bid for the supply of supplies and services = **Acea Ato 2: 19.49; Areti: 26.87; Acea Ato 5: 33.55** | Green/sustainable criteria were included in the tenders published with the most competitive bid. For example, the criteria concern the possession of environmental certifications, the use of eco-friendly vehicles and energy efficiency requirements. |
| | Guaranteeing self-assessment in terms of quality, environment, safety, energy and social responsibility (QESESR), where relevant, for 100% of the suppliers registered in the qualification systems relating to the Single Regulations for Goods and Services and Works.<br>**ACEA SpA - PROCUREMENT AND LOGISTICS** | No. of suppliers with QESESR self-assessment/total suppliers qualified by qualification systems related to the Single Regulations for Goods and Services and Works = **288/288**<br>**Annual target reached** | 100% of suppliers registered with qualification systems pertaining to the Single Goods, Services and Works Regulations filled out a QASER self-assessment questionnaire in 2022. |
| **Implementing sustainability logics in procurement procedures** | Dissemination of good practice in terms of green purchases through the inclusion of environmental sustainability criteria in the Technical Specifications approved by the A&L Department and used for the purchase of materials by the centrally managed Group companies.<br>**ACEA SpA - PROCUREMENT AND LOGISTICS** | No. of technical specifications approved with sustainability criteria/no. of technical specifications approved= **170/170**<br>**Annual target reached** | During the year, 170 technical specifications were validated for materials regarding the supplies of the Group companies and sustainability criteria were introduced in all of them (recycling, reuse, correct WEEE disposal, repairability). |
| | Implementing the Vendor Rating model on the Group's new tender portal which will involve around 1,000 suppliers over the course of the Plan, integrating it with the Sustainability aspect; a portion of the suppliers will also be assessed and monitored on environmental performance (Ecovadis project).<br>**ACEA SpA - PROCUREMENT AND LOGISTICS** | Vendor Rating model implementation: Yes/No= **Yes**<br>No. of suppliers assessed by vendor rating/no. of suppliers in target scope= **900/1,000**<br>No. of suppliers involved in the Ecovadis project/no. of suppliers assessed by vendor rating= **339/900** | The Ecovadis rating was introduced as a rewarding criterion in tenders awarded on the basis of the most economically attractive offer. |
| | Application of rewarding criteria of sustainability (health and safety, energy and environment, where applicable) in 80% of the calls for tenders and contracts for Works, Goods and Services, assigned with the most competitive bid.<br>**ACEA SpA - PROCUREMENT AND LOGISTICS** | No. of calls for tenders and contracts with rewarding criteria of sustainability/no. of calls for tenders awarded with the most competitive bid = **110/112, equal to 98%**<br>**Annual target reached** | Out of the total OEPV tenders launched in 2022, 110 were launched with the introduction of rewarding criteria on Sustainability (Quality, Environment, Safety and Energy) and the Ecovadis rating. |

## SCOPE OF ACTION 3: CONTRIBUTING TO THE WELL-BEING OF THE COMMUNITY

| | | | |
|---|---|---|---|
| **Promoting activities with positive impact on the collectivity and on the territories where the company works** | Consolidation and improvement of relations with the local community through the creation of a museum dedicated to Acea and the organisation of at least 5 cultural events/communications initiatives related to the core business, which also envisage the development of industrial sites and facilities of the Group's companies.<br>**ACEA SpA – COMMUNICATION (Historical Archives, Event Management)** | Acea Museum Construction: Yes/No= **Yes**<br>No. of events held= **at least 5/5**<br>No. of industrial sites/plants developed = **3**<br>**Annual target reached** | Print media and digital campaigns were carried out and a partnership agreement was established with the "Roma Capitale Centrale Montemartini" museum organisation to promote the Acea Immersive Museum (Museo Immersivo Acea - MIA). In the first six months of the year the MIA received over 36,500 visits from Italy, USA, South Korea, France, Germany, Switzerland and the United Kingdom. Key events included the Innovation Day and the official opening of the Totem (multimedia display panels) to explore the world of water. Three visits to the hydroelectric plants operated by Acea Produzione were organised, involving a total of 130 visitors. |
| | Installing 55 Water Kiosks in the territory managed by AdF for dispensing chilled natural or sparkling water to the public and tourists, favouring the reduction of plastic bottle use and $CO_2$ emissions.<br>**AdF** | No. Water kiosks installed= **21 (of which 14 installed in 2022)**<br>Litres of water dispensed in the year= **1,023,302**<br>t of plastic saved= **20**<br>t of $CO_2$ not emitted = **59** | During the year, 14 water kiosks were installed (of which 10 are always in service), for a total of 21 water kiosks across the managed area. |

## SCOPE OF ACTION 4: CONSOLIDATING RELATIONS WITH THE TERRITORY

| | | | |
|---|---|---|---|
| | Support or management of at least 10 awareness initiatives per year and promotion of socially useful campaigns (prevention of cancer, women's rights, promoting diversity) or of socio-environmental importance (including the promotion of sport).<br>**ACEA SpA - SPONSORSHIP AND VALUE LIBERALITY** | No. of initiatives supported and/or managed = **at least 43/10**<br>**Annual target reached** | In 2022 several initiatives were carried out, including the Six Nations Rugby Tournament and ASD Pink Basket in Terni; with regard to social interventions, the Group supported the construction of the new oncology centre at Policlinico Umberto I. The Group's projects aimed at young people included Acea Camp, the Volley Scuola tournament and an initiative aimed at preventing and overcoming youth hardship; in the cultural sphere, the Group supported the Rome Film Festival, the 52nd Giffoni Film Festival and the Water festival. |
| **Contributing to create awareness on social and environmental matters** | Planning and implementing awareness campaigns aimed at compulsory school age students present in the territory where the companies of the Group work, as concerns responsible use of natural resources (at least 10,000 students and other users per year).<br>**ACEA SpA – COMMUNICATION (Event Management)** | No. of students and other users involved per year/no. of students and other users to be involved= **around 750**<br>NOTE The educational project previewed in November 2022 will be made available to all online users for two weeks in 2023. | The 2022 "Acea Scuola - ProteggiAmo l'ambiente" project is an opportunity to promote the best practices, projects and technologies adopted by the Acea Group to help protect the environment and to raise awareness of the issue among young people. The initiative is sponsored by the Department of School, Work and Professional Training of Roma Capitale. The educational project previewed in November 2022 will be made available to all online users for two weeks in 2023. |
| | Creating at least 1 campaign per year or awareness initiatives addressing saving water, energy and environmental protection targeting the collectivity.<br>**ACEA SpA – COMMUNICATION (Communication Planning & Portfolio Management) and Group companies** | No. of campaigns or initiatives carried out during the year= **2**<br>**Annual target reached** | Acea organised an institutional campaign on the Ecological Transition, aired on print and digital platforms from April 2022, as well a water-saving campaign on print and digital media and billboards in Rome and the surrounding province from June to September 2022. |
| | Undertaking the "Acea Group Stakeholder Engagement Project" (stakeholder mapping, methods and operating tools) intended to improve the integration of stakeholder engagement into business processes and activities and to disseminate the stakeholder engagement culture by organising at least 1 initiative per year, including in support of stakeholder engagement of the companies/areas.<br>**ACEA SpA – SECRETARY OF THE BOARD OF DIRECTORS**<br>**Stakeholder Engagement in collaboration with the main operating companies** | Group stakeholder mapping status (0/100%)= **100**<br>Method and tool definition (0/100%)= **100**<br>No. of stakeholder engagement initiatives carried out during the year= **13**<br>**Target for 2024 achieved** | As part of the Group's stakeholder engagement initiatives, in 2022 five meetings with experts were held and eight workshops were organised to develop theoretical and practical skills on stakeholder identification, mapping and weighting, and project planning and implementation. The special section of the intranet was updated, a specific risk metric within the ERM framework was defined, support for stakeholder engagement initiatives at Group Departments/Units and Companies continued, leading to a growing level of participation and interest, and a Report on the Group's stakeholder engagement performance was drafted. |
| **Contributing to create awareness on social and environmental matters** | Implementation of the project dedicated to the creation of a "Water Museum".<br>**ACEA SpA – COMMUNICATION (Historical Archive)** | "Water Museum" Construction: Yes/No= **Yes**<br>**Target for 2024 achieved**<br>Note: the target adopted before the pandemic to open a physical museum was redesigned and led to the creation of a virtual museum accessible through the installation of display panels in the Rieti area to offer access to a virtual Acea Museum, including a special feature about water. | In Rieti, ten interactive display panels were opened, providing access to the "Acea Immersive Museum" (MIA). This digital portal is dedicated to the over 110 years of Acea Group history where visitors can take 3D virtual tours to follow the routes of the water, from springs to aqueducts, to the tap in homes. The display panels enable users to connect to an extensive multimedia museum where they can explore the world of water in an interactive and innovative way. The initiative is part of the "Tourist trails to discover Italy's waters" project. |
| | Completion of at least 3 projects per year for the redevelopment and upgrading of urban areas, metropolitan areas and territories where the Group works through public and artistic lighting.<br>**ACEA SpA - SPONSORSHIP AND VALUE LIBERALITY in partnership with Areti and other Group Companies** | No. of initiatives carried out during the year = **at least 11/3** | In 2022 several monuments or institutions were illuminated to raise public awareness about specific events or anniversaries, such as World Multiple Sclerosis and Fibromalgia Days, as well as to show solidarity with the Ukrainian people or to mark the Sustainable Development Festival organised by ASviS. |

# MACRO-OBJECTIVE NO. 4 PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN

| OPERATIONAL OBJECTIVES | TARGET FOR 2024 - FUNCTIONS/OWNER COMPANIES OF THE PROCESS | KEY PERFORMANCE INDICATORS | 2022 ACTIONS |
|---|---|---|---|
| **SCOPE OF ACTION 1: HEALTH AND SAFETY AT WORKPLACE FOR GROUP WORKERS** | | | |
| **Promoting a culture of health and safety at workplace** | Consolidating the downward trend in the Group's accident indices (SI, FI).<br>**ACEA SpA – HUMAN RESOURCES (Workplace safety)** | SI, FI in reporting year (*) ≤ reporting year -1=<br>**SI: 0.23 - FI: 5,22 ≥ SI: 0.20; FI: 5.09**<br>(*) estimated figures | In 2022, in order to pursue the continuous improvement of accident prevention in Group companies, an accident committee was set up to analyse causes and plan corrective actions; a collaboration agreement was signed with INAIL for the analysis of accidents and near misses, and working tables were held with companies in the utilities sector, sharing best practices. In addition, new indicators were introduced in the H&S dashboard, the Regulations for the Prevention of Covid-19 Infection were updated and the Health Emergency Management Advisory Committees were held with the participation of trade union organisations. |
| | Carrying out at least one health and safety awareness campaign each year involving 100% of Group employees (NFS scope of operating companies).<br>**ACEA SpA – HUMAN RESOURCES (Workplace safety) in collaboration with COMMUNICATION (Media relations and internal communications)** | No. of employees involved/no. of employees to be involved=<br>**6,763/6,763** | To mark the 2022 World Day for Safety and Health at Work, an article was distributed to employees dedicated to the project "STEP - Training programme to develop a culture of safety and facilitate the evolution from Managers and Officers to Safety Leaders", which involved occupational safety officers from Group companies, representatives from Acea's senior management and experts in the field. During the year, information on the practices to be adopted to prevent the spread of Covid-19 was distributed to all employees, based on changes to the epidemiological and regulatory situation. |
| **Promoting a culture of health and safety at workplace** | Obtaining and maintaining ISO 45001 certifications for the Companies in the NFS scope and, for Acea SpA, obtaining the Biosafety Trust Certification, while assessing the possibility to extend it to the operating companies.<br>**ACEA SpA - RISK & COMPLIANCE (Integrated certification systems)** | Certified companies/companies in scope= **17/18 (*)**<br>Obtaining Biosafety Trust Certification:<br>Yes/No= **Yes**<br>(*) the denominator excludes the 16 companies in the photovoltaic sector and Acea Innovation, not relevant for the purposes of the certification system | 17 operating companies have a ISO 45001:2018 certified system, while Acea SpA, Acea Energia, Areti, and Acea Elabori also hold the Biotrust Safety Certification. |
| | Involving 100% of Acea SpA employees in the "Vademecum" project intended to explore issues of health, safety and well-being, and raise awareness about the correct use of PPE for protection against infection from COVID-19, training and information about infection risks in line with the objectives of the Biosafety certification (2020).<br>**ACEA SpA – HUMAN RESOURCES (Workplace safety)** | Employees trained in risks from biological agents/total employees (Acea SpA target scope)= **100%**<br>**2024 Target achieved in 2021** | Target achieved in 2021 with the conclusion of the training programmes on Safety and measures to limit the spread of Covid-19. |
| **SCOPE OF ACTION 2: HEALTH AND SAFETY AT WORKPLACE FOR CONTRACTORS AND SUBCONTRACTORS** | | | |
| **Creating awareness among contractors on health and safety at workplace** | Creating awareness among contractors on health and safety, implementing a programme of supplier checks (24 per year) and carrying out engagement initiatives (video tutorials on safety best practices).<br>**ACEA ATO 5** | No. of checks carried out/no. of checks to be carried out =<br>**352/24**<br>Engagement initiatives:<br>Yes/No= **Yes**<br>**Annual target reached** | Health and safety audits were conducted on contractors in 2022. Six contractors took part in an awareness-raising event on the issue of Safety organised by the Parent Company, while another ten contractors met with members of the Prevention and Protection Service team. |
| | 30% increase in the number of inspections (12,481 in 2019) intended to check the application of safety standards and procedures on the contracts assigned to the control of the Procurement Safety Unit and creating awareness among suppliers on the culture of safety.<br>**ACEA ELABORI** | No. of security audits/security audits 2019= **14,724/12,481 (+18%)** | In 2022, Acea Elabori carried out 14,724 safety audits with an increase of 18% compared to the same period of 2019. |

| | | | |
|---|---|---|---|
| **Creating awareness among contractors on health and safety at workplace** | Defining and implementing a Supplier Engagement Plan (at least 5 initiatives over the 2020-2024 Plan), in synergy with the Group companies, on health and safety issues also by producing more detailed reporting on the injury prevention performance of contractors.<br>**ACEA SpA – HUMAN RESOURCES (Workplace safety)** | Engagement Plan definition: Yes/No= **Yes**<br>No. of initiatives launched/no. of initiatives to be launched = **2/5**<br>No. of reports received / no. of contractors involved = **225/411 (55%)** | In 2022 tools were developed to facilitate the six-monthly reporting and analysis of accidents occurring to contractor personnel. Furthermore, around 250 contractors were invited to an awareness-raising event at La Fornace conference centre, of which 30 attended in person and the rest via live streaming. During the event, contractors were invited to join Acea on a journey towards the evolution of the Culture of Safety to reduce accidents. |
| | Up to 70% increase in the percentage of contracts inspected for daily safety checks out of the total contracts that could be inspected by the Procurement Safety Unit (45% in 2019).<br>**ACEA ELABORI** | Average contracts inspected/ average contracts that could be inspected = **94/154, equal to 61%** | During the year, 94 of 154 contracts were inspected, with an increase of 16 percent compared to the 2019 figures. |
| **SCOPE OF ACTION 3: HEALTH AND SAFETY OF THE COMMUNITIES WITH WHICH THE GROUP OPERATES** | | | |
| **Ensuring the health and safety of the customers of the reference territory for the various services provided** | Drawing up risk prevention/mitigation plans according to the guidelines of the Water Safety Plan for 100% of the population served by the aqueduct systems managed by Acea Ato 2.<br>**ACEA ATO 2** | Population served by the aqueduct systems with WSP/ total population served by Acea Ato 2 (year 2019)= **3,422,387/3,791,167 = 90.3% The indicator refers to the WSPs implemented and presented to the Ministry of Health for the supply sources (collection and supply) of the water source only.**<br>Note: the users affected by the supply system correspond to the users affected by the distribution system. | In 2022 the WSPs for the Doganella aqueduct systems and for the supply and distribution systems of the municipalities of Guidonia Montecelio, Albano Laziale, Marcellina and Manziana were submitted to the Ministry of Health. Work is underway to prepare the Sanitation Safety Plan (SSP) for the Cobis treatment plant. |
| | Drawing up risk prevention/mitigation plans according to the guidelines of the Water Safety Plan for 2 sources serving 15% of the population served.<br>**ACEA ATO 5** | Population served by springs with WSP/population served | The Anagni Tufano spring was selected as the site for the drafting of the pilot WSP and the analysis of available document was started. |
| | Developing and implementing the Water Safety Plan (WSP) model on 150 of the 265 Water Supply Zones (WSZs), covering 55% of the population served.<br>**AdF** | WSZs with WSP model/total WSZs= **39**<br>Population served by the aqueduct systems with WSP/ total population served by AdF (year 2019)= **48,403/393,153, equal to 12.3%** | The risk analysis model on the supply points was set up (identification of the assessment indices and measurement systems) and the implementation of the WSPs on the water systems fed by the Fiora spring — Central Branch, South Branch and Arbure spring — was completed in 2022. In addition, the implementation of the WSPs was systematised through the creation of a specific management application, structured on a dedicated database and consultation interface on the Grafana platform. |
| | Drawing up risk prevention/mitigation Plans according to the guidelines of the Water Safety Plan for 100% of sources/population served.<br>**GORI** | Population served by springs with WSP/total population served | Preliminary activities are ongoing for the implementation of the WSP for the "Sarnese" system of Sources, including the preparation of an operating instruction manual for risk management. |
| | Drawing up risk prevention/mitigation Plans according to the guidelines of the Water Safety Plan for sources that serve at least 55% of the total population.<br>**GESESA** | Population served by springs with WSP/total population served | In 2022 specific training of additional employees aimed at obtaining safety plan team leader certification was launched, while data collection to identify specific risks and related hazards is ongoing. |
| | Reducing laboratory analysis response times by 25% (compared to 2019) through implementation of analytical screening and/or high automation (robotics and early warning) and/or high-tech techniques.<br>**ACEA ELABORI** | % reduction (response time for the year under review/response time in 2019) = **24% (10.18 days/13.41 days)**<br>No. techniques/survey systems introduced = **2** | The dashboard for monitoring and identifying critical activities and defining corrective actions is operational; a prototype for the construction of an automated robot to analyse TSS in wastewater is under construction. In collaboration with the Istituto Superiore di Sanità, an NTA (No Target Analysis) method to analyse microplastics has been developed and tested on actual samples. |

## MACRO-OBJECTIVE NO. 5 INVESTING IN INNOVATION FOR SUSTAINABILITY

| OPERATIONAL OBJECTIVES | TARGET FOR 2024 - FUNCTIONS/OWNER COMPANIES OF THE PROCESS | KEY PERFORMANCE INDICATORS | 2022 ACTIONS |
|---|---|---|---|
| **SCOPE OF ACTION 1: ORGANISATIONAL INNOVATION** | | | |
| **Promoting "smart" processes and working methods** | Consolidating and incrementing the % of employees each year who work remotely and preparing at least one survey per year to monitor expectations and satisfaction in relation to the process.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development)** | % of employees working remotely in the reporting year > % of employees working remotely in the reporting year - 1 = **67% 2022**<br>Note: the 2021 data reflected the situation caused by the pandemic and is not comparable with the 2022 data. The 2022 data refers to companies subject to centralised management by Acea S.p.A.<br>No. of surveys launched = **1/1** | The use of remote working was structured and a relative trade union agreement was signed. In 2022 a survey was launched to monitor remote working trends and the related effects. |
| | Launching at least two co-working spaces per year.<br>**ACEA SpA – HUMAN RESOURCES (Talent acquisition & people development in collaboration with Facility Management)** | No. of co-working spaces opened/no. of co-working spaces to be opened= **3/2**<br>**Annual target reached** | In 2022 Acea took part in Smart Alliance - New ways of working and training, promoted by the "Sistema Scuola-Impresa" developed by the ELIS Centre. Under the project, co-working spaces are made available at the offices of Enel X and ELIS, while additional co-working spaces were established at Acea's headquarters and the Talent Garden. |
| **SCOPE OF ACTION 2: TECHNOLOGICAL AND PROCESS INNOVATION** | | | |
| **Promoting the resilience of the urban territory and innovation from a smart city perspective** | Equipping 1,000 IP supports with video cameras, communication devices and/or environmental sensors<br>**ARETI (Public Lighting)** | No. of poles equipped with intelligent equipment | In 2022, the design and development of the solution and the prototypes reached an advanced stage and the equipment production phase was launched. |
| | Optimising maintenance on IP infrastructure through the gradual application of Advanced Analytics systems, until 50% of interventions are covered by 2024.<br>**ARETI (Public Lighting)** | No. of maintenance interventions carried out with the application of Advanced Analytics/ total interventions = **55/170, equal to 32%** | A dashboard was created which generates a criticality ranking for the entire public lighting system, based on data including pre-checks, network failures, stress, size, geographical criticality and estimated plant age. The ranking was used to identify priority areas of intervention. |
| | Smart services applied to the organic fraction of waste: industrialisation and installation of 150 local composting systems for the transformation of organic fraction in compost.<br>**ACEA INNOVATION** | No. of structures installed/no. of structures to be installed= **4/150** | During the year, collaborations with over 150 municipal authorities were launched in order to respond to the NRRP call for tenders, and a composting plant was installed at the Italian ESA office. |
| | Contributing to making urban sites more sustainable through the offer of services intended to reduce environmental impact:<br>- insulation systems for thermal insulation (thermal cladding) and other energy efficiency services (100 apartment complexes);<br>- residential photovoltaic and solar thermal systems (around 1,000 systems).<br>**ACEA INNOVATION** | No. of apartment buildings involved in interventions / no. apartment buildings planned = **226/100 (of which 21 in 2021 and 205 in 2022)**<br>No. of photovoltaic and solar plants installed / no. of plants to be installed **204/1,000 (of which 21 in 2021 and 183 in 2022)** | In 2022 there were 205 interventions to construct more sustainable buildings and around 180 residential photovoltaic systems were installed. |
| | Installation of at least 2,200 electric vehicle charging points and development of a platform for the management of mobility services.<br>**ACEA INNOVATION and ACEA ENERGIA** | No. of charging stations installed / no. of charging stations to be installed **423/2,200 (of which 200 in 2021 and 223 in 2022)**<br>No. of Acea Energia customers who used the platform in the year= **2,813** | During the year, 223 e-vehicle charging stations were installed, of which 213 are for public use and 10 for private use. Over 2,813 users used the Acea e-mobility app, which can be used to quickly locate the closest charging point (including those managed by other operators), reserve it, check the car's charging status in real time and pay for the service. |
| | Providing visibility to collaborations with start-ups through the organisation of events/initiatives in synergy with universities, institutions, etc.<br>**ACEA SpA – COMMUNICATION (Event Management)** | No. of events/initiatives held=**5**<br>**Annual target reached** | In 2022, the launch event of the "Acea: Together for the ecological transition" project was held, aimed at holding working tables on sustainability in collaboration with universities and research centres. The Terni and Naples stages of the Acea Innovation Tour were held, concluding with the final stage in Rome. Acea renewed its presence at the Ecomondo event and, for the ninth consecutive year, supported "Maker Faire in Rome - the European Edition", presenting innovative and green solutions. |

| | | | |
|---|---|---|---|
| **Promoting the resilience of the urban territory and innovation from a smart city perspective** | In collaboration with start-ups, innovative SMEs, universities, research centres, hubs, business incubators and other innovation players, developing innovative projects linked to the Group's core and non-core businesses, for at least 100 innovative proposals/year analysed, 10 trials/year (PoCs) launched and 1 industrialised process/year.<br>**ACEA SpA – Technology & Solutions (Innovation)** | No. of innovative ideas/ proposals analysed= **1,500**<br>Trials started (PoC)= **14**<br>Projects industrialised= **2**<br>**Annual target reached** | Various pilot projects were launched, including: AI for Contact Centres, Smart Image Data Extraction, Drone Autonomo (MIDA), E-Sim, MeGA - Metrics for Grid Automation, Piattaforma OASI. Furthermore, 10 partnerships were established within the innovation ecosystem, such as those with Innovation Antenna San Francisco, Zero Accelerator, Open Italy, Mind The Bridge SEP, Casa delle Tecnologie Emergenti, Osservatorio Startup Intelligence, and Green Hydrogen Tech Accelerator. |
| **Implementing remote control systems and remote interventions** | Installation of 400,000 smart meters.<br>**ACEA ATO 2** | No. of smart meters installed/ no. of smart meters to be installed= **33,822/400,000 (8%) (25,063 in 2020, 2,795 in 2021 and 5,964 in 2022)**<br>Note: the figures from the previous two-year period have been adjusted following verification | Acea Ato 2 continued with the installation of some 6,000 "Add-On" NB-IoT devices such as "Proteus", designed in collaboration with Areti. |
| | Installation of 188,000 smart meters by 2024 which allow for remote readings, covering 80% of AdF users (equal to 231,690 in 2019).<br>**AdF** | No. of smart meters installed/no. of smart meters to be installed= **134,265/188,000 (82,626 in 2020, 5,168 in 2021 and 46,455 in 2022), 71%**<br>No. of users with smart meter/ no. of users of AdF (in 2019) = **134,634/231,690, equal to 58%** | The replacement plan had to be redesigned due to the shortage in supply of electronic components for the first half of the year caused by the macroeconomic context. From July onwards installation resumed at a faster pace, and works were completed in the municipalities of Follonica, Orbetello and Castelnuovo Berardenga. |
| | Replacing around 1,300,000 electronic meters with second generation (2G) devices, following a customer communications campaign about the electronic meter replacement plan.<br>**ARETI** | No. of 2G meters installed/no. of 2G meters to be installed= **648,745/1,300,000 (59,275 in 2020, 316,176 in 2021 and 273,294 in 2022), 49%**<br>Customers reached by the campaign ≥ customers whose meters were replaced = **651,849 ≥ 642,206** | The major replacement plan to replace 1G meters with 2G meters continued during the year, and specific information was sent to the affected customers. |
| | Implementing broadband connectivity on an optical fibre network owned by the company (or any other broadband connection) serving the operation of the power supply network covering all 70 Primary Substations (PSs) and 250 Secondary Substations (SSs).<br>**ARETI** | No. of PSs with broadband connection/70 PSs= **30/70, equal to 43% (14 in 2020, 10 in 2021 and 6 in 2022)**<br>No. of PSs with broadband connection/250 PSs= **249/250, equal to 99.6% (7 in 2020, 91 in 2021 and 151 in 2022)** | Works were conducted to connect primary substations, secondary aggregation substations and secondary access substations to the fibre optic network. |
| | Remote control of 100% of public lighting systems (intermediate target for 2022).<br>**ARETI (Public Lighting)** | No. of remote-controlled public lighting control panels/total public lighting control panels= **4,037/4,428, equal to 91% (1,145 in 2020, 885 in 2021 and 300 in 2022)** | An additional 300 remote-control panels were activated for a total of 2,330 panels connected via TLC. |
| | Extending the current remote control system with the aim of reaching a total of 460 plants remotely (2019 figure: 278 plants connected via TLC).<br>**ACEA ATO 5** | No. of plants controlled remotely/no. of plants to be controlled remotely = **395/460, equal to 86%**<br>**(9 installed in 2021 and 64 in 2022)** | Another 64 remote control systems were installed in 2022. |
| | Remotely controlling at least 72% and 15% of MV and LV lines respectively of all MV/LV secondary transformer substations (medium and low voltage side).<br>**ARETI** | No. of remote-controlled MV/LV transformation SSs on medium voltage side/total MV/LV transformation SSs in 2019= **8,507/13,238, equal to 64%**<br>No. of remote-controlled MV/LV transformation SSs on low voltage side/total MV/LV transformation SSs in 2019= **384/13,238, equal to 3%** | As at 31/12/2022, remote control systems were activated on secondary transformer substations, equating to 64% on medium voltage systems and 3% on low voltage systems. |

| | | | |
|---|---|---|---|
| **Implementing remote control systems and remote interventions** | Remote control/measurement of 100% of the purification plants with capacity > 2000 PE (equal to 13 plants), 100% of the sewerage lifting plants (13 plants) and 100% of the aqueduct plants of the Cities of Benevento and Telese Terme (29 plants).<br>**GESESA** | No. of purification plants > 2000 PE remotely controlled/ no. of purification plants > 2000 PE total = **13/13**<br>No. of remotely controlled sewerage lifting plants/no. of total sewerage lifting plants = **6/13**<br>No. of remotely controlled aqueduct plants/no. of total aqueduct plants = **19/29** | Alarms were installed on all sewage treatment plants with a capacity of more than 2,000 PE and remote control systems were installed on water plants. |
| **Applying new technologies in leak detection and other operations** | Expanding the analytical survey spectrum on the matrices managed (waste, water, emissions) with reference to new contaminants reported by the scientific community and the regulator.<br>**ACEA ELABORI** | No. of studies introduced= **5**<br>**Annual target reached** | In 2022, four analytical studies were conducted to identify the compounds nonylphenol, 17-beta oestradiol, bisphenol A, Aloacetic acid. The list of PFAS (perfluoroalkyl substances) was extended, in line with the New Drinking Water Directive. |
| | Implementing modelling methods, developing platforms and testing highly innovative techniques to support management and decision-making processes.<br>**ACEA ELABORI** | No. of methods implemented= **1**<br>No. of techniques implemented= **1**<br>No. of platforms created= **2**<br>**Annual target reached** | The network of specific chemical sensors was expanded to another Acea Ato 2 plant (Roma Nord treatment plant, in addition to those at Roma Est and Roma Sud); the SIFT-MS technology for the rapid measurement of volatile substances was successfully validated and is now able to collect emission and odour impact data; the algorithms for calculating odour reduction gains were validated and the expansion of Smart Odour functions is underway; the PICO platform was updated to promote shared knowledge (with more than 100 publications and conventions on the platform). |
| | Application of new IoT technologies and advanced sensors with the installation of 300 sensors for the development of remote monitoring systems for water and sewerage networks.<br>**GORI** | No. of sensors installed/ no. of sensors to be installed: **316/300**<br>**(95 in 2020 and 221 in 2021)**<br>**Target for 2024 achieved** | Target for 2024 achieved in 2021 with the installation of peripherals with NB-IoT and LoRa transmission systems on the water and sewerage networks. |
| **SCOPE OF ACTION 3: CREATING AND PROMOTING KNOWLEDGE** | | | |
| **Developing research projects in partnership with other relevant departments** | Developing the research hub (Campus Grottarossa) by reinforcing collaborations/framework agreements with the scientific community on research, technological innovation and environmental sustainability, promoting synergies with the academic and institutional world and start-ups in order to identify development opportunities and applications for the Group.<br>**ACEA ELABORI** | No. of projects funded with Acea participation= **(13 projects presented)**<br>No. of scientific partnerships established= **20**<br>No. of scientific publications or presentations at major conferences= **21**<br>**Annual target reached** | Various projects were presented to the European Horizon, LIFE, FISA and ICLEI calls, for the NRRP and to the Lazio Region. Partnership agreements were signed with academic and business partners. Abstracts for scientific papers were drafted, webinars were held and presentations at various scientific conferences were given. |
| | Promoting innovation with at least 4 initiatives per year, internal and external, intended to promote scouting, idea generation, entrepreneurship and the culture of innovation, involving at least 200 people from the Acea Group.<br>**ACEA SpA – Technology & Solutions (Innovation)** | No. of people involved= **over 500**<br>No. of initiatives carried out/ no. initiatives to be carried out= **32/4**<br>**Annual target reached** | The initiatives conducted in 2022 include: the final event of the Innovation Garage project, the Innovation Day Tour, the InnovAction community, the Innovation Gym, Women's Open Call (3W: Women, Welfare & Worklife balance), and the Digital Innovation Antenna in San Francisco. |

# CORPORATE GOVERNANCE AND MANAGEMENT SYSTEMS

## CORPORATE GOVERNANCE AT ACEA

The governance model adopted by Acea complies with the recommendations of the *Corporate Governance Code* and with the principles of **transparency, balance and separation between guidance, management and control activities**.
The Acea SpA Board of Directors **establishes the strategic guidelines of the Group** and is responsible for corporate governance. Three Committees are established within the Board with proposal and consultation responsibilities: the **Control and Risks Committee**, the **Appointments and Remuneration Committee** and the **Ethics and Sustainability Committee**.

There is also a Related-Party Transactions Committee, in implementation of CONSOB regulations, composed of independent Directors, and a Committee for the Region, which is entrusted with investigative, advisory and monitoring tasks, particularly for the management of sponsorships and donations granted by Acea, in compliance with the Company's prerogative rights and the regulatory and legal constraints applicable to individual subsidiaries, aimed at ensuring the development of healthy and virtuous relations with the regions in which the Group operates.
Lastly, the **Board of Statutory Auditors** performs supervisory duties, according to the traditional model in force.

**Chart no. 13 – Activities of the Corporate Governance Committees**

| COMMITTEE | COMPOSITION | TASKS |
|---|---|---|
| CONTROL AND RISKS | At least 3 Independent Directors or, alternatively, Non-Executive Directors with an independent majority, from whom the Chairman is chosen<br><br>**10 MEETINGS IN 2022** | Issues a prior opinion to the BoD regarding the **definition of the Guidelines for the Internal Control and Risk Management System** for the Group companies, **including those relevant for medium/long-term sustainability**, so that they are correctly identified, measured, managed and monitored. Supports the assessments and decisions of the Board of Directors on these issues. Assists the Board of Directors, together with the competent Function and having consulted with the independent auditor and Board of Statutory Auditors, in assessing **the correct use of accounting standards adopted in order to draw up the consolidated non-financial statement** as per Legislative Decree 254/2016. For the matters within its remit, monitors **the adequacy and effective implementation of the Code of Ethics.** |
| APPOINTMENTS AND REMUNERATION | At least 3 Non-Executive Directors with an independent majority, from whom the Chairman is chosen.<br><br>**11 MEETINGS IN 2022** | Provides opinions to the Board of Directors regarding its composition: **size**, **adequacy of skills**, **compatibility of positions**.<br>Proposes the **remuneration policy** for Directors and Executives to the Board of Directors, **promoting medium-long term sustainability**. |
| ETHICS AND SUSTAINABILITY | At least 3 Non-Executive Directors with an independent majority, from whom the Chairman is chosen.<br><br>**8 MEETINGS IN 2022** | In a proactive and advisory manner, supports the Board of Directors in the context of **corporate ethics and environmental**, **social and governance topics.**<br>Promotes the **integration of sustainability into the corporate strategy and culture**.<br>Supervises the main sustainability issues related to business activities and interactions with stakeholders.<br>Examines the guidelines of the **Sustainability Plan** and, once approved by the Board of Directors, supervises its monitoring.<br>Checks the adequacy and implementation of the **Code of Ethics**.<br>**Promotes a culture of diversity** and fighting discrimination in the company. |

During the year, the Departments, Functions and Business Units tasked with oversight of relevant topics such as Communication, Administration, Finance and Control, Investor Relations & Sustainability, Procurement and Logistics, Human Resources, Occupational Health and Safety, etc. were **convened as normal by the Board Committees** of reference. Furthermore, the measures adopted to develop and improve understanding on issues of **sustainability** within the Group's governance bodies include a number of **specific induction initiatives,** such as the detailed study conducted by Directors in June 2022 on the EU Regulation 2020/852 on the

Taxonomy of Environmentally Sustainable Economic Activities and on the Corporate Sustainability Reporting Directive.

The company is managed by the **Board of Directors**, which can have from 5 to 9 members depending on the decision of the Shareholders' Meeting. Board members remain in office for three financial years and can be re-elected. The method for selecting the members of the Board guarantees **gender representation**, an adequate number of **Directors representing minorities** and **Independent Directors** in accordance with the law[52].
**The Board in office**, appointed in May 2020, is composed of 9 directors, 4 of whom are women.
As at 31 December 2022, and considering the date of first appointment of the BoD, Directors have an average term of office of approximately 3.8 years.

The Board of Directors met fifteen times during the year.
**The Chief Executive Officer** is the only **executive Director.**
In accordance with the *Corporate Governance Code*, **Acea carries out a *board evaluation annually***, availing of an external advisor in order to assess the adequacy of the **dimension**, **composition and function of the BoD and its internal Committees**, as well as the issues discussed.

The ***Report on corporate governance and shareholders' structure***, available on the Group's website (www.gruppo.acea.it), provides information about the Directors of Acea SpA: CVs, gender, **qualification of independence**, **Directors' interests and related party transactions**, presence in meetings of the Board and the Committees they are members of and any positions in other Companies. The Report also describes the appointment and replacement process for members of the Board of Directors as regulated by the Articles of Association.

**Table no. 10 – Structure of the Board of Directors and Committees of Acea SpA (as at 31.12.2022)**

| | Role in the BoD | Appointments and Remuneration Committee | Control and Risks Committee | Ethics and Sustainability Committee | Executive director | Independent director |
|---|---|---|---|---|---|---|
| Michaela Castelli (*) | Chairperson | | | | | |
| Fabrizio Palermo (**) | CEO | | | | X | |
| Liliana Godino | Director | Member | Chairperson | | | X |
| Gabriella Chiellino | Director | Member | | Chairperson | | X |
| Massimiliano Capece Minutolo Del Sasso | Director | Chairperson | Member | Member | | X |
| Alessandro Caltagirone | Director | | | | | X |
| Massimiliano Pellegrini (***) | Director | Member | | | | |
| Giacomo Larocca | Director | | Member | Member | | X |
| Francesca Menabuoni (****) | Director | | Member | Member | | |

(*) On 14 February 2023, Director and Chairperson of the Board of Directors Michaela Castelli resigned from her position as Director and Chairperson of the Board of Directors, and on 17 February 2023 Barbara Marinali was appointed as Director and Chairperson of the Board of Directors.
(**) Director and CEO Giuseppe Gola and the Board of Directors of Acea reached an agreement for the consensual termination of the existing relationship on 26 September 2022. On the same date, Fabrizio Palermo was appointed Director and CEO.
(***) Director Giovanni Giani tendered his resignation as Director on 27 June 2022 due to other professional commitments. Director Massimiliano Pellegrini was appointed to replace Giovanni Giani at the board meeting of 18 July 2022.
(****) The Director Diane Galbe, following the new appointment, submitted her resignation to the Acea BoD on 25 February 2022. Director Francesca Menabuoni was appointed to replace Diane Galbe by the Acea Ordinary Shareholders' Meeting of 27 April 2022.

## THE ROLE AND POWERS OF THE BOARD OF DIRECTORS IN ACEA

The **duties lying with the Board of Directors** pursuant to the law provisions, the Articles of Association and in compliance with the recommendations provided in the *Corporate Governance Code* include:

- Definition of the strategic direction;
- Economic and financial coordination of the Group's activities;
- Definition of the guidelines of the Internal Control and Risk Management System (SCIGR), nature and level of risk compatible with the Company's strategic objectives, including **significant risks for medium-long term sustainability**;
- Establishing the Committees required by the *Corporate Governance Code* and appointing their members;
- Adopting the *Organisation, management and control model* as pursuant to Legislative Decree no. 231/01;
- Assessing the adequacy of the organisational, administrative and accounting structure of Acea and its strategic subsidiaries;
- Interacting with the shareholders, encouraging their participation and enabling them to exercise their rights;
- Evaluating the independence of its non-executive members at least on a yearly basis.

52 Pursuant to art. 147-ter., para. 4 of Legislative Decree 58/98, so-called Finance Act (TUF), the minimum number of independent Directors must be 1 in the case of a BoD up to 7 members, 2 in the case of BoD exceeding 7 members. During the year the BoD verified that the Directors met the conditions required to qualify as independent. As at 31/12/2022, 5 Directors are effectively independent.

## FUNCTIONS OF THE CHAIRPERSON AND CHIEF EXECUTIVE OFFICER

The **Chairman** is the legal representative of the Company and is vested with powers of signature. He/she also convenes and chairs the Board of Directors and Shareholders' meetings. The Chairman supervises the secretariat of the Board of Directors of the Parent Company and oversees the proceedings of the Board of Directors, ensuring the timeliness and completeness of the meeting and pre-meeting information; ensures that appropriate information flows are in place between Acea and the Group companies in order to monitor the consistency between the strategic guidelines and the performance; verifies the implementation of the resolutions adopted by the Board of Directors and the rules and principles of Corporate Governance, also in implementation of the powers reserved to the Board of Directors. He also presides over the topics of ***corporate social responsibility***.

The **Chief Executive Officer** is entrusted with the ordinary business of the Company. He/she has signing powers for the company and legal and procedural representation and any other powers delegated to him/her within the limits of the law and the By-laws. His/her terms of reference are based on long-term plans and annual budgets approved by the Board of Directors. Moreover, he/she ensures and monitors compliance with operating guidelines, implementing organisational and procedural changes to the Parent Company's activities consistent with the guidelines issued by the Board of Directors.

**The Chairperson and the Chief Executive Officer** may jointly implement acts reserved for the Board of Directors concerning contracts, purchases, participation in tenders, issue of sureties, appointment of members of the Board of Directors and Boards of Statutory Auditors of the most significant subsidiaries and affiliates when the urgency of the matter does not allow their convocation, informing the Board at its first subsequent meeting, which shall establish the existence of proven urgency and need.

## MANAGEMENT AND COORDINATION OF THE ACEA GROUP

The **Acea Group Management and Coordination Regulation**, approved by the Board of Directors of Acea SpA, defines the general rules that regulate **governance relations** between the Parent Company and the **Companies directly or indirectly controlled by it** and subject to its **management and coordination**. The Regulation establishes the Acea Group's organisational guidelines and code of conduct, aimed at guaranteeing and guiding the management of the Subsidiary Companies towards **common Group objectives**, consistent with the **strategic guidelines defined by the Parent Company**, to achieve a more effective **risk monitoring process** to maximise shareholder value, as well as to ensure effective **focus on stakeholders** in the areas in which Acea operates.

When conducting its business, the Parent Company seeks to **balance the interests involved**, drawing inspiration from the principle of "compensatory advantage", according to which individual transactions must be examined and assessed *ex ante* by each Company in the light of any other advantage (real or potential) derived by the same Company from the pursuit of Group interests and policy. The transactions carried out by each Subsidiary **must therefore not be considered solely in the interest of the Company itself, but in the broader context** of the economic, asset-related and financial expectations, directly or indirectly deriving from the economic, asset-related and financial strategies of **the entire Group**.

## INTEGRATED GOVERNANCE INDEX 2022 AND ACEA POSITIONING

The **Integrated Governance Index** (IGI) is a consolidated analysis which assesses companies' evolution against **sustainability governance developments.** The questionnaire underlying the index, now in its seventh edition in 2022, is addressed to the top 100 Companies listed on the Italian Stock Exchange, to the Companies that publish a Non-Financial Statement pursuant to Legislative Decree no. 254/2016, and to the top 50 non-listed financial and industrial Companies in the Mediobanca classification. The **questionnaire** consists of **an ordinary area, divided into ten areas of analysis**, and **an extraordinary area, which varies each year**, and explores particularly significant issues. In 2022, the extraordinary area focused on the **extended ESG identity**, also considering the supply chain.

The topics examined by the ordinary area range from the Corporate Governance Code to remuneration linked to ESG aspects, from the purpose to ESG digital governance.

**Acea**, now in its sixth year of participation, **achieved a score of 60.45** (scale of 0-100), coming 16th out of a total of 86 respondents and recording an improvement compared to the previous year (score of 59.23 and 21st place out of 80 respondents). In particular, Acea significantly outperformed other listed companies in areas such as **Board and Sustainability Committees, Human Resources** and **the integration of ESG issues into strategies.** Areas where Acea performed less well this year were **Succession Plans** and the **integration of ESG into remuneration policies.**

In accordance with current legislation, the Ordinary and Extraordinary **Shareholders' Meeting may be called up by the Board of Directors** and **at the request of shareholders** representing at least 5% of the share capital. Furthermore, in compliance with such provisions, the shareholders representing at least 2.5% of the share capital may request the addition of new topics be added to those to be discussed and submit resolution proposals for matters already included in the agenda of the Meeting.
Shareholder participation is facilitated by technology-based interactions (electronic notice of proxies; notice of call posted on the website). Prior to the date set for the meeting, the shareholders may submit enquiries regarding topics on the agenda, also by email. There are no shares with limited voting rights or devoid of such right[53].

Except for the shareholder Roma Capitale, restrictions shall apply to the voting right of shares exceeding 8% of the share capital, as laid down by the Articles of Association. Neither shareholders' agreements nor special rights of veto or in any way affecting the decision-making process exist other than as a result of the equity interest held.

Within the Parent Company there are also several temporary or permanent **Internal Committees** involving representatives from the management team, which handle significant aspects of corporate management, such as the Coronavirus Prevention Committee that was set up at the onset of the pandemic and, in 2022, the Equality, Diversity & Inclusion Committee.

## TOP MANAGEMENT REMUNERATION DETERMINATION PROCESS

A **Remuneration policy** is in place in Acea concerning top management, directors tasked with specific duties and executives holding key positions.
The remuneration system regarding these individuals is based on a **clear and transparent process**, with a key role being played by **the Appointment and Remuneration Committee** which formulates proposals regarding the remuneration Policy and the **Board of Directors** of the Company which approves them. The role of the two main corporate governance bodies ensures the observance of rules which avoid producing conflicts of interest and ensuring clarity through adequate information.
The Shareholders' Meeting, pursuant to art. 2389 of the Civil Code, may decide not to intervene in determining the remuneration of the executive directors and members of the Committees, or may establish the maximum threshold, leaving the Board to decide on how to allocate it. It also resolves in favour of or against (binding resolution, pursuant to article 123-ter of the Consolidated Law on Finance, paragraph 3-ter), the first section of the Remuneration Report (paragraph 3 of the same article) and in favour of or against (non-binding resolution, pursuant to article 123-ter of the Consolidated Law on Finance, paragraph 6) the second section of the Remuneration Report (paragraph 4 of the same article). The Board of Directors determines the remuneration of the Chairperson, Chief Executive Officer and other Directors with specific duties, on proposal by the Appointments and Remuneration Committee, and also the remuneration due to the members of the Committees within the Board of Directors and the remuneration of the Executives with strategic responsibilities. The BoD, unless the Shareholders' Meeting has already done so, determines the breakdown of the overall remuneration among the individual Board members.
Finally, please note that the remuneration of board members remained unchanged from the resolution of 5 June 2014;
For more details see the *Report on the remuneration policy and on the fees paid* – 2022 available on the website www.gruppo.acea.it.

Under the regulations in force (CONSOB Issuers' Regulations), the Report on the Remuneration Policy and on the Fees Paid must include information on the shareholdings of members of the Board of Directors and Board of Statutory Auditors, General Managers and other Executives with strategic responsibilities; therefore, the shares held at the end of the reference year are reported, as well as details of those purchased and/or sold during the year. There are no specific requirements for the ownership of shares by Acea SpA Directors, but under Acea's Internal Dealing regulation, in line with market abuse regulations, transactions must comply with certain obligations (over-the-limit transactions and blackout periods).

53 With the exception of 416,993 own shares (corresponding to about 0.2% of the total shares) for which the right of vote is suspended pursuant to art. 2357-ter Civil Code. See also the *Report on corporate governance and the shareholders' structure*.

## INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM

**Acea's Internal Control and Risk Management System** (SCIGR), which plays a central role in the Group's corporate governance structure, consists of a set of people, tools and organisational structures intended to:

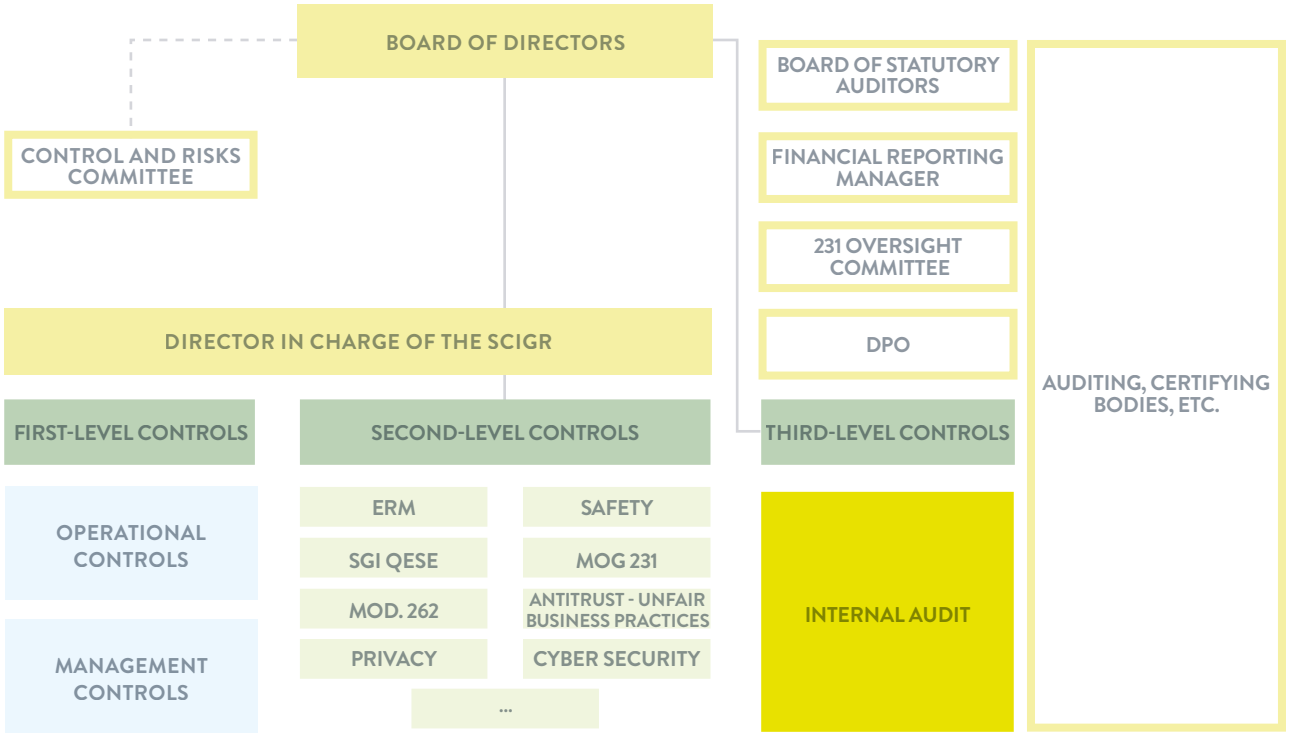
- **identify the risks** that can affect the pursuit of the objectives defined by the Board of Directors;
- encourage **the taking of conscious decisions** that are consistent with the company's objectives, within the context of a widespread knowledge of the risks and the level of tolerance to them, legality and company values;
- **safeguard the company's assets**, **the efficiency and effectiveness of its processes**, **the reliability of the information** provided to corporate bodies and the market and compliance with internal and external regulations.

The **Internal Control and Risk Management System Guidelines** promote the sound management of the Group in line with the corporate objectives through a process of identification, measurement, management and monitoring of the main risks and the activation of information flows to ensure sharing and coordination between the various actors involved. The Guidelines take into account the recommendations of the *Corporate Governance Code* of Borsa Italiana and are inspired by existing *best practices*, in particular **COSO – Internal Control – Integrated Framework** (*Committee of Sponsoring Organisations of the Treadway Commission*) and are intended to:

- Provide guidance for the actors of the SCIGR, **so that the main risks** pertaining to the Acea Group, including those regarding **sustainability in the medium-long term**, are **correctly identified** and adequately **measured**, **managed and monitored**;
- **identify principles and responsibilities** with regards to governing, managing and monitoring risks linked to company activities;
- Provide for **control activities** at all operational levels and identify tasks and responsibilities to ensure coordination between the main subjects involved in the System.

Risk management is a **cross-cutting process** with **widespread responsibilities among all the parties of the company**: the Board of Directors and the Board Committees, the Director in charge of the SCIGR (who is also the Chief Executive Officer), the Board of Statutory Auditors, all the managers and employees, the Manager in charge, the second level Supervisors, the Oversight Committee, Data Protection Officer, the Internal Audit Function and the Risk & Compliance Function.

**Chart no. 14 – The architecture of the SCIGR**




Employees and operating structures responsible for risks and their daily management

Corporate functions which supervise management of certain risks through control and monitoring

Functions which ensure and independently check the SCIGR's adequacy

**Chart no. 15 – The key players of the SCIGR**

| | |
|---|---|
| | **BoD**: determines the guidelines of the SCIGR **so that the main risks for Acea and its subsidiaries are identified**, **measured and managed** |
| | **Appointed Director**: implements the SCIGR guidelines and takes care – also by using the Audit and Risk & Compliance Departments – of the identification of the main corporate risks, subjecting them periodically to the BoD |
| | **Board of Statutory Auditors**: monitors the legislative and procedural conformity and the correctness of the administration |
| | **Company staff**: acts with different responsibilities, from management to workers, in maintaining an efficient process of identifying managing risks, operating with respect to the procedures and performing activities of control on the line |
| | **Financial Reporting Officer**: is responsible for establishing and maintaining the Internal Control System regarding Financial Statements |
| | **Risk & Compliance – ERM**: defines the risk assessment and prioritisation methodology and coordinates the management of the periodic *Risk Assessment process* |
| | **Oversight Committee**: has powers of initiative and action regarding the operation of the 231 Model |
| | **Data Protection Officer**: in charge of overseeing company organisation compliance with Reg. EU 679/2016 through guidance, control and monitoring activities |
| | **Internal Audit**: carries out independent audits on the operations and suitability of the SCIGR using an audit plan (risk based) approved by the BoD and monitors the execution of the action plans issued following the audits performed |

Dedicated corporate structures in the Holding Company oversee specific models for **monitoring risks**, including risks relating to the potential commission of crimes.

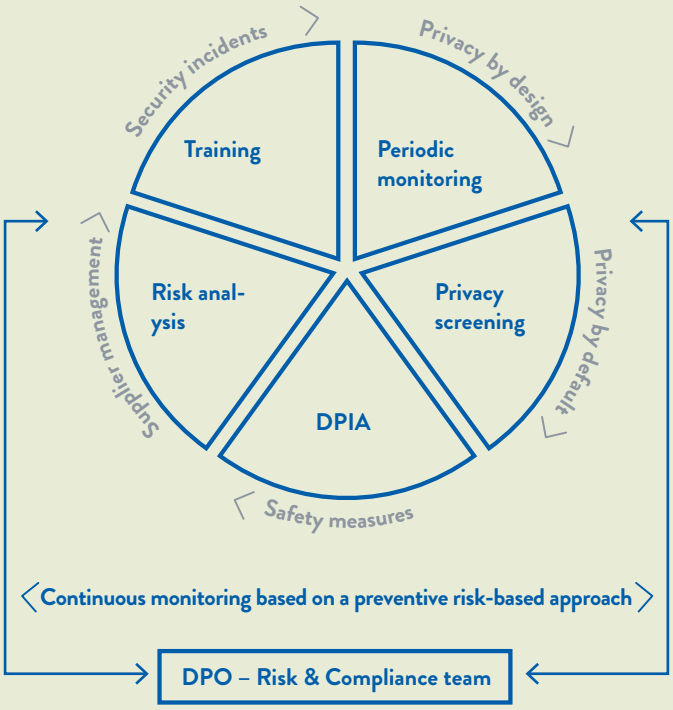
The internal control structures **constantly monitor and adapt** their operating models in order to oversee the relevant risks in the best manner possible.

**Table no. 11 – Models and controls**

| Models and controls | Oversight areas |
|---|---|
| **Guidelines of the Management and Control Model pursuant to Law 262/2005** | Risks connected with the **Group's Financial Reporting** |
| **Privacy Governance Guidelines** | compliance with EU Regulation 2016/679 (GDPR) and other national and European provisions on the **protection of personal data** |
| **Antitrust Compliance Programme** | compliance with **antitrust and consumer regulations** and development of a corporate culture to ensure the protection of competition and consumers |
| **Oversight of Cyber Security** | **cyber** risk, also in compliance with EU Directive 2016/1148 on European Information Systems and Networks (NIS) |
| **Oversight of ISO45001 and ISO14001** | **occupational health and safety** risks and **environmental risks** |
| **Organisation, Management and Control Model pursuant to Legislative Decree 231/2001** | risk of commission of **administrative offences and crimes** in the areas covered by Legislative Decree 231/2001 |

## THE ACEA "PRIVACY GOVERNANCE MODEL"

Acea has adopted a **Group Privacy Governance Model**, compliant with the indications of Regulation (EU) 2016/679 on data protection (GDPR), which constitutes the **organisational** and **control framework** in which the roles and responsibilities and the implementing methods of the basic principles of the Privacy regulation are identified, with a ***preventive risk-based*** approach supported by **continuous monitoring** and periodic reviews.




This Model - which is also adopted by the Subsidiary Companies - is reviewed annually on the basis of the performance in previous years and is amended to strengthen its effectiveness (**Control Framework**).

Acea oversees the **various areas** with an **impact on privacy**, gradually leading to the adoption of policies on remote working, data security management and compliance.

In 2022, the **risk analysis** of all data processing included in the Parent Company's records was completed, aimed at ensuring the constant and prompt update of the associated risks. Processing considered to be potentially high risk, according to the specific situation, is subject to specific analyses such as the **DPIA** (*Data Protection Impact Assessment*), **LIA** (*Legitimate Interest Assessment*) and **TIA** (*Transfer Impact Assessment*). For outsourced activities, specific contractual tools were adopted to govern personal data processing and continuous monitoring of *procurement* activities is ensured.

During the year, the provisions issued by the Italian Data Protection Authority, such as those concerning Google analytics, were implemented, and other initiatives were launched:

- an **internal awareness campaign**, with the promotion on the company intranet of "training pills" on key data protection concepts;
- the development, in collaboration with the physical and cyber security departments of the Parent Company, of a **second-level governance and monitoring tool (PSRC tool)**, consisting of a library of 62 risk-adapted control measures/domains, aimed at overseeing privacy security and data protection risks;
- **a GDPR compliance pilot project for suppliers**, appointed as data controllers, in order to comply with the obligations of supervision and control over the processing of personal data for the Acea Group.

## ANTITRUST COMPLIANCE PROGRAMME

**Antitrust law and consumer protection regulations** represent key compliance areas and are a major focal point for the Acea Group, which has implemented a project to revise and update the existing **Antitrust Compliance Programme**, with the aim of defining and formalising a structured and high-profile Antitrust Compliance Governance Model. Building on its experience and the insights offered by the enforcement practice of the Italian Antitrust Authority, the Group is able to strengthen the internal control system in this area and to refine compliance strategies, in accordance with the guidelines provided by case law and by the Italian and EU antitrust authorities. In 2022, Acea's Board of Directors approved the "**Antitrust Compliance and Consumer Protection Guidelines**", which aim to provide subsidiaries with a common framework that outlines the guidelines for the implementation of their own Antitrust Compliance Model, each according to its own specific characteristics. The Subsidiary Companies appoint an Antitrust Officer who is responsible for the implementation of the Model.

## CYBER RISK, INFORMATION ASSETS AND ICT SYSTEMS

The development of digital technologies for the management of infrastructure and essential services requires the parallel development of measures to combat **cyber security threats**.

According to scenario data, the number of cyber attacks in the energy sector **in the first half of 2022** was **42% higher than the total number of attacks in 2021**; during the same period, the costs incurred by companies due to cyber damage tripled, and this figure is expected to double again by 2025 At the same time, the European Union intervened on the evolution of the sector's regulations, while in Italy the Italian Cyber Security Regulatory Authority (ACN - Agenzia per la Cybersecurity Nazionale) became fully operational. **Cyber security** and the **development of skills** in all Information Security domains (technology, legal, risk management, incident management, training, etc.) are therefore becoming highly **strategic areas**.

In 2022, the holding company's **Cyber Security Unit** continued to develop capacities and optimise its technological innovation, processes and organisation, and plays a key role in the security of the

Group's operating companies. In particular, a new strategy, objectives, technologies and processes were defined in the areas of IT, OT and IoT, applying a **holistic and unified approach** to the increasingly challenging issue of **security**. During the year, the second phase of the **cyber risk analysis programme** was conducted, increasing the number of assets in the scope of the analysis and attempting to develop an integrated risk overview in the relevant areas. The **Vulnerability Management Programme**, aimed at researching and mitigating vulnerabilities was consolidated, extending the scope of the analysis and developing the supporting technologies, while the **Security by Design** process, which focuses on **defining IT security requirements** and is fundamental to developing business-oriented technology projects, was also strengthened.
Thanks to the development of **Cyber Threat Intelligence**, the volume of **managed information** deriving from within and outside the Company was significantly **expanded**, laying the foundations for the comprehensive and integrated monitoring of the cyber climate. In addition, the creation of a catalogue of **security services**, delivered as a continuous service or on demand, has improved the efficiency and cost effectiveness of the cyber risk management service, also consolidating cyber security as a competitive advantage for the business.
Other measures implemented to improve the Group's cyber resilience, particularly in the **Cyber Legal** area, include a **regulatory monitoring** service aimed at identifying cyber security legislative initiatives that directly impact the context in which Acea operates, and, in this regard, proactively identifying the necessary compliance measures.
To develop **institutional accreditations**, meetings were held with the main institutions aimed at consolidating Acea's position as a strategic partner in the field of cyber security and as an active participant in the definition and revision of directives and implementing decrees on the subject, establishing the company as a major player both in the protection of critical infrastructures and in the security of the Energy and Water sectors.
**Real-Time Security Monitoring** and **Incident Management** capabilities were increased tenfold, partly in response to the **current geopolitical scenario** which **strongly impacted the cyberspace in 2022**. For example, in January 2022 there was a marked increase in cyber attacks from Eastern Europe, **peaking in February** when attacks rose from 2 million per month to over 9 million per month.
Finally, the **awareness and training campaign** aimed at the entire company workforce to develop knowledge and individual skills on cyber security continued. Acea also continued to take part in the **ECHO programme**, the European network of Cybersecurity centres and competence Hub for innovation and Operations, to establish a Europe-wide network of cybersecurity centres, and in the **H2020 ATENA** project on the security and resilience of digital infrastructures.

## PROTECTION OF PHYSICAL AND DIGITAL ASSETS AND MANAGEMENT OF INTERNAL RISKS

The **Security Unit** is part of the Human Resources Department and is responsible for defining the **guidelines** and policies on the safeguarding and protection of the **company's physical assets**, as well as associated actions aimed at **preventing fraudulent conduct** and ensuring compliance with current security regulations. It also oversees the design, installation and maintenance of the Security Systems for the company sites of subsidiary companies and coordinates **the implementation of plans for the continuity of operations and the management of emergencies**.
The Security Unit manages the security and **reception facilities and personnel** and controls the **Security Operating Room (SOS)**, the video surveillance, anti-intrusion and alarm systems; lastly, in collaboration with the relevant structures and companies of the Group it coordinates the proper performance of the **activities required by judicial authorities**, **security institutions and the police**.
In 2022, the IT equipment in the **Security Operations Room** was replaced; as part of the project, **PAM systems** using **AI**-based password protection and software encryption technology were developed and installed to mitigate the risks and possible effects of hacker attacks. The Group continued to monitor and manage the risk associated with the Covid-19 pandemic at its sites.

Within the framework of the Internal Control and Risk Management System, Group companies adopt their own **Organisation, management and control models pursuant to Legislative Decree no. 231/2001** to prevent the risk of certain crimes or administrative offences committed in their interest or benefit by senior management or subject to the management or supervision of the latter. The development of the Models is preceded by a **mapping of the business areas concerned** (so-called "risk areas") and the **identification of sensitive activities and potential offences**. The Models are promptly **updated** in response to changes in the organisation or activities carried out, or following the introduction of new cases in the catalogue of predicate offences of the aforementioned Legislative Decree. In 2022, regulatory updates to Legislative Decree no. 231/2001 concerned the entry into force of Law no. 9/2022 containing "Provisions on crimes against cultural heritage", which introduced "Crimes against cultural heritage" (Art. 25-septiesdecies) and "Laundering of cultural assets; destruction and looting of cultural assets and landscape" (art. 25-duodevices) as new offences.
For Acea, **the adoption of principles** and compliance with the rules set out in the Company Code of Ethics – an integral part of the 231 Model and the internal control system – are also relevant to prevent the crimes pursuant to Legislative Decree no. 231/2001, as well as representing a key reference for recipients of the Code. The **Oversight Committee** (**OC**), which is designated as a key player under the Decree, **has full and autonomous powers** of initiative, action and control **regarding the operation, effectiveness and observance of the specific Models**. Organisational controls are managed by the **Internal Audit Function**, which ensures the verification and monitoring of certain processes instrumental to Legislative Decree no. 231/2001, such as the circumstances in which the **conditions or means** for the commission of several offences could manifest, on behalf of the Oversight Committee of the subsidiaries that have adopted the Model.

The **Internal Audit** function carries out the controls envisaged in the **Audit Plan**, **approved by the Board of Directors** and subject to the opinion of the Control and Risk Committee. The Plan is drawn up **on the basis of the analysis and prioritisation of the main risks for Acea and its subsidiaries**, carried out during the *Risk Assessment*,

also thanks to the monitoring carried out by the corporate Functions responsible for second-level controls.
In 2022, **around 91% of the Plan activities** concerned **corporate processes deemed as exposed** to the **risks as per Legislative Decree no. 231/2001**, amongst which the crimes regarding **corruption**, the **environment**, and in violation of **injury prevention laws and the laws safeguarding occupational health**.
With regard to audits of processes **related to corruption risks**, there are, in particular, periodic audits of sponsorships, consulting, personnel selection, purchasing and payments, and out-of-court settlements for all subsidiaries that adopted the Model pursuant to Legislative Decree no. 231/2001.
As required by the professional standards of the **Institute of Internal Auditors** (IIA), the audits also assess the specific fraud risks of the process analysed and test the operation of the related controls.
With reference to ***detection audit*** activities, **23 *Key Risk Indicators*** have been adopted for the purchasing area, which are analysed periodically.

## REPORTS RECEIVED ON THE CODE OF ETHICS AND THE ROLE OF THE ETHICS OFFICER

In November 2022, the Board of Directors of Acea SpA adopted the new **Code of Ethics**, revising and updating the 2018 version. In addition to reflecting regulatory and organisational developments, the update aimed to make the Code of Ethics more usable and applicable to the various businesses within the Group, and to enable the **wider dissemination of Acea's principles and values** to all Group companies and individuals.
Meanwhile, references were added to the principles and standards associated with the Group's strategic initiatives, particularly those related to **sustainability**, and the following topics were developed:

- the protection of **human rights** in every operational context, including the supply chain;
- explicit reference to **inclusion**, the **involvement of Acea's personnel**, and **organisational well-being**;
- commitment to preserving **ecosystems** and **biodiversity**;
- commitment to defining a **climate change** mitigation and adaptation strategy;
- the importance of dialogue and discussion with **stakeholders**;
- interacting with sustainability-conscious **suppliers**.

Acea has a procedure **which can be activated by both employees and external parties**, for the receipt, analysis and processing of **reports** – so-called "***whistleblowing***" reports – relating to potential violation of the law, the internal rules and the *Code of Ethics*, as well as issues pertaining to the Internal Control System, corporate information, the Company's administrative responsibility (Legislative Decree no. 231/2001), fraud and conflicts of interest, while ensuring the **maximum level of confidentiality and privacy** when processing the reports received in order **to protect the whistleblower and the reported party**. The **"*Comunica Whistleblowing*" company IT platform** uses an advanced encryption system for communications and its database to guarantee compliance with required regulatory standards (Law no. 179/2017), **confidentiality** for whistleblowers, secure filing of documents sent and uploaded to the system and confidential management of analysis and other processes.
The reports related to alleged violations of the *Code of Ethics* and the SCIGR of the Group companies are sent **to the Ethics Officer**, **the collegial body within the Group that manages the system for reporting alleged violations** due to non-compliance with the law, the internal regulations and the *Code of Ethics* and monitors observance of the values of transparency, legality, fairness and ethical integrity in relations with all stakeholders. The Ethics Officer also prepares **periodic reports** on the main findings to company top management and the supervisory bodies.
In 2022, **38 reports were received by the Ethics Officer,** of which 24 related to alleged violations of the Code of Ethics and 14 to other cases (commercial complaints, reports of alleged abusive connections to the water and electricity networks) and were therefore classified as 'not relevant'; 16 of these reports were sent to the Ethics Officer's e-mail address, 12 by regular mail and 10 by the Whistleblowing Platform.
The **24 "relevant" reports** concerned: 4 on customer relations, 7 on health, safety and environment, 6 on procurement and supplier relations, 2 on human resources, 2 on protection of company assets, 1 on transparency and fairness, and 2 on compliance with company regulations. **At the end of the investigations**, 7 reports were assessed as "justified" and, therefore, the relevant corrective actions were taken, 14 reports were assessed as "unjustified", 2 were filed as "unsubstantiated" and "unverifiable", and 1 was classified as "suspended", pursuant to the Whistleblowing procedure, as it concerned a labour dispute with an employee.
Failure to comply with the Code of Ethics by employees may result in disciplinary measures, as defined in the Code itself and in the OMC Model 231 adopted by Group companies, such as fines or suspension from service which may affect remuneration.
The Ethics Officer is also **tasked with supporting** the company departments appointed to ***Code of Ethics* training**, by promoting **communication programmes and activities intended for their maximum dissemination**, in addition to the Ethics and Sustainability Committee in monitoring the adequacy and implementation of the *Code of Ethics*, for the matter within its remit. To this end, the Ethics Officer can suggest that the Ethics and Sustainability Committee issue or amend any guidelines and operating procedures in order to reduce the risk of violation of the *Code of Ethics* and indicate opportunities to update it. In 2022, the Ethics Officer periodically monitored the uptake of training on the Code of Ethics and Whistleblowing. Furthermore, two live training sessions on the whistleblowing process were held by the Ethics Officer aimed at managers and senior management.

### INTEGRATED ANALYSIS AND RISK MANAGEMENT METHOD

Thanks to the **ERM Programme**, based on the **COSO framework** "*Enterprise Risk Management (ERM) - Integrating with Strategy and Performance*" 2017, the Acea Group is**improving the integrated vision and proactive management of risks.**

The aim of the ERM process is to:

- represent the **type and significance** (probability and economic-financial and/or reputational impact) **of the main risks, also with impacts on sustainability**, that may jeopardize the achievement of the Group's strategic and business objectives;
- addressing response strategies and subsequent additional mitigation actions.

The methodology and tools uses to identify risks and assess their severity in a consistent manner at a Group level, through the **definition of the Risk Model,** has further focused attention on **ESG aspects** and the risk scenarios associated with the **issues that emerged from the Materiality Analysis** (see "Communicating Sustainability: Methodological Note" for more details). During the Risk Assessment, performed at least once a year at Group level, the Risk Owners identify the risk scenarios related to the **Acea material topics**, highlighting the possible impact and typical control activities implemented in order to manage and mitigate them. The results of the ERM Process are also taken into account when **planning actions to mitigate risks and seize opportunities** by Group companies with certified Management Systems.

The **Group Risk Assessment Report**, drawn up downstream of the activities and according to the schedule defined above, provides the Board of Directors and Committees of Acea SpA with an overview of the Group's overall risk profile and its evolution over time. Furthermore, at the request of the supervisory and/or administrative bodies, the Risk & Compliance Function may be called upon to produce specific reports associated with risk assessments on particular areas, including ESG topics, in line with the methodology and ERM framework.
The ERM processes allow for constant interaction between the ERM Unit of the Parent Company's Risk & Compliance Function and the *focal points* in the Risk & Compliance Units of the Operating Companies (see Chart no. 16).

**Chart no. 16 – The ERM Unit and the corporate focal points**

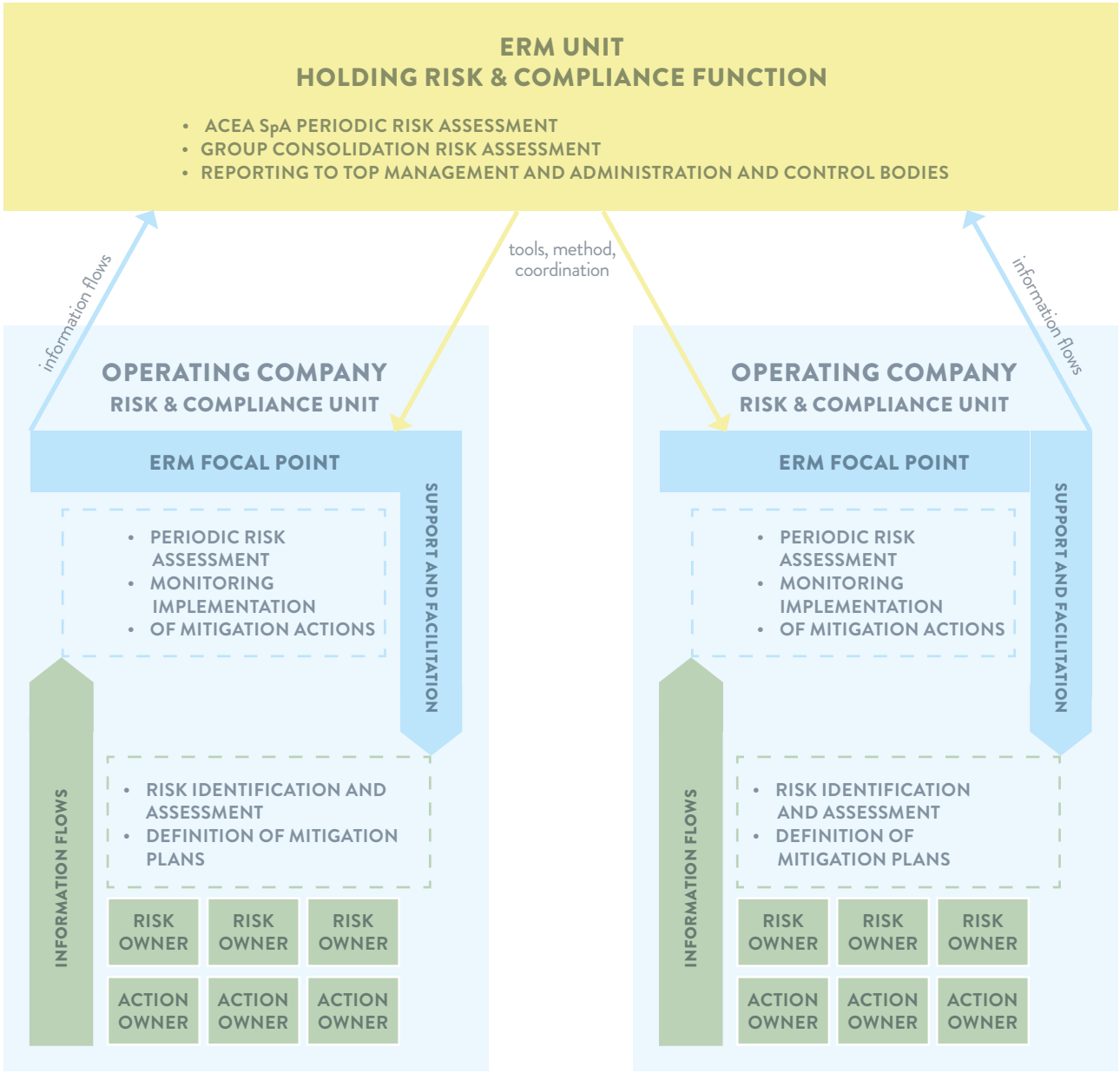


**Table no. 12 – Acea material topics, risks and management methods**

| Highly significant material topic and related risk | Potential impact on Acea | Potential impact on stakeholders | Risk management approach and associated impacts |
|---|---|---|---|
| **SUSTAINABLE AND CIRCULAR WATER MANAGEMENT**<br>adverse natural events and/or climate change (*);<br>authorisation delays impacting on optimal management conditions | economic/financial<br>reputational | *natural environment, communities/citizens, inhabitants served by the water service, ecosystem innovation and research/business partners/ scientific communities/ membership bodies, institutions* | • Policies, processes and procedures (relations with institutional representatives and authorisation bodies)<br>• Dedicated organisational structures<br>• Focus of investments<br>• *Business Continuity* and Maintenance Plans<br>• Specialist studies and analyses (ISO 17025)<br>• IT security systems |
| **ETHICS AND INTEGRITY IN BUSINESS CONDUCT**<br>Conduct contrary to binding regulations, internal rules and standards of reference | economic/financial<br>reputational | *communities/citizens, inhabitants served by the water service, Areti users, Acea Energia customers, shareholders and investors, employees, suppliers/production chain, innovation and research ecosystem/business partners/ scientific community/ membership bodies, institutions* | • Policies, processes and procedures (Code of Ethics – Organisation, Management and Control Model 231/2001 – Whistleblowing system)<br>• People and organisation (training and communication plans)<br>• Monitoring and periodic reporting |
| **PROTECTION OF ECOSYSTEMS AND BIODIVERSITY**<br>Exceeding the emission limits envisaged by laws and authorisation decrees;<br>failure to meet targets to increase renewable energy consumption;<br>impacts on environmental balance conditions caused by plants that unexpectedly do not comply with legal limits | economic/financial<br>reputational | *all stakeholders* | • Policies, processes and procedures (ISO 14001 and EMAS)<br>• People and organisation (dedicated structures and training)<br>• Focus of investments<br>• Monitoring and support tools<br>• Specialist studies and analyses<br>• Periodic reporting<br>• Maintenance plans<br>• Remote control and remote management applications |
| **CLIMATE CHANGE AND ENERGY TRANSITION**<br>failure to build sustainable plants and to adapt operating practices to the evolution of climate change and to achieve the dissemination objectives of consumption from renewable sources (production of energy from renewable sources, resilience of the electricity grid, availability of water) | economic/financial<br>reputational | *all stakeholders* | • Policies, processes and procedures (ISO 50001, ISO 14001, UNI 11352 and EMAS)<br>• Dedicated organisational structure<br>• Specialist studies and analyses<br>• Focus of investments<br>• Periodic reporting |
| **TECHNOLOGICAL INNOVATION AND DIGITAL TRANSFORMATION**<br>operational inefficiency due to technological and innovative inadequacy;<br>Cyber risk/Operational Technology (*) | economic/financial<br>reputational | *all stakeholders* | • Policies, processes and procedures (dialogue with institutional counterparts)<br>• Monitoring and periodic reporting<br>• People and organisation (training and skill consolidation)<br>• IT security systems |
| **MANAGEMENT AND TREATMENT OF WASTE FOR A CIRCULAR ECONOMY**<br>failure to comply with regulations;<br>obstacles in the waste treatment and delivery market (*) | economic/financial | *natural environment, communities/citizens, new generations, suppliers/ production chain, ecosystem innovation and research/ business partners/scientific communities/membership bodies* | • Policies, processes and procedures<br>• (ISO 14001 and EMAS)<br>• People and organisation<br>• (specific units and training)<br>• Periodic reporting<br>• Audits on customers/suppliers/partners<br>• Consolidation through corporate acquisitions (M&A)<br>• Monitoring and control plans |
| **OCCUPATIONAL HEALTH AND SAFETY**<br>accidents at work, risk of spreading disease | economic/financial<br>reputational | *employees* | • Policies, processes and procedures (ISO 45001, Biosafety Trust, ISO39001)<br>• People and organisation (dedicated structure, training and communication plans)<br>• Supplier checks<br>• Extraordinary maintenance on plants serving the offices, office sanitisation<br>• Monitoring and periodic reporting |

| | | | |
|---|---|---|---|
| **DIALOGUE AND ENGAGEMENT WITH STAKEHOLDERS AND TERRITORY**<br>tensions with stakeholder representatives in the region with negative effects on the development of activities (*) | economic/financial<br>reputational | *all stakeholders* | • Policies, processes and procedures<br>• People and organisation (*stakeholder engagement* oversight activities, training and skill consolidation)<br>• Dialogue with counterparties |
| **SKILLS DEVELOPMENT AND EVOLUTION OF THE WORKING ENVIRONMENT**<br>lack of adequacy both in terms of skills and composition of company workforce | economic/financial<br>reputational | *employees* | • Policies, processes and procedures (remuneration and incentive policies)<br>• People and organisation (dedicated structures and training)<br>• Performance evaluation system<br>• Monitoring and periodic reporting |
| **SUSTAINABILITY IN INFRASTRUCTURE DESIGN, CONSTRUCTION AND MANAGEMENT**<br>environmental and social impacts from inadequate and failed design, construction and/ or management of plants/ networks (*) | economic/financial<br>reputational | *natural environment, communities/citizens, new generations, inhabitants served by the water service, Areti users, Acea Energia customers, shareholders and investors, suppliers/production chain, innovation and research ecosystem/business partners/ scientific community/ membership bodies, institutions* | • Policies, processes and procedures<br>• (application of sector *best practice*)<br>• Monitoring and periodic reporting<br>• People and organisation (training and skill consolidation)<br>• Implementation of specific applications<br>• Maintenance plans |
| **CUSTOMER FOCUS**<br>failure to reach service quality levels; difficulty in meeting customer expectations (*) | economic/financial<br>reputational | *communities/citizens, inhabitants served by the water service, Areti customers, Acea Energia customers* | • Policies, processes and procedures<br>• Dedicated organisational structure<br>• Periodic reporting (analysis of customers and services)<br>• Regulatory framework and reference legislation monitoring<br>• Investment in customer care software |
| **SUSTAINABILITY AND CIRCULARITY ALONG THE SUPPLY CHAIN**<br>failure to audit the procurement process; failure of suppliers to comply with the requirements (health and safety, environmental, anti-corruption) | economic/financial<br>reputational | *suppliers/production chain, ecosystem innovation and research/business partners/ scientific communities/ membership bodies* | • Policies, processes and procedures<br>• Quality monitoring of goods/services received<br>• Qualified suppliers register<br>• Specialist *benchmark* studies and analyses |
| **COMPANY WELL-BEING, DIVERSITY AND INCLUSION**<br>increased absenteeism rate; negative company climate;<br>possible lawsuits from employees | reputational | *employees* | • Policies, processes and procedures<br>• People and organisation<br>• Training and communication plans<br>• Corporate welfare initiatives (e.g. flexible benefits, health check-ups) |
| **GOVERNANCE FOR SUSTAINABLE SUCCESS**<br>non-compliance with Legislative Decree no. 254/2016; inadequacy of the internal regulatory system with respect to the guidelines of the *Corporate Governance Code* | reputational | *Shareholders and investors, employees, institutions* | • Policies, processes and procedures (updating and verification of information systems and the organisation)<br>• Board committees (Ethics and Sustainability, Control and Risks)<br>• Certification of data managers and *reporting assurance* by the auditor<br>• Monitoring and periodic reporting |

**- ECONOMIC GOVERNANCE TOPICS - SOCIAL TOPICS - ENVIRONMENTAL TOPICS**

Note: the complete list of stakeholders includes: natural environment, communities/citizens, new generations, inhabitants served by the companies of the Water area within the NFS reporting boundary, Areti users (energy distribution), Acea Energia customers (protected market, free market, gas), shareholders and investors, employees (companies in the NFS reporting boundary), suppliers/production chain, innovation and research ecosystem/business partners/scientific community/membership bodies, and institutions.

(*) Risks marked with an asterisk correspond to the main emerging risks that may have a significant impact on the Acea Group.

In 2022 a **new materiality analysis cycle** was conducted with the direct involvement of Group managers, aimed at identifying and assessing the main material topics with impacts on the company, its performance and its development. In order to develop greater synergy with the risk assessment sphere, managers were guided by qualified experts to focus on the **main opportunities associated with the identified material topics.** A number of suggestions emerged from the collective discussion, including: **the central role of new technologies and the ability to develop synergies with qualified players in the innovation ecosystem**, not only to improve industrial processes but also to develop innovative services and products for the ecological transition; the importance of **high quality relations with stakeholders**, to be sought through a careful and participatory dialogue, aimed at responding to central needs; and the need to **develop new skills and key areas of expertise for the managed businesses**.

According to the most recent report on global risks, the **Global Risk Report 2023,** published by the World Economic Forum in January 2023, the findings of the 2022-2023 Global Risks Perception Survey again place the **failure to mitigate and adapt to climate change** at the top of the list of "**top ten global risks**", which represent the greatest long-term (ten-year) threats, followed by the **risk of natural disasters and extreme weather events**, and **biodiversity loss and ecosystem collapse.**

*Acea* carefully **monitors this area** *and the initiatives undertaken have enabled the Group to maintain a strong position in the CDP (formerly Carbon Disclosure Project) rankings; furthermore, in order to expand on the analysis of the risk factors generated by climate change and their impacts on the businesses managed, the Group has continued its alignment process with the Recommendations defined by the Task Force on Climate-related Financial Disclosures with the* **analysis of other potential long-term risks** (*for more details see* Relations with the Environment, section *Environmental and climate risks: analyses and disclosure*).

The response to the CDP Questionnaire includes an assessment of risks and opportunities associated with the activities over a **short, medium and long-term horizon**, the main results of which are shown in Table no. 13, including the time horizon of the scenario and the most significant implications for the company, in terms of economic-financial, reputational, environmental and customer impact.

**Table no. 13 – Risks and opportunities related to climate change: CDP evidence**

| RISKS | | | |
|---|---|---|---|
| **Risk type** | **Type details and risk description** | **Most impacted business areas** | **Time frame** |
| **TRANSITION**<br>Risks arising from the ongoing transition to a decarbonised economic system (e.g. regulatory, technological, market) | **Legislative/Regulatory**<br>These risks may manifest in the following ways: higher carbon tax policies and white certificates; changes to incentive schemes; tightening of the values linked to the Emission Trading Scheme (both in terms of emissions allowed and the cost of actual emission allowances); regulatory developments that require the reduction of impacts in the conduct of business operations | Energy production (thermoelectric and waste-to-energy)<br>Electricity grid management<br>Water management | short-medium-long |
| | **Technology**<br>Technological evolution may impose the reconversion of the design of processes in order to make them less polluting (for example replacing existing plants or parts thereof with other low-emission technologies) | Energy production (thermoelectric and waste-to-energy)<br>Electricity grid management<br>Water management | medium |
| | **Legal**<br>These include risks related to the worsening of legal and economic sanctions for failure to comply with technical quality and performance standards in the electricity and water services (fines and incremental compliance costs) | Electricity grid management<br>Water management | medium-long |
| | **Market**<br>Commercial risks are attributable to the failure to adapt the products/services of the Group companies to the new requirements of customers, who are more aware of the topics of sustainability, or to the increase in poverty, also caused by climate change, which changes the habits of consumers/customers | All businesses and Commercial in particular | medium-long |
| | **Reputational**<br>Reputation risk derives from a negative perception of the company's image by its stakeholders as a result of negative events/conditions associated with climate change (e.g. interruption in services caused by the scarcity of water or by extreme weather events) | The Acea Group | short/medium term |

| | | | |
|---|---|---|---|
| | **Acute**<br>Extreme weather events such as heavy rainfall and cloudbursts place stress on the resilience of the electricity grid (interruption to power supply) but also create difficulties in the normal management of over-abundance of water in the water service: cloudbursts can also cause a temporary service disruption in wastewater treatment plants or the entire sewerage network service. Heat waves cause peaks in demand for energy/water on the electricity distribution grid/water network. | Electricity grid management<br>Water management<br>Energy production | short-medium-long |
| **PHYSICAL**<br>Risks arising from the physical effects of climatic events (acute if related to episodic phenomena, or chronic if related to long-term changes) | **Chronic**<br>The reduction in rainfall can have a negative impact on the electricity distribution service, the production of electricity by the hydroelectric plants and the availability of water for human consumption, thus causing an increase in energy consumption for the withdrawal of water.<br>The risk of more frequent lightning strikes can cause interruptions to the distribution of electricity and thus economic damage.<br>Temperature changes can cause variations in the composition of incoming waste (decomposition) in waste-to-energy plants, even changing the technological/operating needs associated with variations in emissions and the necessary processing. Incentives are also linked to the biodegradable quantity of the waste. | Electricity grid management<br>Water management<br>Energy production<br>Environment Segment | short-medium-long |

**OPPORTUNITIES**

| Drivers | Type details and opportunity description | Industrial areas affected | Time frame |
|---|---|---|---|
| Circular economy | Promotion of circular economy models and waste recovery projects, for example with waste-to-energy processes combined with material recovery (for example: bottom and fly ash recovery) | Environment Segment | medium |
| Development of photovoltaic plants | Diversification of production facilities with the acquisition and/or construction of photovoltaic plants that, in addition to receiving incentives for the feeding of electricity produced into the grid, allow balancing any reductions in hydroelectric production. | Production of electricity; technological innovation | medium |
| Increase in network resilience | Investments to improve the resilience of the electricity grid promoted by ARERA. | Distribution of electricity | medium |
| Market and services | Opportunities arising from the change in energy demand related to changes in peak ambient temperatures and the increase of the average temperature, with an impact on price growth and volumes sold | Energy sales | short/medium term |

In June 2022, following a project completed in 2021 aimed at identifying, selecting and analysing the most relevant climate risks for the main Group companies, the ***2021 Climate-Related Disclosure of the*** *Acea Group*[54] was published in accordance with the recommendations of the ***Task Force on Climate-related Financial Disclosures (TCFD)***, marking the beginning of a journey to improve awareness and financial reporting practices on the most significant aspects of climate change. The climate analysis project continued in 2022, expanding the number of Companies in the water sector involved in the analysis and increasing the physical and/or transition risks considered. For more details, see the 2022 Acea Project on the TCFD Approach box in the Relations with the Environment chapter.

Lastly, in relation to the management of **operational risks in case of emergency** and the **preventive and operational initiatives defined by the Group companies**, refer to the chapter *Institutions and the Company* (paragraph *Plans for emergency management*).

54 The document is available online at the website www.gruppo.acea.it.

## ANALYSIS OF POTENTIAL ENVIRONMENTAL RISKS

The companies operating in the **water, energy infrastructure and generation and the environment** business areas that have ISO 14001:2015 certified environmental management systems identify the **potential negative environmental impacts** generated by the activities in relation to specific events or operations.

For the **water** sector, the main risks concern: acute or chronic climatic phenomena or seismic events, which could cause structural failure or malfunctions of plants and network systems managed, causing water shortages for users or accidental spillage of pollutants; inefficient operational management of water, which could cause high levels of losses with consequent excessive consumption; water stress; possible breach of water control parameters with environmental consequences; inadequate interventions on the sewage treatment system with possible contamination of the soil and water bodies; risks of fires and explosions in treatment plants related to the production of biogas, with possible impacts in terms of emissions into the atmosphere.

In the context of **energy networks**, the main risks are attributable to the existence of overhead and underground systems with impacts in terms of land use and subsoil, the generation of waste and impacts on ecosystems, the generation of electromagnetic fields with impacts in terms of exposure, the maintenance of transformation plants with potential soil and subsoil contamination with hazardous materials, and the maintenance and construction of plants with impacts in terms of production of special waste.

For the electricity **generation** activities, carried out with renewable and conventional power plants, the potential environmental risks attributable to the ordinary management of the plants or in the event of critical events like fires or explosions may lead to the accidental spillage of pollutants or the exceeding of threshold values in emissions (into the atmosphere, surface water and sewerage). An example of environmental risk derives from the potential dangerousness of structural failure of hydraulic works attributable to critical natural phenomena (such as earthquakes of particular intensity and/or millennial floods), which could affect the territory downstream of the plants (e.g. floods).

The **environment** sector involves the treatment, recovery and disposal of waste, the recovery of materials and energy (waste-to-energy and composting) and the collection, transport, recovery and disposal of non-hazardous waste produced by waste treatment plants. In this context, potential risks for the environment could take the form of spills of hazardous substances and consequent contamination of the soil and aquifers or surface waters, or of emissions into the atmosphere or water above specific prescribed limits, the treatment of waste not compliant with the reference legislation with repercussions on plant operations, unintentional fires that may cause interruptions to plant operations and pollution of the surrounding areas, as well as the failure to make investments or carry out works on the plants, with impact on the company's management due to delays in the issue of authorisations; finally, environmental exposure can be caused by noise, odour and dust produced during extraordinary maintenance of the plants.

## MANAGEMENT SYSTEMS

A system of *internal rules* was prepared for the regulation of the organisation, providing both general and specific guidance:

- **Group guidelines**: policies, regulations and management rules with which the Parent Company defines the general guidelines, guiding, coordinating and controlling the Group companies;
- **procedures**: acts governing the way in which a process is implemented, identifying roles and responsibilities.

The **Integrated Certification Systems** Unit within the Risk & Compliance Function of the Parent Company defines the methods and standards of reference for **the implementation of QESE (Quality, Environment, Safety and Energy) certified management systems**, as well as for further certifications and accreditations of interest to the Group, and operates in synergy with the same Units of the Operating Companies. These Units collaborate with the Energy Manager for the development and management of the **Energy Management System** and with the Head of the Prevention and Protection Service (RSPP) and the emergency coordinator for the **Workplace Health and Safety Management System**. The management of health, safety and environmental emergencies is handled by means of a specific procedure.
Acea also appoints an Energy Manager, both at Parent Company and Operating Company level, and a Mobility Manager, to comply with legal requirements and ensure the optimal management of internal energy use and staff mobility. They seek **systemic efficiencies and savings**, creating **positive external effects**, such as lower use of resources and reduction of greenhouse gases, the optimisation of travelling times and routes for employees, also with **positive impacts** on **road safety and urban traffic**. Through coordination with Energy Managers in the Companies, the Energy Manager has the duty of promoting **energy efficiency**, with actions to reduce consumption and cost control, while optimising the Group's energy costs.

**Chart no. 17 – The certified integrated management system**

In 2022, **the main operating companies** present in the scope of reporting **adopted certified management systems** (see table 14).
The achievements during the year include the award of **UNI/PdR 125:2022** - Guidelines for gender equality to Acea SpA.
In particular, **of the 18 main operating companies**, which represent the biggest ESG impacts of the Group, **89%** hold a **quality** certification; (the 2 companies that do not yet hold the certification, Acea Produzione and Acea Innovation, began the certification process in 2022, of which the first phase is complete); **89%** hold **environmental** certifications (100% of companies in the Environment sector and 80% in the Water sector); **94%** have a **safety** certification; and **45%** have a certified **energy** management system (100% of energy-intensive companies). The **Acea Ambiente** plants located in Terni, San Vittore del Lazio and Orvieto, the **Acque Industriali** site in Pagnana (Empoli), the **Berg**plant and the **Deco** sites are also **EMAS registered**.

**Table no. 14 – Certified management systems in the Acea Group (as at 31.12.2022)**

| | Quality (ISO 9001) | Environment (ISO 14001) | Safety (ISO 45001) | Energy (ISO 50001) | Other |
|---|---|---|---|---|---|
| Acea SpA | X | X | X | X | Biosafety trust certification<br>UNI/PdR 125:2022 |
| **WATER** | | | | | |
| Acea Ato 2 | X | X | X | X | |
| Acea Ato 5 | X | X | X | X | |
| Gesesa | X | X | X | X | |
| Gori | X | X | X | | |
| AdF | X | | X | | |
| **ENGINEERING AND SERVICES** | | | | | |
| Acea Elabori | X | X | X | | UNI CEI EN ISO/IEC 17025:2005<br>Accreditation of analysis laboratories UNI CEI EN ISO/IEC 17020:2012<br>Accreditation of inspection bodies Biosafety Trust Certification<br>BIM UNI/PdR 74:2019 system certification and BIM UNI 11337-7 professional certification: 2018 UNI/PdR 78:2020 |
| **ENERGY INFRASTRUCTURES** | | | | | |
| Areti | X | X | X | X | Biosafety Trust Certification |
| **GENERATION** | | | | | |
| Acea Produzione | | X | X | | |
| Ecogena | X | | X | X | UNI CEI 11352:2014 |
| **ENERGY (commercial and trading)** | | | | | |
| Acea Energia | X | X | X | | Biosafety Trust Certification |
| Acea Innovation | | | | | |
| **ENVIRONMENT** | | | | | |
| Acea Ambiente | X | X | X | X | EMAS |
| Aquaser | X | X | X | | ISO 39001:2016 |
| Acque Industriali | X | X | X | X | EMAS |
| Berg | X | X | X | | EMAS |
| Demap | X | X | X | | |
| Deco | X | X | X | | EMAS<br>SA 8000 |

The companies with certified management systems **carry out an annual Management Review** to assess **the effectiveness of the systems**, propose possible improvements and verify the progress of activities. On these occasions, attended by the **Top Management and the first line of managers** of the Companies in question, elements are analysed, including: policy; context analysis and **materiality analysis** at Group level; **Group sustainability targets** and their monitoring; **risk assessment**; process performance; **significant environmental and energy aspects**; changes in legal requirements and those relating to **occupational health and safety**, **environment and energy**; **supplier** performance; **customer satisfaction** levels; analysis of complaints; **accidents and injuries**.
**The results of the review for 2022**, finding no criticalities, **confirmed the adequacy and efficiency of the management Systems.**
In line with the current *Management Systems and Sustainability Policies*, Acea **monitors the objectives required by the Management system in an integrated manner with the objectives of the 2020-2024 Sustainability Plan** approved by the Board of Directors.

## THE ISO 37001 CERTIFICATION PROCESS OF ACEA SPA

In 2022, after adopting the Anti-Corruption Policy - approved by the Holding Company's Senior Management and distributed at Group level - Acea continued on the path towards obtaining the ISO37001:2016 certification (Anti-bribery management systems).
The management system is a flexible tool that envisages a systemic approach to the **prevention and combating of corruption**, is applied to the prevention of the phenomenon governed by the articles of the **penal and civil code** and provides a guide to implement, maintain, update and improve **a Management System** designed to **promote the transparency of all company processes**.
Creating a management system to prevent corruption is an effective way of implementing **actions that reduce the risk of corruption** in organisations and, as a result, limit the exposure to liability including in terms of the application of the sanctions set out by Italian Legislative Decree no. 231/2001.

### GENDER EQUALITY AT ACEA: UNI/PDR 125:2022 CERTIFICATION

In December 2022, Acea became the first listed Italian multiutility to obtain UNI/PdR 125:2022 certification, the only national standard on **gender equality** and recognised in National Recovery and Resilience Plan.
**UNI/PdR 125:2022** defines guidelines to support female *empowerment* within company growth paths. This gender equality recognition is a testament to the company's commitment to **diversity** and **inclusion**, as well as its ability to adopt concrete measures to **reduce gender disparities** with respect to opportunities for growth, wage parity, parental protections and work/life balance. The certification body issued a satisfaction score of **90%** and noted in particular the company welfare and work/life balance initiatives adopted. A specific officer has been appointed to manage and maintain the effectiveness of the system,
and Acea is continuing its positive trend in this regard through constant awareness-raising and training campaigns. In this regard, the Acea Group has adopted an **Equality, Diversity and Inclusion Policy** to ensure that these rights are protected and guaranteed in all organisational and management processes. A **Group Equality, Diversity & Inclusion Committee** has also been established to lead the cultural evolution and promote a corporate culture based on knowledge, inclusion and the promotion of diversity and fair treatment of people through the implementation of specific initiatives, coordinated by the **Equality, Diversity & Inclusion Manager.**

# STAKEHOLDERS AND ALLOCATION OF GENERATED VALUE

## STAKEHOLDERS AND THEIR INVOLVEMENT

Stakeholders are the various parties that play a **key role in making it possible to achieve the company's objectives** and represent the **main recipients**, **direct or indirect**, **of the value created, but also the impacts generated**, by the assets managed, according to a principle of mutual influence. For this reason, for example, the natural environmental and the community are also considered stakeholders.
As such, Acea is committed to developing trusting relationships, adopting an inclusive and proactive approach to stakeholders aimed at enhancing the outcomes of dialogue and debate, in line with the commitments expressed in the ***Management and Sustainability Systems Policy***, the principles enshrined in the ***Code of Ethics***, updated at the end of 2022, and the ***Principles and Values of Stakeholder Engagement.***
In the stakeholder engagement process, the **identification** phase identifies the subjects involved in the company's activities, assessing the level of mutual influence at both qualitative and quantitative levels. The **analysis** phase examines the interactions between the company and the stakeholders and between different categories of stakeholders in order to develop opportunities for dialogue (engagement) and shared responsibilities. Finally, the **management** phase establishes the responses to the identified needs of stakeholders or the company itself, in order to pursue the achievement of the company's objectives while also meeting stakeholder expectations.

**Chart no. 18 – Stakeholders and their involvement**

## STAKEHOLDER ENGAGEMENT IN THE ACEA GROUP

By managing a responsible and long-lasting relationship with stakeholders, based on trust, dialogue and transparency in an ever-changing context, the Group is able to improve decision-making processes by directing its commitment to the most relevant issues, while building a shared path that creates value over time for the community and the market, with greater prospects for stability.
In this regard, in 2022 the Acea **Stakeholder Engagement Unit** conducted various measures to **incorporate stakeholder engagement activities into the Group's strategies**, processes and business. In particular, improvements to the tools, methods and stakeholder engagement initiatives and projects were made to further support the Group's Corporate Departments/Functions and Companies, which responded with growing interest and engagement.
The **awareness-raising and analysis campaign** launched in 2021 continued: meetings with sector experts were held with the aim of promoting the culture, skills and tools of stakeholder engagement in the various business contexts and increasing awareness of the strategic role of stakeholder engagement.
**Workshops were also held to acquire theoretical knowledge and develop applied methodologies** through the adoption of operational tools aimed at stakeholder identification, mapping and weighting and the design and implementation of engagement methods.
The stakeholder engagement section of the intranet promoted greater awareness within the Group and allowed for the systematised sharing of processes, tools and materials. In particular, in December 2022 the first **video pill** of the stakeholder engagement **awareness-raising module** was posted, aimed at promoting methods for using stakeholder engagement tools and stimulating and strengthening the proactive involvement of Acea Group personnel. Other video pills will be posted in 2023.
The **2022 Report on the Group's Stakeholder Engagement Performance** is currently being finalised.
Stakeholder Engagement activities are managed in line with the international standards of reference (**AA1000** Stakeholder Engagement Standard and **Global Reporting Initiative**).

**Chart no. 19 – Stakeholder mapping**

The boxes below illustrate the most significant interactions between Acea and the main categories of stakeholders in 2022.

CUSTOMERS

Acea is one of **Italy's leading multi-utility companies in terms of number of customers and area served**, with around **1.2 million customers in the energy sector**, over **248,000 customers in the gas sector**, over **1.7 million withdrawal points for energy distribution** and **2.8 million water users**, serving a total of **8.6 million inhabitants** in Italy.
The evolution of market demands towards **green and innovative solutions** is monitored by the Group through increasingly specific and broad tariffs and products, such as those launched recently by Acea Energia on **100% sustainable power and gas**, and the services linked to **electric mobility**. In 2022 **all Group Companies** that manage customer relations improved their remote communication channels and increased the digitalisation of commercial processes, dividing the MyAcea app into **separate apps for each service** in order **to develop more targeted and personalised methods of communication**. Furthermore, initiatives such as the **Digital Service Point** and **interactive billing** were continued for companies in the Water sector, and Acea Ato 2 and Acea Energia opened the new regional "**Waidy Point**" and "**Acea Energia Point**" service desks. Acea adopts initiatives aimed at maintaining a high level of customer trust and managing relations with **consumer associations**, such as the implementation of targeted awareness-raising actions and the adoption of exclusive digital and telephone communication channels. The Company also monitors critical situations via the activities of the ADR Body for out-of-court settlement of disputes - in 2022, for the managed companies, there were **356 reports** (345 in 2021) - and carries out initiatives to prevent **unfair commercial practices**, with 827 cases reported to sales agencies in 2022, equal to 88% of the cases analysed.

INSTITUTIONS

For Acea, as a provider of essential public services that are mainly subject to **regulation by the public authorities**, the relationship with institutions is of fundamental importance both for planning and performing the company activities. In this context, in concert with the relevant institutions, the Group continued actions to develop the infrastructure works within its remit, also within the framework of the National Recovery and Resilience Plan (NRRP).
Acea is active in the prevention and management of critical events and in the event of an emergency it provides support to the **authorities responsible for public health**, **civil protection and public safety**, for example through **plans for managing emergencies** of the water companies, shared with **local Institutions** (such as Governmental Territorial Offices, Local Health Authorities, Area Management Agencies), or the electricity companies, which are essential for restarting the system in the event of a blackout of the National Transmission Grid or re-establishing power for **strategic users or users of social importance**.

Interactions also take place through research projects on matters of **public interest** with bodies such as ENEA, Istituto Superiore di Sanità (ISS) and CNR, with the aim of developing innovative solutions to industrial processes, specifically with regard to the sustainable management of waste and water resources, and the recovery of materials from residues from waste combustion.
Acea participates in **research centres**, **standard-setting bodies and industry associations**, acting as promoter or contributing to research and experimentation in the businesses in which it operates. Also as a result of this commitment, Acea takes part in international programmes (**Horizon2020**), for example through the **PlatOne** , **BeFlexible** and **Promisces** projects.

COMPANY

By seizing the opportunities arising from the market and the context of reference, Acea is focused on a process of full integration of sustainability into its strategic decisions, placing sustainable success, as indicated in the Italian Corporate Governance Code, as an objective of its activity.
The Business Plan and the Sustainability Plan are both projected to run over the 2020-2024 horizon, and investments to 2024 amount to €4.3 billion, of which **€2.1 billion relate to sustainability targets**.
The **performance management system** in force, as an integrated governance instrument in the long term (LTIP) and in the medium term (MBO), provides for a **composite sustainability indicator**, which includes targets aligned with the Group's business and sustainability plans.
For Acea, **overseeing the innovation ecosystem** is fundamental for accessing ideas and business and technological opportunities. Consequently, the Group has developed partnerships with InnovUp (formerly Italia Startup), Talent Garden and Open Italy, and has launched collaborations with specialised observatories at Milan Polytechnic University (Digital Innovation, Startup Intelligence and Space Economy).
In 2022 Acea launched **4 Open Calls on smart cities**, **new sustainable energy sources**, **critical infrastructures** and **work/life balance**, as well as the **Digital Innovation Antenna** to boost the scouting of start-ups and innovative solutions in the Silicon Valley ecosystem.
The Group's commitment to research and innovation has been recognised with the award of the **SMAU 2022 Innovation Award**.
In 2022, Acea continued the process to obtain the **ISO 37001:2016 certification** (Anti-bribery management systems).

SHAREHOLDERS AND INVESTORS

The relationship with the **capital markets** guarantees the best conditions thanks to a careful diversification of sources. About 82% of the debt stems from **bond placement** operations. With reference to bank loans, Acea mainly borrows from **institutional operators**, **such as EIB and Cassa Depositi e Prestiti**, worth around 13%, whose mission is to **support strategic infrastructure**. Acea's **share price fell 31.1%** on the stock market, mainly in line with the performance of other domestic utility companies. The value of each share fell from €18.76 as at 30 December 2021 to €12.92 as at 30 December 2022 (the last stock exchange session of the year) with a capitalisation of **€2,752 million**. The ratings agencies Moody's and Fitch **confirmed the long and short-term rating**.

The interest of "sustainable investors" towards Acea is growing, **from 6.4%** of the share capital and to **around 51% of total institutional investors**.
In August 2022 Acea signed the first **"Sustainability Rating Linked" revolving credit line** with Cassa Depositi e Prestiti, for a value of €200 million and a duration of three years, the pricing of which is linked to the level assigned to Acea by the Standard Ethics rating and the Integrated Governance Index (IGI) ranking classification.
During the year Acea was also included on two benchmark sustainability indices for Italian listed companies: **MIB ESG**, by Euronext, and **SE Mid Italian Index**, by Standard Ethics. These initiatives confirm Acea's growing interest towards sustainable capital markets, and are intended to encourage ESG investors to invest in Acea shares.

SUPPLIERS

In 2022, the value of orders for goods, services and works amounted to approximately **€1.9 billion**, with around **3,780** suppliers involved. **60% of the total volumes in the year** were procured through the use of **competitive tendering procedures**.
The **protection of staff employed by the suppliers** was subject to specific measures. In particular, several meetings were held with contractors on occupational health and safety, compliance with contractual regulations, and employment protection, and **an event was organised to raise awareness among employers and contractors on accident prevention.**
Workers' safety is a fundamental part of all services provided on behalf of the Group. Consequently, this was monitored through the performance of **14,719 site inspections**, confirming the trend seen in the last three year period of a significant predominance of "non-serious" cases of non-compliance, and a steady decrease in the percentage weight of "serious" cases of non-compliance out of the total cases of non-compliance detected. In 2022, as part of the Safety Check project launched in 2020, Acea Elabori carried out **in-depth studies on personal data protection**, and a **Data Protection Impact Assessment (DPIA) was conducted with the involvement of the DPO (Data Protection Officer)**. During the year the **Group Vendor Rating** project continued, aimed at analysing, assessing and monitoring supplier performance through indicators relating to punctuality, quality and safety, and the **Ecovadis model** was adopted, which evaluates suppliers on the basis of 21 CSR criteria (environment, employment and human rights, ethics and sustainability in procurement practices); in this regard, **339 suppliers were assessed**, with an average score of 59.5/100 (against an Italian average of 50.4/100), and a further 180 are being assessed.

EMPLOYEES

**Employees** are the company's most important asset. Acea is committed to promoting the best conditions of **stability**, promoting **safety** and developing a sense of **cohesion** and **participation** in the company's mission.
In 2022, the total staff of the companies within the scope of reporting was numbered **6,763 people**, of which **24% women**. **99%** of the company population have a **permanent employment contract**. The professional structure is composed as follows: 60% are employees, 31% are workers, 8% are executives and 1% are managers. **427 people** were **hired**, 44% of which aged 30 years or younger. **253 people left**, 64% aged over 50 years.

During the year particular attention was paid to mitigating the risk of work-related stress, exacerbated by the pandemic, with the launch of the **I-Care Professional - Mirroring project**. **109,979 total hours of occupational health and safety training were provided to Group personnel** in 2022 (58,600 hours in 2021).
**Training on digitalisation** also continued and the second edition of the "**Agire sostenibile per fare la differenza**" [Sustainable action to make a difference] project, aimed at increasing the **culture of sustainability** within the Group, was completed.
In 2022, at Group level, the **Equality & Care Annual Plan** was adopted, the **Equality, Diversity & Inclusion Manager** was appointed and the **Equality, Diversity & Inclusion Committee** was established.
Also in 2022, Acea became the first listed Italian multi-utility company to obtain the **gender equality certification** (UNI/PdR 125:2022) and received the **Top Employers Italia** award for the second year running.

ENVIRONMENT

Countering rising **global temperatures** and the related effects of **climate change**, **land use,** and declining **biodiversity** represent the main challenges faced by the world at large. The responses of the European Union with the **Green Deal**, and Italy with the **NRRP**, focus on strategic initiatives in the areas of the circular economy, renewable energy and energy efficiency, land protection and the protection of water resources. As regards climate change, the Group is continuing to develop its executive-level **scenario analyses** and is committed to **lowering GHG emissions** with energy efficiency and energy saving measures, as well as initiatives to promote **adaptation and mitigation processes**. Key actions in this regard include the level of compliance with the requirements of the **EU Taxonomy** on the first two climate targets, and the publication in June 2022 of the first **2021 Group Climate-Related Disclosure** according to the TCFD recommendations. In 2022, the preliminary work aimed at the construction of the New Upper Strand of the **Peschiera-Le Capore Aqueduct** to secure the water supply of Rome and its province continued through the completion of the Technical-Economic Feasibility Studies and the start of the authorisation procedures for a number of sections. The actions carried out by the Group's main water companies to implement the **Water Safety Plans (WSPs)** and **loss recovery programmes** also continued. In 2022, the volume of total lost water resources among the water companies included in the reporting boundary of the NFS fell by 6% compared to 2021 (-14% compared to 2020). The Group conducted a particularly intensive programme of actions to promote the **circular economy**, also through the acquisition of major waste treatment companies such as Deco SpA, with key achievements in this area including the **EMAS circular economy awards** assigned jointly to Acea Ambiente and Berg, for the reuse of ash, and to Acea Ambiente, for the use of compost as fertiliser.
In the energy sector, in order to promote technologies to enable the **increasingly conscious use** of electricity by consumers, **the mass installation campaign of second-generation meters continued**, with over 273,000 installations in the year. Finally, in 2022, as part of the modernisation plan, work continued on increasing resilience to the **critical factors "heat waves" and "flooding**", which affected 58 km of MV cables and 88 substations.

COMMUNITY

Acea pursues its own commitment to corporate social responsibility through a range of community initiatives, from promoting sport and supporting social and cultural campaigns to providing aid in health crises. For example, the Group continued to contribute to the fight against the pandemic through the Acea Vaccination Hub, which in 2022 not only administered Covid-19 vaccines but also served as a **welcome area and health facility for Ukrainian refugees**. Also in the health sector, Acea continued to support a number of **hospital facilities,** specifically Policlinico Agostino Gemelli and Policlinico Umberto I. Meanwhile, the "Tourist trails to discover Italy's waters" project, launched to mark World Water Day and connected to the Acea Immersive Museum, represented an innovative tool to **raise local and environmental awareness**. **New generations and schools** have always been a priority focal area for the Group. In 2022, Acea continued its commitment to students with the creation of the "Acea Scuola - ProteggiAmo l'ambiente" training programme and other initiatives focused on the values promoted by sport such as *Volley Scuola -Trofeo Acea and Acea Camp*. There was no shortage of initiatives for the older generations too: the "Acea for the community" project sponsored by the Municipality of Rome, is designed for **residents at senior centres** in Rome and the surrounding province and aims to raise awareness about energy consumption, with a view to making savings and safeguarding natural resources. In the world of **sport**, Acea's prominent support for the Rome Marathon is underscored by tying its name to the event: "Acea Run Rome The Marathon" is the most important and popular race for Italian and international athletes in Italy. The Group also sponsors the **Roma-Ostia Half Marathon**.

## MATERIAL TOPICS AND IMPACTS PERCEIVED BY STAKEHOLDERS

During the **process to develop the 2022 materiality analysis** (see Communicating Sustainability: Methodological Note for more details), stakeholders were involved in multi-stakeholder focus groups, and particular emphasis was given to the identification of the **main perceived impacts** regarding the topics of the Acea Group considered to be of "high" or "medium" significance. The results of the engagement activity, specifically the most significant areas of impact for stakeholders and the main positive and negative impacts, both actual or potential, are summarised in Table no. 15.

**Table no. 15 – Main impacts perceived by stakeholders, associated with 2022 material issues with high and medium significance**

| MATERIAL TOPICS | most significant areas of impact for stakeholders | main (actual/potential) ● negative and ● positive impacts perceived by stakeholders |
|---|---|---|
| SUSTAINABLE AND CIRCULAR WATER MANAGEMENT | optimisation of infrastructure and networks to increase resilience and guarantee water supply | ● reduced access to high-quality water due to system inefficiencies related to water stress and extreme weather events<br>● safeguarding the water supply through the development of new infrastructural and technological solutions |
| | evolution towards a circular water resource management model (including water reuse, sewage sludge recovery and reuse, etc.) | ● failure to reduce pressures on water resources due to limited reuse of treated water<br>● contribution to the improvement of environmental and social contexts by optimising solutions for the circular water resource management (reuse of treated water, sludge, etc. for different purposes) |
| ETHICS AND INTEGRITY IN BUSINESS CONDUCT | compliance of company performance with industry standards | ● deterioration of contextual conditions (quality of life, relations between the company and stakeholders, etc.) due to non-compliance, disputes and litigation<br>● greater guarantee of access to high-quality services that meet standards |
| | promotion of ethical values, including combating unlawful conduct and corruption, throughout the value chain | ● weakening of action to promote ethical principles in the relevant contexts due to bureaucratic-administrative barriers and cultural resistance<br>● contribution to the development of a healthy socio-economic system guided by ethical principles and respect for rules |
| PROTECTION OF ECOSYSTEMS AND BIODIVERSITY | reduction of pressure on ecosystems (e.g. reduced emissions, efficient use of natural resources, reduction of land use, etc.) to protect ecosystem health and preserve natural cycles | ● inability of infrastructures to adapt to their host ecosystems<br>● increased awareness of the impact of activities on biodiversity and the ecosystem through the development of specific analysis models |
| | interventions aimed at protecting the ecosystems in areas in which the company operates (protection of springs, natural heritage, protected areas and animal and plant species, etc.) | ● failure to formalise specific commitments to protect biodiversity and ecosystems<br>● development of synergies with scientific partners and institutions to monitor biodiversity-rich areas and create ecological corridors |
| CLIMATE CHANGE AND ENERGY TRANSITION | adoption of energy models with a low environmental impact (generation from renewable sources, energy efficiency, cogeneration, green energy consumption, etc.) | ● slow development of low environmental impact solutions due to bureaucratic and authorisation constraints<br>● contribution to the sustainable development of regions and socio-economic contexts through climate action |
| | development of value-added services related to energy transition | ● low scalability of green technologies for the community<br>● improvement of environmental and social contexts through the development of decarbonisation solutions in different contexts (smart cities, sustainable mobility, building efficiency, etc.) |
| TECHNOLOGICAL INNOVATION AND DIGITAL TRANSFORMATION | development of innovative and environmentally sustainable services and products in response to the changing needs of the environment and people | ● increased inequalities caused by services provided in a predominantly digital mode (elderly, poorly digitised population, etc.)<br>● improvement in the quality of life of the community through the availability of services and products in line with emerging needs |
| | creation of an high-quality, open and interconnected innovation and research ecosystem | ● missed opportunities for innovative development due to lack of qualified skills and dedicated investment<br>● contribution to social progress and cultural growth |
| MANAGEMENT AND TREATMENT OF WASTE FOR A CIRCULAR ECONOMY | management and reduction of waste produced by communities through its energy and material recovery (e.g. compost) | ● possible community resistance to new facilities<br>● contribution to the resolution of critical issues related to mass waste production |
| | strengthening of secondary raw material recovery chains from waste materials (plastic, paper, etc.) | ● possible challenges in the proper management of supply chains<br>● reduction of environmental changes caused by the use of raw materials |

| | | |
|---|---|---|
| **OCCUPATIONAL HEALTH AND SAFETY** | building safe and secure working environments, starting with accident prevention | ● occurrence of occupational accidents, with possible effects on public safety<br>● increase in safety and consequent improvement of service levels |
| | promotion of a culture of workplace safety along the supply chain (contracts, etc.) | ● weakened action of promoting a culture of workplace safety in less well-equipped contexts such as small and very small businesses<br>● contribution to the improvement of the occupational health and safety conditions of supplier personnel |
| **DIALOGUE AND ENGAGEMENT WITH STAKEHOLDERS AND TERRITORY** | responses to multi-stakeholder requirements, with shared value projects and co-design initiatives | ● increased disputes with stakeholders due to their ineffective involvement in projects with a high impact on the region<br>● synergetic development of projects and initiatives that better respond to genuine stakeholder needs |
| | specific identification and consideration of minorities and vulnerable stakeholders | ● insufficient implementation of initiatives for families and businesses in economic difficulty that reflect the challenging context (high bills, inflation, etc.)<br>● community support through the promotion of targeted initiatives, also in synergy with local institutions and associations (new forms of poverty, energy crisis, etc.) |
| **SKILLS DEVELOPMENT AND EVOLUTION OF THE WORKING ENVIRONMENT** | promotion of meritocratic working contexts able to optimise and increase skills and abilities | ● resistance to cultural and professional change<br>● increase in skills, greater job satisfaction and creation of new jobs |
| | adoption of new work models capable of responding to the needs of digital transformation, also with agile logic, based on collaboration and flexibility | ● shortage of new key skills (tech jobs, etc.)<br>● improvement of work/life balance and work contexts |
| **SUSTAINABILITY IN INFRASTRUCTURE DESIGN, CONSTRUCTION AND MANAGEMENT** | creation of high-quality and environmentally and socially sustainable infrastructures and projects | ● possible implementation difficulties caused by a lack of design models and expertise that incorporate sustainability<br>● development of a long-term design approach, capable of incorporating sustainability and "just transition" logics |
| | adoption of a design approach that integrates the genuine needs of stakeholders and promotes the acceptance of projects and infrastructures by the community | ● reduced social acceptability of infrastructures due to inadequate management of participatory processes<br>● contribution to sustainable regional development |
| **CUSTOMER FOCUS** | availability of easily accessible and customised customer care services, also thanks to the increasing use of digital channels | ● decrease in the level of customer trust due to lack of clear communication and transparency<br>● improvement of the customer experience and relationship with the company |
| | availability of services in line with emerging customer needs and lifestyles | ● insufficient attention to the growing difficulties faced by customers in the current context (war, energy crisis, high bills, inflation, etc.)<br>● increasing sustainability in practices and consumption styles |
| **SUSTAINABILITY AND CIRCULARITY ALONG THE SUPPLY CHAIN** | implementation of procurement processes that prioritise the use of products and services that combine quality, eco-compatibility (recycled, reusable, etc.) and social responsibility | ● possible exclusion of small and very small businesses that are less structured in terms of sustainability<br>● reduction of the socio-environmental impact of goods and services |
| | increasing supply chain certification, also in relation to social aspects (protection of employment rights, human rights, quality of supplies, etc.) and environmental aspects (emissions, pollution, etc.) | ● increased initial burdens on suppliers who are required to make greater commitments to sustainability<br>● support for the promotion of sustainability among suppliers |

| | | |
|---|---|---|
| **COMPANY WELL-BEING, DIVERSITY AND INCLUSION** | creation of inclusive and diverse models and workplaces that respect people | ● failure to reduce cultural and organisational barriers to promoting diversity<br>● development of social and professional inclusion paths and projects |
| | promotion of a workplace culture oriented towards preserving the well-being of people within the organisation and respecting their private lives (welfare, work/life balance initiatives, etc.) | ● reduced effectiveness of promotion initiatives due to cultural resistance caused by a "traditional" view of work<br>● development of the concept of well-being, which is extended to workers, the community and the region ("all-round" well-being) |
| **GOVERNANCE FOR SUSTAINABLE SUCCESS** | long-term value creation through the integration of sustainable success (social and environmental dimensions) into strategic objectives, management remuneration policies and internal control systems | ● incomplete and non-transparent information available to stakeholders<br>● effective incentive systems linked to sustainability targets; |
| | construction of governance models capable of developing long-term strategies that consider sustainability guidelines | ● greenwashing<br>● lasting contribution to the social, environmental and economic development of the local context |
| **SUSTAINABLE FINANCE** | promotion of environmental and social elements in business financing decisions (Green Bonds, etc.) | ● lack of development of socio-economic contexts due to difficulties in managing public funding<br>● increased investment in sustainable development (ecological transition, social inclusion, etc.) |

## DISTRIBUTION OF THE VALUE GENERATED BY ACEA

The overall economic value generated by the Acea Group in 2022 is € **5,209.9 million** (€ 4,012.4 million in 2021).
Below is a breakdown of the above figure amongst the stakeholders: 68.1% to **suppliers**, 16.1% to the **company** as resources to be withheld; 5.9% to **employees**; 4.1% to **shareholders** in the form of dividends; 2.1% to **financiers** in the form of interest on capital provided; 3.6% to the **public administration**[55] in the form of taxes paid and 0.1% to the **community** by way of sponsorships and donations for events and similar endeavours.

**Table no. 16 – Economic value directly generated and distributed (2021-2022)**

| (in € million) | 2021 | 2022 |
|---|---|---|
| **total economic value directly generated** | **4,012.3** | **5,209.9** |
| **distribution to stakeholders** | | |
| operating costs (suppliers) | 2,453.3 | **3,549.8** |
| employees | 275.8 | **305.1** |
| shareholders (*) | 219.7 | **212.1** |
| financiers | 97.4 | **111.7** |
| public administration | 150.7 | **186.7** |
| community | 7.9 | **6.3** |
| company | 807.5 | **838.2** |

(*) Includes dividends for the financial year proposed by the BoD, any dividends from reserves and minority interests.

**Table no. 17 – Breakdown of value generated by stakeholder (2021-2022)**

| | 2021 (%) | 2022 (%) |
|---|---|---|
| suppliers | 61.1 | **68.1** |
| employees | 6.9 | **5.9** |
| shareholders | 5.5 | **4.1** |
| financiers | 2.4 | **2.1** |
| public administration | 3.8 | **3.6** |
| community | 0.2 | **0.1** |
| company | 20.1 | **16.1** |

55 The amount paid to the public administration net of public contributions which Acea receives (equal to € 17.9 million) is € 168.8 million.

# 2

# RELATIONS WITH THE STAKEHOLDERS

# CUSTOMERS AND THE COMMUNITY

## SCOPE

Data pertaining to the volume of customers, apart from the Companies Acea Energia, Areti, and, in the water segment, to the Companies Acea Ato 2, Acea Ato 5, Gesesa, Gori and AdF also includes data related to Umbria Energy and other water companies (Acque, Publiacqua, AdF and Umbra Acque) – that are not included in the NFS scope – highlighting the single contribution for the sole purpose of providing a "global" dimension. Data pertaining to perceived quality, delivered quality, tariffs, customer care and communication activities relates to the operating Companies – Acea Energia, Areti, Acea Ato 2, Acea Ato 5,Gesesa, Gori and AdF – and the Parent Company – as recalled in the text.

## ACEA GROUP CUSTOMERS: ELECTRICITY AND WATER SERVICES

Over **1.4** **million customers** for energy and gas

Over **1.6** **million withdrawal points** for electricity distribution

Over **2.7** **million water user accounts in Italy** (of which more than 956,700 in Lazio), equal to around **8.6 million inhabitants served** (4.2 million in Lazio)

Social bonuses for **electricity, gas and water** (national and local) have respectively generated savings of **€60.6** and **29.5 million** for eligible customers/users

According to the latest data from the Regulatory Authority for Energy, Networks and Environment (ARERA)[56], **Acea Energia** is **Italy's seventh largest operator** in terms of volumes of electricity sold on the final market, with a share increased from 2.7% in the previous survey to 3.1%, and **fourth**, with a 3.3% market share, for **energy sold to households** ("domestic customers"). The company also confirmed its position as **Italy's second largest operator** in terms of volumes sold to customers of the **standard market service**, with a market share of 5.3%, and rose to **tenth** in terms of volumes sold to the **free market**, with a share of 2.8% (it was eleventh in the previous survey, with a share of 2.3%).

**The contracts managed** by the Group for electricity and gas (free market and standard market service[57]), as at 31 December 2022, are **more than 1,420,700**, with an increase compared to the 2021 figure (+1%), which concerned all types of customers in the free market segment (see Table no. 18).

**Areti**, holder of the ministerial concession for the **distribution of electricity** in the territory of Rome and Formello, is **Italy's third largest operator** in terms of **volumes of energy distributed**, with 3.4% of the market share (4.5% in the "domestic" and 3.0% in the "non-domestic") market and **Italy's second largest operator** in terms of **withdrawal points**[58]. As at 31 December 2022, it manages **1,650,024 withdrawal points**. The growth of the customer base, which generally shows slight increases or decreases, is due both to urban expansion and disposals resulting, for example, from discontinued operations (see Table no. 18).

56 See the *Annual report on the status of services and activities carried out*, 2022 edition (on 2021 data), *Structure, pricing and quality in the electricity sector*, available online on the website of the Authority (ARERA).

57 The relevant national Authority accurately defines the energy market segments. See the ARERA website.

58 See the *Annual report on the status of services and activities carried out*, 2022 edition (on 2021 data), *Structure, pricing and quality in the electricity sector*, available online on the ARERA website.

## MORE ACCENTUATED GROWTH IN 2022 OF "PROSUMERS" CONNECTED TO THE ACEA NETWORKS

A prosumer is at the same time a **producer and consumer of energy**; it partially or totally ensures its own energy supply and transfers any surplus produced to the grid. In the **new energy model**, prosumers play **an increasingly consolidated and widespread role**, interacting with both the distributor and the entity in charge of selling/collecting energy. **Acea responds adequately to the evolution of the energy model**, by developing the capacity of connection, transmission and distribution systems.

**As at 31/12/2022**, there were **17,993 prosumers** active on the energy distribution network managed by Areti: this **figure has increased by 14%**, from the 15,786 prosumers recorded in 2021, marking a jump compared to the annual growth trend of 8% recorded in the previous three-year period (2019-2021).

**The largest number of prosumers (14,736) are qualified as "domestic prosumers"**, i.e. customers with residential user contracts who are also small-scale energy producers, **and 3,257 are qualified as "other uses"**, i.e. non-domestic users (businesses, professional firms and artisans). **About 10,000** of the prosumers on the Acea network **are fed Acea Energia customers**. **The energy fed into the grid** by these entities in 2022 is **97.34 GWh** (15% more than the 84.43 GWh fed in 2021), of which **about 74% is from photovoltaic sources**.

## ELECTRICITY AND GAS SOCIAL BONUS: SAVINGS OVER € 60 MILLION FOR ELIGIBLE ACEA ENERGIA CUSTOMERS

The payment of the **electricity and gas social bonus** envisaged for customers **in financial hardship** and for customers that, due to their **state of health**, require energy-intensive medical equipment, **has undergone legislative changes in the last two years**[59], which, among other things, include the automatic recognition **for citizens/households who are eligible** of the electricity and gas social bonuses for financial hardship[60] (while the bonus for physical hardship continues to be managed by municipalities and/or *CAF* – tax assistance centres). These changes led, in 2022, to another **significant increase in the number of users of the bonus (electricity and gas) and to the amounts recognised**.

In particular, in 2022, **108,909**[61] **Acea Energia customers were eligible to benefit from the electricity bonus** (standard market service and free market) (around 89% more than the 57,644 customers eligible in 2021), with a financial saving generated for those eligible of around **€ 51.1 million**. In detail, 107,979 bonuses were paid for economic hardship (99% of the total) and 1,102 for physical hardship (state of health), making a total of 109,081, which is higher than the number of beneficiary customers as one customer may benefit from both subsidies.

Similarly to the electricity bonus, ARERA provides for the "**GAS bonus**", with similar procedures. **The number of customers eligible for this bonus** in 2022 **was 29,752** (19,147 in 2021), representing economic savings equal to about € **9.5 million**.

Overall, during the year, **the bonus system (both electricity and gas) resulted in savings of around € 60.6 million for Acea Energia customers who benefited from it** (this figure in 2021 was € 8.8 million.

In the territory served by the **distribution network** managed by **Areti**, which refers to customers served by both Acea Energia and other sellers, in 2022 there was **a total of 126,584 customers eligible for the electricity bonus** (125,073 for financial hardship, 1,511 for physical hardship), recording an increase of around 38% in the number of those eligible (91,796 eligible for the bonus in 2021).

The major changes recorded in the year should be considered mainly in relation to the legislative amendment of the ISEE threshold value for accessing the benefits (from 9,530 for 2021 to 12,000 for 2022).

Acea is also **Italy's leading integrated water service operator** (catchment, supply, purification, wastewater collection and treatment) in terms of population covered, with over **2.7 million connected users** and **8.5 million inhabitants served** (see Table no. 18). Within the area of Rome and province alone, managed by Acea Ato 2, there are more than **754,000 users** and a served population equal to nearly **3.8 million people**. Starting from this area – OTA 2-Central Lazio – over time the Group has expanded its activities, becoming the reference operator also in the province of Frosinone (Lazio), in the provinces of Pisa, Florence, Siena, Grosseto, Arezzo and Lucca (Tuscany), in the areas from the Sorrento peninsula to the areas around Vesuvius in the provinces of Naples and Salerno and the province of Benevento (Campania) and Perugia and Terni (Umbria). Moreover, the Group operates in a number of South American countries.

59 As of Decree Law no. 124 of 26 October 2019, converted with amendments by Law no. 157 of 19 December 2019, which introduced the automatic recognition of the social bonus for financial hardship. Furthermore, Decree Law no. 130 of 27 September 2021 introduced the supplementary social bonuses from 01/10/2021; Decree Law no. 21 of 21 March 2022, limited to the electricity and gas social bonuses, increased the ISEE threshold for accessing benefits for 2022 to € 12,000 for the period 1 April to 31 December 2022; Decree Law no. 50 of 17 May 2022, without prejudice to the ISEE threshold envisaged for the first quarter of 2022, in case of an ISEE certificate provided in 2022, provided for eligibility for recognition of the annual bonuses starting from 01/01/2022.

60 In order to obtain the bonus for economic hardship, it is sufficient to request the ISEE certificate; if the household meets the conditions that entitle it to the bonus, INPS, in compliance with privacy regulations, sends the necessary data to the Integrated Information System (IIS), managed by Acquirente Unico company, which cross-checks the data received with those relating to electricity supplies, enabling the automatic payment of the bonus to those entitled.

61 For customers with financial hardship and health problems reference is made to the number of customers who benefited from the bonus at least once during the year.

## THE APPLICATION PROCESS OF THE NATIONAL SOCIAL WATER BONUS IN 2022

The **social water bonus**, implemented by ARERA, provides for **a discount for the supply of water to domestic users under ascertained socio-economic hardship**, based on specific thresholds of the ISEE indicator and calculated according to family numbers (per capita basis), applying the discounted tariff to the quantity of water required to satisfy the protected amount (about 50 litres/inhabitant/day). **Area Governing Bodies may introduce** or confirm **further measures of protection** for users in financially vulnerable conditions, granting a local "**supplementary water bonus**".

From 1 January 2021 the national water social bonuses for financial hardship were **automatically recognised for eligible citizens/households**, without requiring submission of an application[62]. The Authority approved the provisions for the management of the transition period to the new automatic recognition system and the application methods[63], governing the activities of the territorially competent water operator, such as the identification methods for the water supplies to be subsidised, the quantification criteria and the payment of the bonus to those eligible. The automatic recognition of the bonus involves an exchange of information flows between the Water Operator, Acquirente Unico SpA (the manager of the Integrated Information System) and INPS, assigning to the Operators the **responsibility of processing the personal data**[64] required to identify the users and pay the bonuses. The procedure to appoint the Operators as data processors of the data that allow Acquirente Unico to transmit the information of the eligible parties (starting the automatic recognition system) is still being finalised. In 2022, ARERA approved, with resolutions 106/2022 and 651/2022, the "Simplified regulation for the recognition and payment of the 2021 water bonus" and its extension to 2022, but it is still carrying out the adequacy checks on the privacy obligations of the operators and, as a result, is gradually authorising the start of the information flows. Therefore, not all companies of the Acea Group have had access to the information flows required to begin paying the automatic bonus. The main changes made to the operational regulation (envisaged from the bonuses for 2023) reside in:

1. the assumption that the household receiving the electricity social bonus is also entitled to the water social bonus, without further verification by the operator;
2. the communication of the information relating to the ISEE households in receipt of the social bonus – for the relevant year – by the Integrated Information System of Acquirente Unico to the operators;
3. the quantification of the bonus calculated on the standard numbers (3 members) should the operator not know the actual numbers, or if this assessment does not allow for payment of the benefit by the expected deadline (for 2022 equalisation is envisaged within 3 months from the first bonus payment, with recalculation using the effective numbers);
4. the payment of the benefit may be made for direct and indirect (condominiums) users through a one-off cheque or, for direct users only, in the bill.

## NATIONAL AND INTEGRATED WATER BONUS USERS FOR ACEA GROUP COMPANIES

In 2022, **Acea Ato 2** paid **national water bonuses** to **179,733 users**, for a **value of around € 19.8 million** and **supplementary water bonuses** (local) to **4,171 users** for a **value of € 835,569**. The data related to the national water bonuses are **much higher** than 2021 (8,034 national water bonuses, for a value of around € 354,000), since the Company fully received the envisaged information flows (see the box dedicated to the water bonus application procedure) and applied **the automatic payment**, which activates without requiring an application, **to everyone with an ISEE below the threshold established for 2021 and/or 2022**.

**Acea Ato 5** communicated that it had received from Acquirente Unico, in July 2022, the information flows essential for recognition of those eligible for the water bonus for 2021 and 2022; therefore, as at 31 December 2022 it had paid **national water bonuses** to **23,161 users**, direct and indirect, which generated an overall financial saving for the beneficiaries of around **€ 4.22 million**.

**AdF** continued to give visibility to the possibility of accessing the **national water bonus** and the **supplementary bonus** through the fiora.it website and by notices posted at "AdF Points". As for the national water bonus (2021 and 2022), the Company is still waiting to receive the lists of beneficiaries from Acquirente Unico; on the other hand, it paid the **supplementary water bonus to 3,576 users**, for amounts equal to **€ 626,472**.

Gori, which received the underlying information flows, in 2022 paid the national water bonus to **102,054 users**, for a value of **around € 4 million** (in 2021 bonuses were paid to 21,538 beneficiaries, for an amount of € 880,739).

In 2022, **Gesesa** published a release via its social channels to provide visibility and information about the procedures on accessing the benefits relating to the water bonus and on the application methods envisaged by the new legislation. However, the Company has not yet received the information flows in preparation for payment of the bonuses.

Considering, on a whole, the data related to the national water bonuses, for the water companies in the scope that were authorised to pay them, upon conclusion of the privacy management checks by the Authority, and the figures of the supplementary water bonuses, where applied, **the system generated for the beneficiaries an overall economic saving of over € 29.5 million**.

62 Pursuant to Decree Law no. 124 of 26 October 2019, converted with amendments by Law no. 157 of 19 December 2019.

63 Resolution 63/2021/R/com, subsequently amended and supplemented by resolution 257/2021/R/com.

64 Resolution 366/2021/R/com.

**Table no. 18 – Acea Group customers (energy and water sectors) (2020-2022)**

| | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| **ENERGY AND GAS SALES** (Acea Energia and Umbria Energy) | | | | |
| standard market service (*) | no. of withdrawal points | 738,989 | 690,806 | 637,724 |
| free market EE - mass market | no. of withdrawal points | 364,378 | 393,182 | 426,963 |
| free market EE - large customers | no. of withdrawal points | 72,195 | 94,698 | 108,246 |
| free market gas | no. of redelivery points | 212,234 | 228,148 | 247,785 |
| **total** | **no. of supply contracts** | **1,387,796** | **1,406,834** | **1,420,718** |
| **ENERGY DISTRIBUTION** (Areti) | | | | |
| domestic customers, low voltage | no. of withdrawal points | 1,330,557 | 1,338,868 | 1,348,757 |
| non-domestic customers, low voltage | no. of withdrawal points | 296,248 | 298,736 | 298,399 |
| customers at medium voltage | no. of withdrawal points | 3,116 | 2,851 | 2,862 |
| customers at high voltage | no. of withdrawal points | 7 | 6 | 6 |
| **total** | **no. of withdrawal points** | **1,629,928** | **1,640,461** | **1,650,024** |
| **WATER SALE AND DISTRIBUTION** (main water Companies of Acea Group) | | | | |
| Acea Ato 2 (*) | no. of users | 705,685 | 705,607 | 754,569 |
| Acea Ato 5 | no. of users | 200,876 | 201,878 | 202,209 |
| Gori | no. of users | 531,987 | 533,662 | 534,263 |
| Gesesa | no. of users | 57,247 | 57,404 | 57,470 |
| AdF (***) | no. of users | 232,152 | 233,440 | 234,089 |
| Acque | no. of users | 327,412 | 329,973 | 342,259 |
| Publiacqua (****) | no. of users | 399,943 | 402,363 | 405,786 |
| Umbra Acque | no. of users | 234,185 | 234,850 | 235,946 |
| **total** | **no. of users** | **2,689,487** | **2,699,177** | **2,766,591** |
| Acea Ato 2 | population served | 3,705,295 | 3,705,995 | 3,791,167 |
| Acea Ato 5 | population served | 467,993 | 455,164 | 450,434 |
| Gori | population served | 1,398,678 | 1,395,841 | 1,392,279 |
| Gesesa | population served | 116,897 | 110,316 | 110,093 |
| AdF (*****) | population served | 382,724 | 380,463 | 377,648 |
| Acque | population served | 734,898 | 734,898 | 735,059 |
| Publiacqua (****) | population served | 1,217,083 | 1,234,292 | 1,234,292 |
| Umbra Acque (****) | population served | 494,272 | 493,960 | 490,272 |
| **total** | **population served** | **8,517,840** | **8,510,929** | **8,581,244** |

(*) The 2021 figure relating to the withdrawal points in the standard market service has been adjusted following consolidation; this also led to a recalculation of the total supply contracts for the sale of energy and gas.
(**) The 2022 figures include an estimated portion pertaining to users in newly acquired municipalities.
(***) The total users also includes the number of existing aqueduct users. The 2022 values for aqueduct, sewerage and purification, as for the previous years, are to be considered provisional because they are calculated according to the criteria indicated in ARERA Res. 5/2016.
(****) Figures for 2022 are estimates; some 2021 figures on users and/or "population served" have been adjusted, after the final calculation, also leading to a recalculation in total users and population served.
(*****) Figures for 2022 refer to the latest ISTAT population update in October 2022.

## PERCEIVED QUALITY

Surveys of customer and public satisfaction with services delivered: **more than**

**39,993 people interviewed**

**Overall opinion in 2022**

on the services provided (score 1-10):

- electricity service "sales"(MV and LV): **7.8** and "distribution": **7.5**
- public lighting service: **6.9**
- water service in Rome, Fiumicino and province: **7.9** and **7.5** in Frosinone and province: **6.5**
- in Sarnese Vesuviano: **6.7**
- in Benevento and province: **7.1**
- in Grosseto, Siena and province: **7.7**

The **Customer listening Unit** of the Parent Company **coordinates the process of measuring customer and citizen satisfaction** with the services provided in the electrical, water[65] and public lighting sectors. The Unit works **in agreement with the operating companies** that manage the services and supports the corporate managers and top management of Acea SpA with analysis of the data collected.
The **customer satisfaction surveys** ("quality perceived") are carried out with support from a market research company, selected through tender procedures. Since 2022, most of the surveys are **distributed evenly throughout the year** so as to generate frequent results that allow the Group companies to intervene promptly, where necessary, on the provision of the services and communication. For example, the new continuous survey method for the experience of customers who contacted Acea through the various channels available (callback)[66] makes it possible to minimise the impact of any seasonal peaks or defined anomalies.
The reports on the results of the surveys of the **total sample surveyed** are, however, always produced at the end of the six-month period, therefore, in this context the findings of the **2022 half-yearly surveys** are presented.
In line with previous years, the surveys on the perceived quality of the services were conducted using the CATI[67] method; the CAWI method (online surveys), introduced in 2021, was used more significantly especially in relation to the perception of the digital channels. Therefore, also as a guarantee of comparability, it is deemed useful to maintain the representation of only data collected using the CATI method in this context, which made it possible to process **the following main indicators**:

- the overall **judgement** on the general quality of the service **(scale of 1 to 10**), where 1 means very bad and 10 means very good, which expresses an **instinctive evaluation** by customers;
- **overall opinions on individual aspects of the service** (**scale of 1-10**);
- the **percentages of satisfaction with the items**, or quality factors, selected within each aspect of the service, according to the importance attached to them by the respondents.

In 2022, a total of **39,993 people were interviewed** about the quality of the services provided by Acea Energia, Areti – both for the distribution and public lighting service – Acea Ato 2 (Rome and Fiumicino and province), Acea Ato 5, Gori, Gesesa and AdF. The **overall opinions** expressed on each service, as an average of the two six-monthly surveys, fall **within 6.5 and 7.9** (see the charts below and the tables at the end of this paragraph).

The **overall opinions** expressed on the **electricity service and the main aspects** into which it is divided indicate, for **Acea Energia sales**, positive evaluations and above average satisfaction (rating >7/10), both for the service in general (7.7/10 for standard market customers and 7.8/10 for free market customers) and for all aspects of the standard market service and "billing" on the free market; other aspects of the free market, including the "online branch", are in the area of complete satisfaction (ratings of 8-10). For **distribution**, managed by **Areti**, the overall rating was 7.5/10 and the aspects of the service received overall ratings higher than 7/10, with fault reporting achieving complete satisfaction (8/10). Residents of Rome were interviewed about the **Public Lighting service** for all areas. The overall opinions on the service and its aspects are confirmed to be of average satisfaction (rating of 6-7), with 'fault reporting' receiving higher ratings of 7.6/10.

65 As regards water services, the main results of the customer satisfaction surveys carried out by Acea SpA and reported here concern the customers of the companies Acea Ato 2 (Rome and Fiumicino and province) and Acea Ato 5 (Frosinone and province) operating in the Lazio area, Gesesa and Gori, both operating in Campania, and AdF, operating in Tuscany.

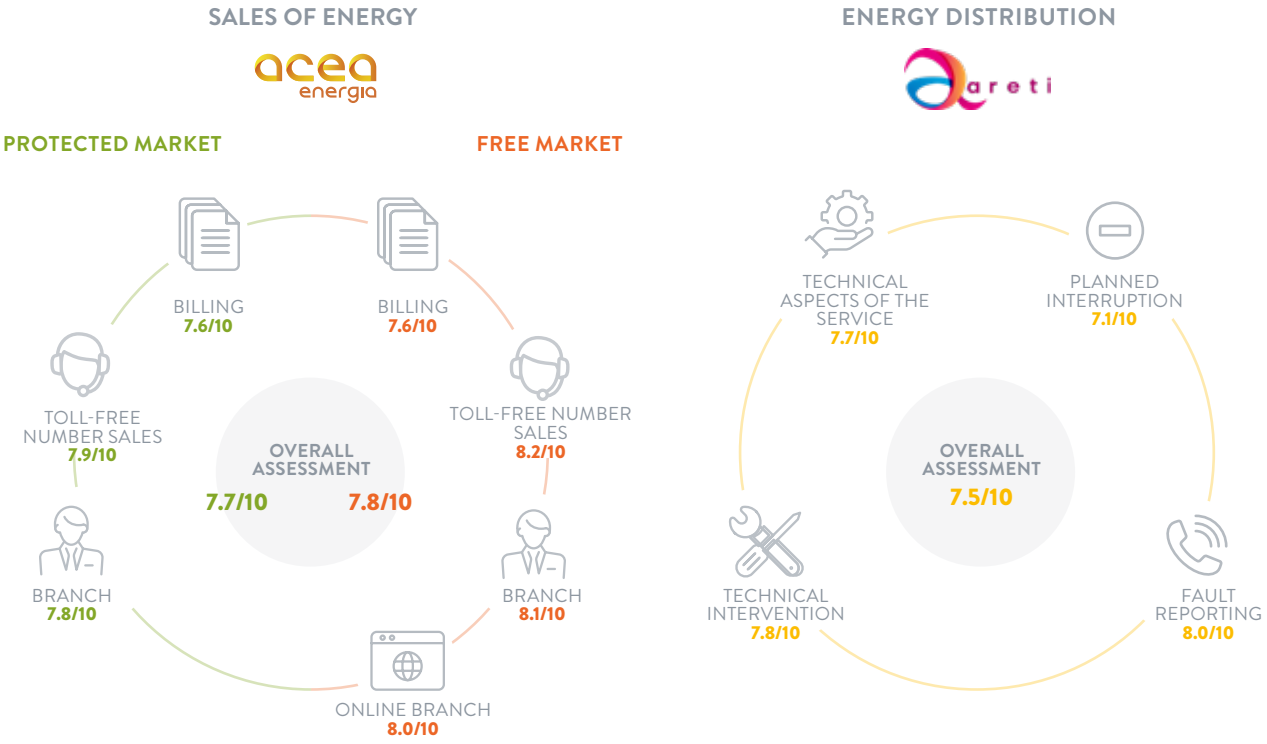
66 Interviews on "contact channels" are aimed at selected customers, using the "call back" method, from among those who have used the services (toll-free numbers for commercial information or fault reporting, website, branch, technical intervention, chat channels and digital service points) immediately before the first entry and consented to be contacted again.

67 *Computer Assisted Telephone Interviewing* of a stratified sample based on variables and representative of the universe of reference, following a structured questionnaire. Depending on the sample, the statistical error varies between +/- 2.5% and a maximum of +/- 4.2% and the level of significance is 95%.

**As regards the water service** (sale and distribution of water), the satisfaction of **customers of Acea Ato 2** (Rome and Fiumicino and province) and **Acea Ato 5** (Frosinone and province), in the Lazio area, **customers of Gori** and **Gesesa**, operating in Campania, and customers of **AdF**, operating in Tuscany, was measured. **The overall opinion** on the service provided by **Acea Ato 2 in Roma and Fiumicino** was 7.9/10; all aspects of the service monitored were close to or higher than 8/10. For **Acea Ato 5**, which operates in the city and province of Frosinone, **the overall rating** of the service is 6.5/10; the overall opinions on "billing" and "technical aspects" are on the average level of satisfaction, "branch" receives a rating over 7/10, while all other aspects receive overall ratings of complete satisfaction, over 8/10. For **Gori**, which manages the service in the Sorrento peninsula and Vesuvius centres between the provinces of Naples and Salerno, the **overall opinion** was also 6.7/10; "technical intervention" recorded complete satisfaction (8.4/10) whereas all other aspects reported opinions equal to or higher than 7/10. With regard to **AdF**, which operates in Tuscany, in the provinces of Grosseto and Siena, **the overall opinion** on the service was 7.7/10; the overall rating of the service aspects were over 7/10 for "billing" and over 8/10, i.e. in the area of complete satisfaction, for all other areas. For **Gesesa**, lastly, which operates in Benevento and its province, the **overall opinion** of the service was 7.1/10; an overall rating of 7.3/10 was received for both "technical aspects of the service" and "billing".

The charts below show, for each service, **the 2022 overall opinion (scale of 1-10)**, as the **average of the two half-yearly surveys**, and Tables 19 and 20 also show **the percentages of satisfied customers** insofar as the most important **quality factors** for the electricity sales and distribution services, the public lighting service and the water service, and the **comparison with the previous year**, with indication of the most significant deviations.

**Chart no. 20 – Overall opinion and on aspects of electricity service – sale and distribution of energy - 2022 (scale of 1-10)**




**NOTE**: the overall opinions and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

**Chart no. 21 – Overall opinion and on aspects of the public lighting service in Rome and Formello - 2022 (scale of 1-10)**

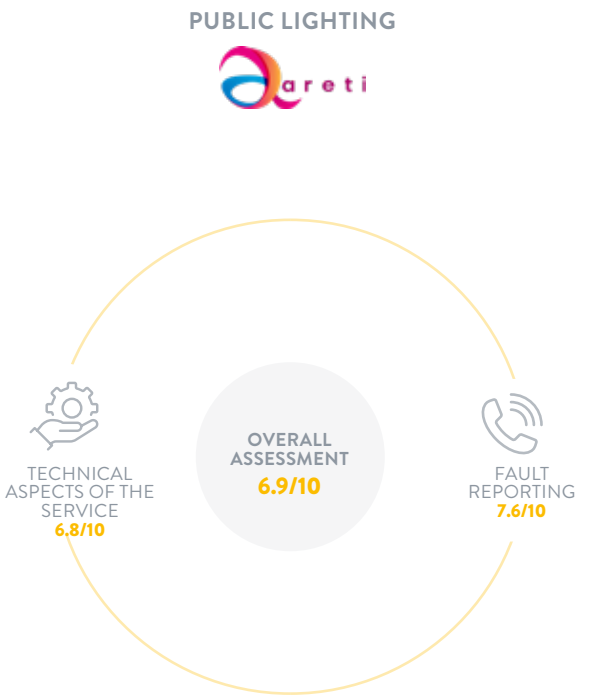
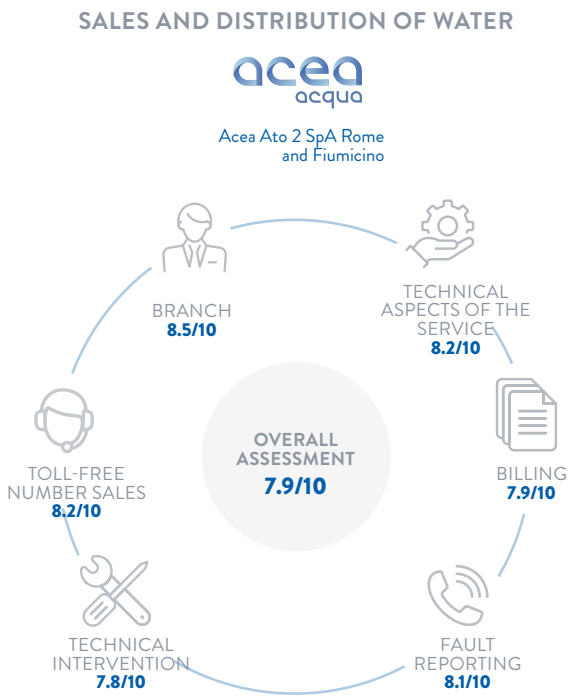



**Chart no. 22 – Overall opinion and on aspects of the water service – sale and distribution of water in Rome and Fiumicino - 2022 (scale of 1-10)**




**NOTE**: the overall opinions and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

## SURVEYS ON SATISFACTION WITH WATER SERVICE IN OTHER AREAS IN OTA 2 – CENTRAL LAZIO

Customer satisfaction surveys were also conducted **in the province of Rome**. In particular, **in 2022**, the two six-monthly surveys involved a sample of **2,200 customers** with direct users, representative of three territorial areas – **North Lazio, East Lazio and South Lazio** – falling within Optimal Territorial Area 2 – Central Lazio, managed by Acea Ato 2.

Since 2022, in addition to the "sales toll-free number" already monitored in 2021, the callback surveys also looked at "fault reporting" and "technical intervention", whereas contact in the "branch" was intercepted, as in previous years, through general survey.

The **overall opinion on the water service** in 2022 was **7.5/10**, an increase on the figure for 2021 (7.2/10); ratings for **individual aspects** of the service were **7.6/10** for "**technical aspects**" (including continuity of service and water pressure level), **7.7/10** for "**billing**", **8.1/10** for "**fault reporting**", **8.3/10** for "**technical intervention**", **8.2/10** for "**sales toll-free number**", whereas the low numbers of those who used the "branch" did not allow for a statistic of the figure. The ratings expressed are therefore in the area of **average and high satisfaction**.

**Chart no. 23 – Overall opinion and on aspects of the water service – sale and distribution of water in Frosinone and its province - 2022 (scale of 1-10)**

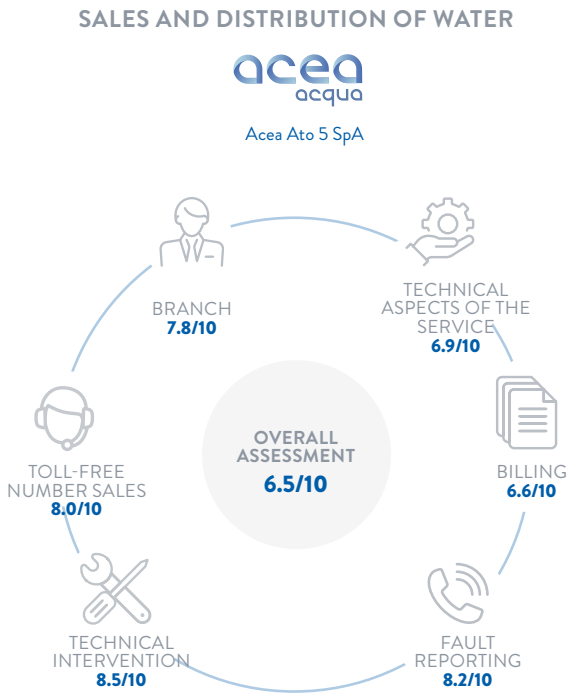



**Chart no. 24 – Overall opinion and on aspects of the water service – sale and distribution of water in Sarnese Vesuviano - 2022 (scale of 1-10)**

**NOTE**: the overall opinions and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

**Chart no. 25 – Overall opinion and on aspects of the water service – sale and distribution of water in Territorial Conference no. 6 "Ombrone" - 2022 (scale of 1-10)**

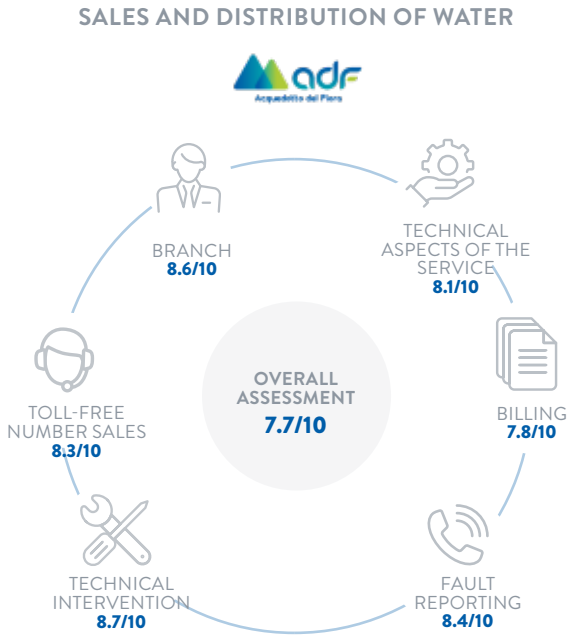



**Chart no. 26 – Overall opinion and on aspects of the water service – sale and distribution of water in Benevento and its province - 2022 (scale of 1-10)**

**NOTE**: the overall opinions and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

## THE PERCEIVED QUALITY OF THE WATER SEGMENT WEB PORTALS, RESULTS OF THE 2022 SATISFACTION SURVEYS

With a view to the **growing importance of the digital channels**, Acea upgraded the monitoring of the contact experience through the reserved area of the websites available to customers, introducing, in 2022, a sample portion **collected via CAWI** to also intercept the most digitalised users.

The companies Acea Ato 2 (Rome), Acea Ato 5, AdF and Gori received overall ratings **higher than 7/10** and the areas deemed most important by customers, albeit with varying weights in the different businesses, were mainly the "possibility to communicate meter readings", the "clarify of the information" and "ease of browsing".

**Table no. 19 – Results of customer satisfactions surveys: sales and distribution of energy, public lighting service (2021-2022)**

**average of the two interim reports**

| | u. m. | 2021 | 2022 | |
|---|---|---|---|---|
| ELECTRICAL SERVICE – SALE OF ENERGY – **ACEA ENERGIA** | | | | |
| STANDARD MARKET SERVICE CUSTOMERS | | | | |
| **sales activity (overall opinion)** | 1-10 | 7.9 | 7.7 | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **billing** | 1-10 | 7.7 | 7.6 | |
| *correctness of the amounts (*)* | % | 91.9 | 93.6 | |
| *bill clear and easy to read* | % | 90.1 | 91.8 | |
| **sales toll free number** | 1-10 | 8.4 | 7.9 | |
| *operator's competence* | % | 93.6 | 93.4 | |
| *clarity of operator's answers* | % | 92.6 | 93.3 | |
| **branch** | 1-10 | 8.4 | 7.8 | |
| *operator's competence* | % | 92.2 | 95.8 | |
| *operator's courtesy and availability* | % | 94.0 | 95.1 | |
| FREE MARKET CUSTOMERS | | | | |
| **sales activity (overall opinion)** | 1-10 | 7.6 | 7.8 | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **billing** | 1-10 | 7.5 | 7.6 | |
| *correctness of the amounts (*)* | % | 86.8 | 91.3 | ▲ |
| *bill clear and easy to read* | % | 88.6 | 91.0 | |
| **sales toll free number** | 1-10 | 8.3 | 8.2 | |
| *operator's competence* | % | 89.1 | 92.6 | |
| *clarity of answers provided* | % | 88.5 | 91.3 | |
| **branch** | 1-10 | 8.4 | 8.1 | |
| *operator's competence* | % | 90.5 | 90.3 | |
| *operator's courtesy and availability* | % | 92.0 | 91.7 | |
| **on-line branch** | 1-10 | 7.7 | 8.0 | |
| *ease of browsing* | % | 92.9 | 95.3 | |
| *clarity of the information found* | % | 94.9 | 95.0 | |
| ELECTRICAL SERVICE – ENERGY DISTRIBUTION – **ARETI** (Rome and Formello) | | | | |
| **distribution activity (overall opinion)** | 1-10 | 7.8 | 7.5 | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | 1-10 | 7.9 | 7.7 | |
| *service continuity* | % | 97.5 | 94.5 | |
| **planned interruption** | 1-10 | 7.5 | 7.1 | |
| *prior notice of suspended supply* | % | 87.1 | 85.8 | |
| *clarity of information on notices regarding recovery times* | % | 86.8 | 88.2 | |
| **fault reporting** | 1-10 | 6.9 | 8 | ▲ |
| *clarity of the information provided* | % | 78.3 | 89.3 | ▲ |
| *easy to follow the automatic answering machine* | % | 76.8 | 87.5 | ▲ |
| **technical intervention** | 1-10 | 7.7 | 7.8 | |
| *intervention speed following the request* | % | 80.3 | 79.8 | |
| *technicians' competence* | % | 85.1 | 86.8 | |
| PUBLIC LIGHTING SERVICE – **ARETI** (Rome and Formello) | | | | |
| **lighting service (overall opinion)** | 1-10 | 6.7 | 6.9 | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | 1-10 | 6.7 | 6.8 | |
| *service continuity* | % | 77.2 | 87.1 | ▲ |
| *replacement times of posts knocked down* | % | 83.0 | 78.2 | ▼ |
| **fault reporting** | 1-10 | 7.5 | 7.6 | |
| *clarity of the information provided* | % | 86.3 | 89.5 | |
| *operator's courtesy and availability* | % | 90.8 | 90.3 | |

(*) The figure refers to the correctness of the amounts of the electricity supply on the bill.
**NOTE**: the table shows **only the quality factors indicated as most important by the sample of interviewees in 2022**, which may lead to consequent changes in the 2021 column. The right-hand column also shows the **most significant deviations**, of **about 5 percentage points**, for the individual items surveyed.

**Table no. 20 – Results of customer satisfactions surveys: water service (2021-2022)**

**average of the two interim reports**

| | u. m. | 2021 | 2022 | |
|---|---|---|---|---|
| WATER SERVICE – SALE AND DISTRIBUTION OF WATER – **ACEA ATO 2** (Rome and Fiumicino) | | | | |
| **water service (overall opinion)** | **1-10** | **7.9** | **7.9** | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | **1-10** | **7.9** | **8.2** | |
| *service continuity* | *%* | *96.2* | *97.4* | |
| **billing** | **1-10** | **7.3** | **7.9** | |
| *correctness of invoiced consumption (*)* | *%* | *93.9* | *95.3* | |
| *bill clear and easy to read* | *%* | *92.3* | *95.1* | |
| **fault reporting** | **1-10** | **8.1** | **8.1** | |
| *operator's courtesy and availability* | *%* | *93.5* | *94.0* | |
| *clarity of the information provided* | *%* | *91.3* | *94.5* | |
| **technical intervention** | **1-10** | **8.1** | **7.8** | |
| *technicians' competence* | *%* | *90.6* | *93.3* | |
| *intervention speed following the request* | *%* | *85.5* | *83.8* | |
| **sales toll free number** | **1-10** | **8.0** | **8.2** | |
| *operator's competence* | *%* | *89.3* | *92.6* | |
| *operator's courtesy and availability* | *%* | *90.9* | *93.8* | |
| **branch** | **1-10** | **8.6** | **8.5** | |
| *operator's competence* | *%* | *93.5* | *92.3* | |
| *operator's courtesy and availability* | *%* | *95.2* | *94.4* | |
| WATER SERVICE – SALE AND DISTRIBUTION OF WATER – **ACEA ATO 5** (municipalities within OTA 5 – Frosinone) | | | | |
| **water service (overall opinion)** | **1-10** | **6.3** | **6.5** | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | **1-10** | **6.9** | **6.9** | |
| *service continuity* | *%* | *81.6* | *84.8* | |
| **billing** | **1-10** | **6.5** | **6.6** | |
| *correctness of invoiced consumption (*)* | *%* | *75.7* | *82.1* | |
| *bills sent regularly* | *%* | *76.4* | *81.8* | ▲ |
| **fault reporting** | **1-10** | **7.9** | **8.2** | |
| *clarity of the information provided* | *%* | *89.3* | *93.8* | ▲ |
| *operator's courtesy and availability* | *%* | *90.8* | *94.3* | ▲ |
| **technical intervention** | **1-10** | **7.8** | **8.5** | ▲ |
| *technicians' competence* | *%* | *88.0* | *92.8* | ▲ |
| *intervention speed following the request* | *%* | *81.8* | *92.8* | ▲ |
| **sales toll free number** | **1-10** | **7.8** | **8.0** | |
| *operator's competence* | *%* | *93.5* | *92.3* | |
| *clarity of the information provided* | *%* | *93.3* | *92.8* | |
| **branch (**)** | **1-10** | **7.9** | **7.8** | |
| *operator's competence* | *%* | *97.6* | *95.0* | |
| *clarity of the information provided* | *%* | *97.8* | *94.0* | |
| WATER SERVICE — SALE AND DISTRIBUTION OF WATER — **GORI** (municipalities within the Sarnese-Vesuviano District Area) | | | | |
| **water service (overall opinion)** | **1-10** | **6.6** | **6.7** | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | **1-10** | **7.1** | **7.0** | |
| *service continuity* | *%* | *79.8* | *84.5* | |
| **billing** | **1-10** | **6.6** | **6.9** | |
| *correctness of invoiced consumption (*)* | *%* | *72.6* | *83.4* | |
| *bills sent regularly* | *%* | *79.0* | *80.7* | |
| **fault reporting** | **1-10** | **7.7** | **7.9** | |
| *clarity of the information provided* | *%* | *86.9* | *90.8* | |
| *operator's courtesy and availability* | *%* | *89.1* | *91.0* | |
| **technical intervention** | **1-10** | **8.5** | **8.4** | |
| *technicians' courtesy and availability* | *%* | *91.8* | *92.8* | |
| *intervention speed following the request* | *%* | *90.5* | *90.8* | |

| | | | | |
|---|---|---|---|---|
| **sales toll free number** | **1-10** | **7.9** | **7.3** | |
| *clarity of the information provided* | *%* | *89.4* | *91.8* | |
| *operator's competence* | *%* | *88.9* | *90.8* | |
| **branch** | **1-10** | **8.0** | **7.5** | |
| *operator's competence* | *%* | *89.1* | *92.0* | |
| *clarity of the information provided* | *%* | *88.9* | *93.0* | ▲ |
| WATER SERVICE – SALE AND DISTRIBUTION OF WATER – **AdF** (municipalities falling within Territorial Optimal Conference no. 6 Ombrone) | | | | |
| **water service (overall opinion)** | **1-10** | **7.5** | **7.7** | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | **1-10** | **7.6** | **8.1** | |
| *service continuity* | *%* | *92.3* | *94.8* | |
| **billing** | **1-10** | **7.2** | **7.8** | |
| *correctness of invoiced consumption (*)* | *%* | *87.6* | *93.6* | |
| *bill clear and easy to read* | *%* | *87.2* | *92.3* | |
| **fault reporting** | **1-10** | **8.3** | **8.4** | |
| *clarity of the information provided* | *%* | *90.8* | *93.8* | |
| *operator's courtesy and availability* | *%* | *93.8* | *95.8* | |
| **technical intervention** | **1-10** | **8.5** | **8.7** | |
| *technicians' courtesy and availability* | *%* | *96.5* | *97.0* | |
| *intervention speed following the request* | *%* | *93.5* | *95.5* | |
| **sales toll free number** | **1-10** | **8.4** | **8.3** | |
| *operator's competence* | *%* | *94.6* | *95.5* | |
| *operator's courtesy and availability* | *%* | *94.1* | *95.0* | |
| **branch** | **1-10** | **8.3** | **8.6** | |
| *operator's competence* | *%* | *89.8* | *95.5* | |
| *operator's courtesy and availability* | *%* | *91.8* | *95.3* | |
| WATER SERVICE — SALE AND DISTRIBUTION OF WATER — **GESESA (***)** (municipalities within OTA – Calore Irpino) | | | | |
| **water service (overall opinion)** | **1-10** | **6.9** | **7.1** | |
| ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY | | | | |
| **technical aspects of the service** | **1-10** | **7.2** | **7.3** | |
| *service continuity* | *%* | *84.2* | *89.6* | |
| **billing** | **1-10** | **6.9** | **7.3** | |
| *correctness of invoiced consumption (*)* | *%* | *80.1* | *91.6* | |
| *bills sent regularly* | *%* | *83.1* | *89.1* | |

(*) From the first half of 2022 the formulation of the question "correctness of the amounts" was replaced, for all companies in the Water Business, by "correctness of invoiced consumption".
(*) It should be noted that in the satisfaction surveys of Acea Ato 5 customers relating to the "branch" aspect, the data for the first half of 2021, included in the calculation of the average for the year, refers to a sample of only 52 respondents, which is lower than the statistical significance, due to the low influx recorded for the pandemic situation.
(***) For Gesesa, a smaller company, the service aspects investigated and represented herein are "technical aspects" and "billing".
**NOTE**: the table shows **only the quality factors indicated as most important by the sample of interviewees in 2022**, which may lead to consequent changes in the 2021 column. The right-hand column also shows the **most significant deviations**, **of about 5 percentage points**, for the individual items surveyed.

## QUALITY DELIVERED

Acea oversees the **quality of the services provided** with interventions aimed at its constant improvement. To this end it trains people and ensure that they attend seminars, applies innovative technology to the management of processes, renews and expands the infrastructure (networks and plants), increasing its resilience, also aimed at the reduction of failures and timely recovery, increases the offer of digital contact channels, complementing the traditional ones and takes care of communication with customers.
The "**quality delivered**" is **also measured via benchmarks defined by the sector authority** or indicated in the **service contracts and management agreements** with local authorities, in particular:

- for the **Public Lighting** service, the contract between Acea and Roma Capitale regulates the qualitative parameters (performance standards);
- the **technical and commercial quality standards in the energy sector** (for both distribution and sales) and the **contractual and technical quality standards in the integrated water service** are defined and updated by the **Energy**, **Networks and Environment Authority** (ARERA) and, for the water sector, also by the local authorities.

The **main regulatory interventions by ARERA** in 2022 for the electricity and water sectors are summarised in the *Group profile*, in the paragraph "*Context analysis and business model*", to which reference should be made.
In addition to complying with the quality standards laid down by the regulation, Group companies operate in accordance with **UNI EN ISO certified management systems** based on a **rationale of continuous improvement** (see also *Corporate identity*, in the paragraph *Management systems*).

## QUALITY IN THE ENERGY SEGMENT

This section illustrates the quality aspects relating to **electricity distribution services** in the municipalities of Rome and Formello, **and public lighting** in the municipality of Rome, both managed by **Areti**[68], while for electricity and gas sales, managed by Acea Energia, see the section on *Customer Care*.
The Company operates in compliance with the **QESE (Quality, Environment, Safety and Energy) Management System** for both the construction and management of distribution infrastructure and Public Lighting.

### *THE DISTRIBUTION OF ELECTRICITY*



**Plan for en masse replacement** of second generation devices:
**installed** another
**273,294 2G meters**
in 2022 for over **1.6 million meters** remotely managed



As part of **Areti's resilience plan, critical factor "heat waves"**:
modernised **58 km**
of MV CABLE and rebuilt
**53 secondary substations** , **critical factor "flooding"**: rebuilt
**35 secondary substations**



in 2022:
**8,507 MV nodes remotely controlled**



Carried out **mass drone inspections**, for a section of the overhead MV network equal to
**160 km**

ti plans and carries out the modernisation and expansion works on **the electricity distribution network**, consisting of high (HV), medium (MV) and low (LV) voltage power lines, primary and secondary substations, and systems for the remote control and measurement of energy drawn from and fed into the grid. **The interventions** take into account the objectives established by the national authority (ARERA), the progressive evolution of electricity applications, the increase in "prosumers"[69], new connections, etc., and **aim to make the infrastructures increasingly resilient**, with an adequate and **enabling network configuration for future scenarios**, such as **widespread electric mobility** and progressive **electrification of consumptions**.
The **integrated development of the electricity grids** is defined in the Master Plans for the HV, MV and LV networks, which Areti implements through construction - and also decommissioning or demolition, and consequent containment of environmental impacts, in specific areas-, transformation, modernisation, maintenance, etc. (see Table no. 21). The interventions carried out each year are aimed at **rationalising and upgrading the networks**, increasing transport capacity and margins for further use, **increasing their adaptability** and **reducing network losses and voltage drops**, improving **service continuity**.
In 2022, as part of the implementation of the **Resilience Plan**[70], **58 km** of medium voltage cable at 20 kV **were upgraded** and **53 secondary substation renovations** were carried out to increase their **resilience to the critical factor of "heat waves"**, and **35 secondary substation renovations** were carried out to increase **resilience to the critical factor "flooding"**. For the LV networks, **86 km** were put in place as part of the **overall network modernisation programme**, in preparation for the subsequent voltage change from 230 V to 400 V. **Remote control** was extended to additional **secondary substations** and **reclosers**, for a **total of 8,507 remote-controlled MV nodes** at 31 December 2022 (7,582 in 2021).

68 Areti holds the ministerial concession for the distribution of electricity in the areas indicated and manages public lighting under the *Service Contract* stipulated between Acea SpA and Roma Capitale.

69 Prosumers are both consumers and producers of energy, which they use for their own consumption or sell to the grid (see the box on prosumers connected to Acea's networks, which are constantly increasing, in the section on *Acea Group customers: electricity and water services*).

70 Areti's Resilience Plan was submitted to ARERA in June 2019.

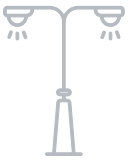
**Table no. 21 – Main interventions for the management and development of electricity grids and substations (2022)**

| type of work | HV lines and primary substations (PSs) |
|---|---|
| Demolition of grid and supports | work continued on the **dismantling of high-voltage lines**, which had been taken out of service, leading to the removal of a total of **49 pylons** of the 150 kV and 60 kV lines; a total of 5.4 km of the 60 kV high-voltage lines in EPR underground cable (Castel Romano HV lines 1 and 2 leaving PS Laurentina towards Via Gadda terminal area) were decommissioned. |
| Construction of grid and supports | the new **150 kV Selvotta – Castel Romano line** was **completed and put into service** (formed of the 5.8 km overhead stretch and 24 supports as well as the 2 km cable section); the works to build the new stretch of the 150 kV North Rome – San Basilio underground cable line (3.4 km) are awaiting authorisation; the **works to upgrade** the **150 kV high-voltage Capannelle – Cinecittà/O cable** in existing O.F. **with XLPE cable** (cross linked polyethylene) were launched, from terminal area "Osteria del Curato" to PS Cinecittà/O (1.56 km of new HV cable installation and subsequent removal of two sets of three HV cables in existing O.F. for a total of 2.7 km). |
| Station upgrading, expansion, renovation | interventions were carried out in **49 primary substations**; at **PS Prenestina works were completed to renovate** the high-voltage 150 kV section and new TR 3; at **PS Ostiense** works began to **replace the 150 kV high-voltage switchgear** with the installation of the first high-voltage hybrid section; at **PS Selvotta**, the new TR1 150/20 kV was **put into operation**. |
| Ordinary and extraordinary maintenance on PS station equipment | interventions were made on **98 high-voltage circuit breakers** and **686 medium-voltage circuit breakers** were maintained; **17 on-load tap changers** of power transformers were overhauled and **36 high-voltage measuring transformers** were replaced; **the 220/150 kV ATR transformer** at the **Cinecittà/F** primary substation was also replaced. |
| | **HV and MV protection and measures** |
| Remote management | the following were prepared, calibrated and put into operation **60 new MV line bays**; **checked 601 posts** (57 HV posts and 544 MV posts) and **56 transformers** (between HV/MV and MV/MV). |
| measures | earth resistance measurements were carried out on **2,731 secondary substations**; step and contact voltages and total earth resistance measurements were conducted on **13 substations** (10 primary and 3 secondary). |
| | **MV and LV lines** |
| Modernisation and upgrading of MV networks (transformation from 8.4 kV to 20 kV) and LV networks (transformation from 230 V to 400 V) | **143 km of 20 kV MV cable** (25 km for expansion and 118 km for upgrading), **including 58 km to increase resilience to heat waves**, and **156 km of LV cable** (70 km for expansion and 86 km for upgrading in preparation for voltage changeover) were installed. |
| ordinary and extraordinary maintenance | **Massive drones inspections** were carried out for an extension of the overhead MV network equal to **160 km**, in order to carry out specific interventions to replace equipment, supports, conductors, etc. necessary for the preservation and maintenance of the functionality of the systems. |
| | **secondary substations (SSs) and remote control** |
| construction, extension, reconstruction SS | **721 secondary substations** were built/upgraded/rebuilt (140 for new connections or power increases, 581 for upgrading to 20 kV, renewing equipment, setting up remote control), **of which 88 substations were rebuilt to increase resilience** to "heat waves" (53 substations) and "flooding" (35 substations). |
| ordinary and extraordinary maintenance on SS | **1,328 extraordinary maintenance operations** and **583 inspections** on secondary substations were carried out |
| remote control | remote control was extended to **241 secondary substations and 681 reclosers** (8,507 MT nodes were remote controlled at 31 December 2022) and **4043 maintenance operations** were carried on TLCs and reclosers. |

In 2022, Areti continued to carry out interventions to protect the primary and secondary substations, as part of the activities aimed at raising the levels of security for the **protection of infrastructures from cyber risks**, **technological solutions** have been implemented to protect field equipment, **capable of filtering data traffic**. New solutions were also implemented for **monitoring the data networks, identifying and responding to incidents** in light of the creation of the Security Operation Centre (SOC). See also the chapter *Institutions and the Company* for an in-depth analysis of research and innovation and the projects implemented in the year.

As part of the plan for the **mass replacement of first-generation (1G) meters with second-generation (2G) ones**, launched in the last quarter of 2020, which will progressively affect the entire managed territory, **in 2022 Areti installed a further 273,294 2G meters**; the new meters encourage greater customer awareness of consumption, thanks to the data available, and a reduction in estimated billing.
The total number of **remote-controlled meters** (1G and 2G) installed on low-voltage active users at 31 December 2022 **is 1,652,552**.

*PUBLIC LIGHTING*



**204,676**
**light points** and
**231,437**
**bulbs** managed in Rome:
**92% of the park LED lamps**

**2,059**
**lamp posts reinstalled** and
**10,502 maintenance interventions** on LED lamps/fixtures

**lighting projects in the green areas of the capital:**
Nicholas Green Park, Stefano Cucchi Park, Antonella Renzi Park, Volpi Park, Spallette Park and green areas on Via G. Falck and Via Levanna

**Areti** manages, by virtue of the *Service Agreement*[71] between Acea SpA and Roma Capitale, works on the **functional** and **artistic-monumental public lighting** infrastructures, for **over 204,600 lighting points** located on a territory covering about 1,300 km$^2$.
The company handles the **design**, **construction**, **operation**, **maintenance and renovation of lighting networks and installations**, and plans interventions **in accordance with the instructions of the local government departments and supervisory departments**, which are responsible for new urban developments, redevelopment projects and cultural heritage.
In addition to the service provided to Roma Capitale, Areti also makes public and artistic lighting services available to other stakeholders (e.g. ecclesiastical bodies, hotels, etc.).

**Table no. 22 – Public lighting in Rome in figures (2022)**

| | |
|---|---|
| lighting points (no.) | **204,676** |
| *monumental artistic lighting points (no.)* | around ***10,178*** |
| bulbs (no.) | **231,347** |
| MV and LV network (km) | **8,166** |

Energy consumption for public lighting, which has seen a downward trend in previous years thanks to the modernisation of the systems with the installation of LED lamps, has stabilised; as at 31 December 2022, the **212,799 LED lamps installed cover 92% of the total number of lamps** (see *Relations with the Environment*; *The Use of Materials, Energy and Water* and the *Environmental Accounts*).
In 2022 activities continued for the development of an **innovative technological solution** intended for the creation of a "**smart pole**", in a "**smart city**" perspective. In particular, the design and development of the solution and the prototypes reached an advanced stage and the phase of the equipment also went into production.

The lighting projects carried out during the year include, by way of example, the new lighting of some **parks and gardens** located in central and suburban areas of the capital, for the benefit and greater safety of citizens, and among the functional projects were systems to serve certain **streets without lighting**. During the year, certain plants subsequently acquired were also adapted and **plant sections were built for major public works** with multi-year timeframes (see the info boxes).

## LIGHTING WORKS IN PARKS AND GARDENS

In 2022, Areti carried out multiple lighting interventions in parks and gardens of the capital; in particular, with financing from the Department for Coordination and Development of Infrastructure and Urban Maintenance (CSUMI) of Roma Capitale, new lighting was created in the **Nicholas Green Park**, in Rome's Municipio XIII, which involved the installation of **38 lighting points for the pedestrian routes within the park, the play area and the sports field**, for an overall installed power of 950W, and the **green area on Via Giorgio Falck** (in Municipio V), with the installation of 11 lighting points for the pedestrian route and the play area (power 400W). Lighting was installed in the **Stefano Cucchi Park** (6 lighting points) and the **Antonella Renzi Park** (14 lighting points), using the available funds of Municipio X and VII respectively, for a total installed power of 500W; upgrading and lighting works were carried out in the **Volpi Park** in Municipio XV (17 lighting points, total power 700W) and the **Spallette Park** in Municipio XI (13 lighting points, overall power 500W), thanks to the collaboration with the Roma Capitale Environment Department.
Lastly, in the green area on **Via Levanna** (Municipio III), a new public lighting system was created through the installation of 13 lighting points, for a total power of 500W.
**All the interventions** mentioned were carried out using **LED light sources**.

71 By Resolution of the City Council no. 130 dated 22 December 2010 regarding the *Updating of the Service Agreement between Roma Capitale and Acea SpA*, effective 15 March 2011, the agreement was extended to 31 December 2027.

## FUNCTIONAL INTERVENTIONS

The **upgrade to Piazza Sempione** (in Municipio III), which created a large pedestrian zone, also led to the **restructure of the public lighting system**, through the removal of the existing system (-450 W) and the installation of 8 candelabras in style equipped with LED lanterns (total 280W). The pedestrian zone between **Via Castore** **Durante** and Via delle Palme (in Municipio V) was lit with 8 LED lighting points with an overall power of 400W. Lastly, **Via Fortunato Pintor**, in Municipio XIV, was lit through the installation of **8 supports with street fixtures** (400W).

## MAJOR WORKS AND TAKING OVER SYSTEMS

As part of the major public works affecting the streetscape and the public lighting systems, Areti is carrying out interventions for the creation of new systems as works progress for:

- demolition of the ***Tangenziale Est*** overpass of
- widening of the road surface on **Via Tiburtina**
- creation of the road network in the **Comprensorio Direzionale** **Pietralata** (formerly SDO)

The systems relating to the **Spizzichino Bridge** were also adapted and taken over (61 lighting points for an installed power of 3500W) and the **Nuvola Conference Centre** (55 lighting points for 3500W of power).

Every year, Areti carries out **efficiency and safety upgrades** at lighting points, as well as **scheduled and extraordinary maintenance** on the installations (see Table no. 23).

**Table no. 23 – Main interventions for improved efficiency, safety, repairs and maintenance (2022)**

| type of work | (no.) |
|---|---|
| **energy efficiency/technological innovation** (replacement of fixtures) | **780 light points replaced** (not including new LED installations) |
| **safety measures** | **3,520** lighting points made safe – class 2 |
| **checking corrosion on lamp posts** | **27,285** supports verified (functional and artistic) |
| **LED lamp reinforcement/maintenance** | **10,502** maintenance jobs |
| **Reinstalling lamp posts** that were corroded or knocked down due to accidents | **2,059** lamp posts reinstalled |

**NOTE**: the table includes operations carried out for the Municipality of Rome and third parties.

Acea monitors the **quality parameters of the public lighting service** with regard to the **repair time of faults**, calculated from the time the citizen's report[72] is received. The **performance standards** are **expressed by an average allowable restoration time** (TMRA), within which repairs should be carried out, **and a maximum time** (TMAX), beyond which **a penalty mechanism is triggered**[73].

For the **2022 performance** relating to the **average recovery time** (TMR) **of the functionality of the plants**, for the various types of failure, Table no. 24 shows the best estimate available, since at the time of publication of this document, the data are in the process of being consolidated; all the performances are below the average restoration time limits allowed by the contractual standards.

**Table no. 24 – Public lighting fault recovery: penalties, standards and Acea performance (2021-2022)**

| type of fault | daily penalty for delays | standard contractual service (*) | | Acea service | |
|---|---|---|---|---|---|
| | (euro) | TMRA (average permitted recovery time) (working days) | TMAX (maximum recovery time) (working days) | TMR (average recovery time) (working days) | |
| | | | | 2021 | 2022 |
| blacked out neighbourhood – MV grid failure | 70 | 1 working day | 1 working day | < 1 working day | <1 working day |
| blacked out street – MV or LV grid failure | 50 | 5 working days | 8 working days | 1.2 working days | 1.6 working days |
| blacked out stretch (2-4 consecutive lights out) | 50 | 10 working days | 15 working days | 9.7 working days | 8.9 working days |
| Lighting points out: single lamps, posts, supports and armour | 25 | 15 working days | 20 working days | 23.4 working days | 14.7 working days |

(*) Consistent with previous years, data were monitored in compliance with provisions under Annex D/2 to the *2005-2015 Municipality of Rome – Acea SpA Service Agreement*.

72 For the purpose of calculating service levels, reports pertaining to damages caused by third parties are not be considered.

73 Fines are calculated using the following criteria: if the average repair time (TMR) is higher than the average allowable repair time (TMRA), for each type of report daily fines are applied to each notice for which the lead time (LT) exceeds the value of the TMRA. If the TMR is lower than or equal to the TMRA, for each type of report daily fines are applied to each notice for which the LT exceeds the value of the maximum allowable recovery time (TMAX).

**Control systems**, such as remote management, detect the fault situation, which **can also be reported** via contact channels (call centre, app, web, fax or letter)[74]. **In 2022, 12,385 fault reports were received**[75] , a reduction of around 32% compared to the previous year (18,340 reports), and **91%** were followed up within the year.
The **percentage distribution of the total number of reports received by type of fault** is shown in Chart no. 27. The most significant incidents concern "blacked out street" (46%) and "lighting point out" (40%). "Blacked out stretch" is more contained (14%), but still higher than 2021. During the year there have been no cases of "Blacked out neighbourhood" due to grid failure.

**Chart no. 27 – Types of public lighting faults out of total reports received (2022)**

Areti also has consolidated expertise in **artistic and monumental lighting**, of which there were **10,178 dedicated lighting points** in 2022. In addition to interventions relating to new constructions or modernisation works that are designed and carried out in accordance with the supervisory departments, examples also include the **special lighting/ switching off lights at symbolic sites**, such as those **carried out in 2022** at the Colosseum, Senate Palace, Lazio Region Palace, etc. with the intention of raising citizens' awareness during particular anniversaries. For the remainder, only **ordinary maintenance** was carried out during the year, including a particularly important case involving the replacement of the **underwater projectors** in the **Fountain of the Naiads**, in Piazza della Repubblica. Other maintenance interventions were carried out at the **archaeological sites** of Trajan's Market, at the Baths of Caracalla, the Baths of Diocletian and the Colosseum, at the site of Castel Sant'Angelo, the palaces of the EUR and in the monumental parks of Municipio I and Municipio II.

## THE QUALITY LEVELS REGULATED BY ARERA IN THE ELECTRICITY SECTOR

The **Regulatory Authority for Energy, Networks and the Environment** (ARERA) defines, at a national level, the **commercial quality** standards (timing of the technical-commercial services requested by customers, such as estimates, work on connections, activation/deactivation of the supply, response to complaints) and **technical** quality standards (continuity of supply) **of the electricity service**; **it periodically reviews them**, directing operators to constantly improve performance.
**Commercial quality** is divided into **"specific"** and **"general" levels**, [76]for the **distributor** (differentiated for low and medium voltage supplies) and for those of the **seller** (see Tables 25, 26 and 27).
Every year **Acea communicates to ARERA the results achieved and includes them in the bill it sends to its customers**.
The **2022 commercial and technical quality results**[77] related to the **distribution** and metering, as disclosed herein, represent the **best estimate available** [78] at the time of writing and may not precisely coincide with those submitted to ARERA as part of the annual reports.
As regards the **"specific" levels of commercial quality**, compared to the previous year, there is an improvement in the completion time of simple works for the creation of new ordinary LV connections (in particular for domestic users) and ordinary MV connections, whereas other performance has remained stable. On the other hand, there was a worsening in the estimate time for works on LV networks, both in terms of the average days for preparing the estimate and the percentage of compliance with the standard. With regard to the **"general" levels** relating to responses to written complaints/enquiries, there was an improvement in performance compared to 2021, with a recovery both in terms of average days to process complaints and the percentage of response within the times envisaged by ARERA, with the same number of requests received as last year (see Table no. 25). Automatic compensation to customers[79] to be paid in case of non-compliance with "specific" quality levels, start from a basic amount[80], which can be doubled (if the timing of the activities exceeds the standard between two and three times) or tripled (if the timing exceeds the standard by three times).
For the quality aspects of the **sales** service, managed by **Acea Energia**, in the context of the "specific levels" of commercial quality in 2022, the percentages of compliance with the standards set by ARERA decreased due to billing corrections for the standard market, but, on the other hand, improved significantly for the free market. The percentages of compliance also contracted for the reasoned reply to written complaints, in both markets, but to a lesser extent for the free market (see Table no. 26).
With reference to Areti's performance related to the incentive regulation of the **duration** and **number** of **interruptions without prior notice** for **low-voltage users**, the data related to the 2022 financial year – summarised in Table no. 27 – indicate that in the urban areas characterised by the highest degree of concentration of users (so-called high and medium concentration territorial areas), the **continuity of the service** was guaranteed with a **better quality** compared to last year. Positive results are also being achieved in suburban and rural areas.
In addition to the indicators described above, the electricity distributor is also required to comply with specific levels of service continuity with

74 More detailed information on call centre performance and written complaints is provided in the *Customer Care* section.

75 The data excludes reminders and repeated reporting of the same fault.

76 Specific quality standards" are defined as the deadline within which the service provider must provide a given service and, in the event of non-compliance, they require that automatic compensation is granted to customers; the general quality standards" are defined as the minimum percentage of services to be provided within a given deadline.

77 Integrated Test on the output-based regulation of electricity distribution and measurement services – Annex A to ARERA resolution 646/2015/R/eel as subsequently amended and supplemented.

78 This is due to the misalignment between the delivery times of reports to the Authority and those required by law for the publication of this document.

79 Where due, automatic compensation is paid to the customer by deduction from the amount charged in the first subsequent bill and if needed in following bills, or paid by direct remittance. In any case, such automatic compensation must always be paid to the customer within 6 months from the date of receipt of the written complaint or the request for reimbursement of double billing, with the exception of customers who are billed quarterly, for which the term is set at 8 months. For distribution activities, automatic compensation is paid by the distributor to the service recipient within 7 months from the date on which the required service is provided.

80 The amount set by the Authority for compensation for non-compliance with the specific quality standards for the distribution service starts from a basic amount of € 35 for domestic low voltage customers; € 70 for non-domestic low voltage customers and € 140 for medium voltage customers. In the event of non-compliance with the specific quality standards of the sale, the seller shall pay the final customer an automatic compensation of € 25. Compensation grows in relation to the delay in the provision of the service.

reference to **medium voltage users** for which automatic compensation will be paid[81] in cases where the number of interruptions during the year exceeds a defined standard.
Finally, separately for **medium and low voltage users** in the event of failure to comply with the maximum power restoration times, there is an additional reimbursement to be paid by the distribution company to each user that is disconnected for more than 4 or 8 hours respectively.

**Table no. 25 – Main specific and general levels of commercial quality – energy distribution (2021-2022) (ARERA parameters and Areti performance – 2021: data submitted to ARERA; 2022: estimated data)**

| ENERGY DISTRIBUTION | | | | | |
|---|---|---|---|---|---|
| SPECIFIC LEVELS OF COMMERCIAL QUALITY | | | | | |
| SERVICES | ARERA PARAMETERS – maximum time by which the service must be performed | average actual completion time for services | percentage of services carried out within time limit | average actual completion time for services | percentage of services carried out within time limit |
| | | | 2021 | | 2022 |
| **LOW VOLTAGE (LV) SUPPLIES** | | | | | |
| **DOMESTIC CUSTOMERS** | | ARETI'S PERFORMANCE | | | |
| estimates for work on LV networks (ordinary connections) | 15 working days | 9.44 | 92.77% | 14.72 | 71.66% |
| completion of simple work (ordinary connections) | 10 working days | 10.48 | 71.21% | 10.25 | 81.76% |
| completion of complex works | 50 working days | 11.94 | 95.21% | 18.73 | 91.82% |
| supply activation | 5 working days | 1.39 | 97.50% | 1.50 | 97.17% |
| deactivation of supply on customers request | 5 working days | 1.05 | 98.59% | 1.10 | 98.54% |
| reactivation of supply following disconnection for late payment | 1 working day | 0.11 | 99.33% | 0.12 | 99.05% |
| resumption of the supply following faults of the metering equipment (requests sent during business days from 08:00 to 18:00) | 3 hours | 3.52 | 60.07% | 3.43 | 62.10% |
| resumption of the supply following faults of the metering equipment (requests sent during non-business days or from 18:00 to 08:00) | 4 hours | 2.40 | 86.40% | 2.94 | 81.78% |
| maximum punctuality band for appointments with customers | 2 hours | N.A. | 91.60% | N.A. | 87.08% |
| **NON-DOMESTIC CUSTOMERS** | | ARETI'S PERFORMANCE | | | |
| estimates for work on LV networks (ordinary connections) | 15 working days | 9.61 | 90.58% | 14.85 | 69.40% |
| completion of simple work (ordinary connections) | 10 working days | 11.05 | 77.21% | 10.58 | 79.87% |
| completion of complex works | 50 working days | 17.55 | 92.67% | 29.06 | 86.29% |
| supply activation | 5 working days | 2.27 | 93.63% | 2.31 | 93.51% |
| deactivation of supply on customers request | 5 working days | 4.94 | 94.58% | 2.61 | 94.03% |
| reactivation of supply following disconnection for late payment | 1 working day | 0.14 | 99.30% | 0.12 | 98.86% |
| resumption of the supply following faults of the metering equipment (requests sent during business days from 08:00 to 18:00) | 3 hours | 3.48 | 62.78% | 3.23 | 64.41% |
| resumption of the supply following faults of the metering equipment (requests sent during non-business days or from 18:00 to 08:00) | 4 hours | 2.51 | 84.91% | 2.67 | 81.89% |
| maximum punctuality band for appointments with customers | 2 hours | N.A. | 91.68% | N.A. | 89.13% |
| **MEDIUM VOLTAGE SUPPLIES (MV)** | | | | | |
| **END CUSTOMERS** | | ARETI'S PERFORMANCE | | | |
| estimates for work on MV networks | 30 working days | 17.14 | 84.05% | 17.33 | 93.06% |
| completion of simple work | 20 working days | 3.00 | 100% | 12.00 | 100% |
| completion of complex works | 50 working days | 9.88 | 92.86% | 14.60 | 97.14% |
| supply activation | 5 working days | 10.52 | 56.53% | 9.6 | 56.00% |
| deactivation of supply on customers request | 7 working days | 19.53 | 67.86% | 37.13 | 16.67% |
| reactivation of supply following disconnection for late payment | 1 working day | 0.43 | 100% | 0.37 | 100% |
| maximum punctuality band for appointments with customers | 2 hours | N.A. | 92.11% | N.A. | 89.80% |

81 In order to be entitled to compensation, medium voltage customers must prove that they have installed protection devices at their plants that can prevent any interruption caused by faults in their utility plants from having repercussions on the Areti network, damaging other customers connected nearby. Furthermore, they must send their own plant adequacy statement, issued by parties with specific technical and professional expertise. Where customers fail to meet the requirements whereby compensation may be sought, that amount is paid by Areti as a fine to the Energy and Environmental Services Fund.

| GENERAL LEVELS OF COMMERCIAL QUALITY | | | | | |
|---|---|---|---|---|---|
| **SERVICES** | **ARERA PARAMETERS** minimum percentage of services to be performed within a maximum time | average actual completion time for services | percentage of services performed within the maximum time | average actual completion time for services | percentage of services performed within the maximum time |
| | | | 2021 | | 2022 |
| **LOW VOLTAGE (LV) SUPPLIES** | | | | | |
| **DOMESTIC CUSTOMERS** | | ARETI'S PERFORMANCE | | | |
| reply to written complaints/enquiries regarding distribution operations | 95% within 30 calendar days | 85.47 | 50.70% | 28.55 | 73.53% |
| reply to written complaints/enquiries regarding metering operations | 95% within 30 calendar days | 72.46 | 44.72% | 47.25 | 61.51% |
| **NON-DOMESTIC CUSTOMERS** | | ARETI'S PERFORMANCE | | | |
| reply to written complaints/enquiries regarding distribution operations | 95% within 30 calendar days | 59.08 | 66.53% | 32.82 | 69.68% |
| reply to written complaints/enquiries regarding metering operations | 95% within 30 calendar days | 79.03 | 38.46% | 68.00 | 50.60% |
| **MEDIUM VOLTAGE SUPPLIES (MV)** | | | | | |
| **END CUSTOMERS** | | ARETI'S PERFORMANCE | | | |
| reply to written complaints/enquiries regarding distribution operations | 95% within 30 calendar days | 34.73 | 75.38% | 25.00 | 77.00% |
| reply to written complaints/enquiries regarding metering operations | 95% within 30 calendar days | 136.74 | 20.83% | 42.00 | 66.10% |

**NOTE**: The symbol "/" is used when services were not requested during the year, n.a. means the data are not applicable.

**Table no. 26 – Main specific and general levels of commercial quality – energy sales (2021-2022) (ARERA parameters and Acea Energia performance – data submitted to ARERA)**

| ENERGY SALES | | | |
|---|---|---|---|
| SPECIFIC LEVELS OF COMMERCIAL QUALITY (*) | | | |
| **SERVICES** | **ARERA PARAMETERS** maximum time by which the service must be performed | percentage of services carried out within time limit | percentage of services carried out within time limit |
| | | 2021 | 2022 |
| **MORE PROTECTED SERVICE** | | ACEA ENERGIA PERFORMANCE | |
| billing adjustments | 60 calendar days | 100% | 85.71% |
| double billing adjustments | 20 calendar days | / | 100% |
| reasoned reply to written complaints | 30 calendar days | 92.30% | 80.09% |
| **FREE MARKET** | | ACEA ENERGIA PERFORMANCE | |
| billing adjustments | 60 calendar days | 52.89% | 68.24% |
| double billing adjustments | 20 calendar days | / | / |
| reasoned reply to written complaints | 30 calendar days | 93.08% | 89.47% |
| **GENERAL LEVELS OF COMMERCIAL QUALITY** | | | |
| **SERVICES** | **ARERA PARAMETERS** minimum percentage of services to be performed within a maximum time | percentage of services performed within the maximum time | percentage of services performed within the maximum time |
| **MORE PROTECTED SERVICE** | | ACEA ENERGIA PERFORMANCE | |
| reply to written enquiries | 95% within 30 calendar days | 99.72% | 97.39% |
| **FREE MARKET** | | ACEA ENERGIA PERFORMANCE | |
| reply to written enquiries | 95% within 30 calendar days | 99.64% | 99.25% |

(*) Free market and more protected service customers with low and medium voltage supplies, and end customers of low-pressure natural gas (predominantly domestic customers and small businesses) receive an automatic compensation calculated on a base value of € 25 if standards are not met.
The symbol "/" is used when services were not requested during the year, N.A. means the data are not applicable.

**Table no. 27 – Service continuity data – energy distribution (2020-2022)**
**(ARERA parameters and Areti performance – 2020-2021: data certified by ARERA; 2022: provisional data)**

**ENERGY DISTRIBUTION – CONTINUITY INDICATORS – LV CUSTOMERS**

**DURATION OF DISRUPTIONS AND PERCENTAGE CHANGES**

| SERVICES | average cumulative duration of long disruptions without prior notice under the operator's responsibility per LV customer per year (minutes) | | | percentage changes | |
|---|---|---|---|---|---|
| | 2020 | 2021 | 2022 | 2022 vs. 2020 | 2022 vs. 2021 |
| high concentration | 42.3 | 30.4 | 29.9 | -29.31% | -1.64% |
| medium concentration | 52.0 | 45.5 | 38.1 | -26.73% | -16.26% |
| low concentration | 47.6 | 47.3 | 44.6 | -6.30% | -5.71% |

**AVERAGE NO. OF DISRUPTIONS AND PERCENTAGE CHANGES (*)**

| SERVICES | average no. of disruptions without prior notice under the operator's responsibility per LV customer per year | | | percentage changes | |
|---|---|---|---|---|---|
| high concentration | 1.869 | 1.603 | 1.389 | -25.68% | -13.35% |
| medium concentration | 2.589 | 2.461 | 1.909 | -26.26% | -22.43% |
| low concentration | 3.064 | 3.247 | 2.504 | -18.28% | -22.88% |

(*) The yearly average number of disruptions per low voltage customer considers both lasting disruptions (> 3 minutes) as well as short disruptions (≤ 3 minutes but longer than 1 second).
**Note**: the three territorial areas are defined on the basis of the degree of concentration of the resident population: more than 50,000 inhabitants is defined as "high concentration"; between 5,000 and 50,000 inhabitants is defined as "medium concentration"; less than 5,000 inhabitants is defined as "low concentration".

## QUALITY IN THE WATER AREA

**165 Water Kiosks**
active in the communities managed by Acea Ato 2, Gori and AdF:
over **38.7 million litres of water supplied**, equal to
**774 tonnes of plastic/year saved** and over
**2,000** tonnes of $CO_2$ not emitted into the atmosphere

**Strategic infrastructure:**
launched authorisation procedures to build the **new upper section of the Peschiera Aqueduct** and carry out 4 sub-projects

***Waidy Wow,***
the **"water community"** app installed on around
**106,000 devices:**
presented the latest upgrade at Acea Innovation Day 2022

The Acea Group manages the integrated water service (IWS) in several Optimal Areas of Operations (OTA) or District Areas of Lazio, Tuscany, Campania and Umbria through subsidiaries and investee companies.
Below, in line with the scope of reporting (see Communicating sustainability: methodological note), we describe the activities carried out in **Lazio, Campania** and **Tuscany** by the following companies:

- **Acea Ato 2**, in OTA 2 - Central Lazio (Rome and 112 other municipalities[82], of which 89 are managed[83] by Acea Ato 2, equal to about 98% of the population in the area), the Group's "historical" area of operation[84], with a pool of around 3.8 million inhabitants served;
- **Acea Ato 5**, in OTA 5 – southern Lazio – Frosinone (86 municipalities managed[85] in the area of Frosinone and vicinity, equal to about 93% of the population), for about 450,000 residents served;
- **Gori** operates in the Sarnese-Vesuviano district (in 76 municipalities - 59 in the province of Naples and 17 in the province of

82 In July 2021, with Regional Council Resolution no. 10, the Optimal Territorial Area 2 - Central Lazio-Rome was modified to include the Municipality of Campagnano di Roma, which previously belonged to OTA 1 - North Lazio-Viterbo.

83 In 89 municipalities, Acea Ato 2 managed the entire IWS (aqueduct, sewerage and waste water treatment), and the IWS was partially managed in another 17 municipalities.

84 Acea was entrusted with the running of the capital's aqueduct service since 1937, the water treatment system since 1985 and the entire sewerage system since 2002, effective 1 January 2003.

85 Including the management of two municipalities outside the area (Conca Casale and Rocca d'Evandro).

Salerno - of which 74 are managed), with approximately 1.4 million residents served;
- **Gesesa** operates in the OTA - Calore Irpino (22 municipalities managed, in the area of Benevento and province), with more than 110,000 residents served.
- **AdF**, operating in the OTA 6 Ombrone, which includes 55 municipalities (28 in the province of Grosseto and 27 in the province of Siena) with a population of more than 390,000 (for over 377,600 residents served

The integrated water service (IWS) involves **the entire cycle of drinking water and wastewater**, from the collection of water from the springs until its return to the environment, and is regulated by a **management agreement** signed **between the Company that takes charge of the service and the Area Authority** (AGB – Area Governing Body).
The Regulatory Authority for Energy, Networks and the Environment (ARERA), which also regulates the water sector at a national level, has defined the minimum essential contents of the "**Standard Agreement**" **between the entrusting bodies and the service operators**. For the main regulatory interventions in the water sector undertaken during the year by ARERA, see paragraph *Context analysis and business model (Group Profile* chapter), and for more details see the Authority's website.
The **Integrated Water Service Charter**, annexed to the Agreement, defines the **general and specific quality standards** that the operator must respect in relation to the users, in compliance with the ARERA Resolutions on **contractual quality and technical quality aspects**. The **User Regulations**, also annexed to the Agreement, govern the **relationship with customers**, establishing the technical, contractual and economic conditions that are binding for the operatorin the provision of services. For **the contractual quality performance** of water companies, see below the sub-section *Levels of quality regulated by ARERA in the water segment*.

The **management activities** of the integrated water service, though **closely related** and therefore allowing an **optimal definition of the processes**, must relate to **situations that are very diversified** from the standpoints of **size, demographics, geomorphology and hydrology** of the regions served, which also have an impact on the infrastructure to be implemented.
The Companies operate in compliance with the procedures of the **certified management systems**, in particular, for Acea Ato 2, Acea Ato 5 and Gesesa in the areas of Quality, Environment, Safety and Energy, for Gori in the areas of Quality, Environment and Safety and for AdF in the areas of Quality and Safety (see, for further details, *The corporate identity*, *The management systems*).

### *CONSISTENCY, INTERVENTIONS AND REMOTE CONTROL*

The companies managing the IIS are engaged in progressive **digitising of the networks**, through studies, field surveys and **data entry into the geo-referenced information system** (GIS). In particular, as at 31 December 2022, **Acea Ato 2** has **over 85% of the networks traced in the GIS system**; **Acea Ato 5** has digitised **around 5,399 km** of the water network (measured in the field and published in GIS) as at 31 December 2022, corresponding to **around 87% of the total**. **Gori** and Gesesa have georeferenced the stocks shown in Table no. 28 and are continuing to survey and update the data; Gesesa has already georeferenced the **water sites** (wells, springs, reservoirs/partitions) and the **sewage lifting and treatment plants**, including their functional diagrams.
**AdF**, in 2022, activated a process to validate the information present on the GIS system, through the obligation to update certain type of activities in GIS, which made it possible to validate around 565 km of aqueduct and around 61 km of sewerage.

**Table no. 28 – Water mains areas 2022 (georeferenced data)**

| company | drinking water network (km) | sewerage network (km) |
|---|---|---|
| **Acea Ato 2** | 13,468 (740.9 km of aqueduct, 1,190 km of supply network and 11,537 km of distribution) | 6,447 |
| **Acea Ato 5** | 6,181 (1,233 km of supply network and 4,948 km of distribution network) | 1,800 |
| **Gori** | 5,227 (867 km of supply network and 4,360 km of distribution network) | 2,697 |
| **Gesesa** | 2,093 (180 km of supply network and 1,913 km of distribution network) | 527 (among outfalls, main and secondary collectors) |
| **AdF** | 8,360 (1,993 km of supply network and 6,366 km of distribution network) | 1,754 (among outfalls, main and secondary collectors) |

**The networks are connected to a complex system of equipment and plants** necessary for the operations of the aqueduct, treatment and sewerage services. ach year, the Companies carry out:
- **infrastructure interventions** such as **modernisation** or **strengthening of the plants**, the **remote control** of infrastructures, the **completion**, **extension** or the **drainage of pipelines and network**s, to contain the losses and improve the efficiency and quality of the service provided;
- **interventions to improve utility management** (such as installation and replacement of meters), in addition to everything concerning the relationship with customers, for which reference is made to the paragraph *Customer care*;
- **interventions to protect people and territory**, aimed at ensuring the **quality of the drinking water** distributed and the water returned to the environment, such as the Water Safety Plans (WSPs) and laboratory controls; see the section *Relations with the environment*, paragraph *Water segment*).

For a quantification of the main interventions carried out by the companies during the year and the analytical checks on drinking water and waste water carried out independently or by Acea Elabori, see Table no. 29.
In 2022, **Acea Ato 2** continued the development of all interventions intended to secure and modernise the **Peschiera aqueduct system**, **essential strategic infrastructure** to ensure the greater resilience of the procurement and supply system managed. Technical and Economic Feasibility Studies were completed and the **authorisation procedures** were launched **for the 4 sub-projects**[86] relating to hydraulic works, identified in 2021, which will also be carried out with financing of around € 244 million obtained as part of the National Recovery and Resilience Plan (NRRP)[87]. As regards the **main intervention**, the "New Upper Section of the Peschiera Aqueduct", which will also be carried out thanks to financing of € 700 million established by the 2023 Budget Law (Italian Law no. 197/22), **the authorisation procedure was launched in 2022**[88].

86 These are the "New Marcio Aqueduct - Lot I", the "Raddoppio VIII Syphon - Casa Valeria Section - Ripoli Tunnel Exit - Phase I", the "Ottavia - Trionfale Supply System" and the "Monte Castellone - Colle S. Angelo (Valmontone) Pipeline".

87 According to Ministerial Decree 517/21 and the Decree of the State General Accounting Office no. 160/22 (provision for launch of works that cannot be postponed).

88 On the basis of the opinion of the authority responsible for overseeing public works expressed at the meeting on 14/10/2020 (no. 46/2020) and pursuant to art. 44, paragraph 1-*bis* of

**The design** of the infrastructure is also defined, in collaboration with **Acea Elabori**, with **specific attention to sustainability criteria**, in accordance with the **Envision** Protocol.
In 2022, Acea Ato 2 **installed 178 hydro valves** to optimise the operating pressures of the distribution networks and **reclaimed 204.5 km of water mains**; it started work on **major supply systems** to increase the resilience of complex municipal systems with particular reference to the **Albano Laziale** and **Civitavecchia** interconnections; to increase the availability of water in the municipalities managed, it completed the new drinking water plants serving the Orsini and La Dolce wells in the municipalities of **Ariccia** and **Manziana**. The programme to install flow-limiting devices on rural utilities has also continued to limit non-drinking consumption.

**Table no. 29 – Main interventions on the drinking water and sewerage networks and controls on drinking water and wastewater (2022)**

| INTERVENTIONS ON DRINKING WATER NETWORKS, METERS AND WATER TESTS | |
|---|---|
| **type of work** | |
| **ACEA ATO 2** | |
| interventions due to network failure/leak detection | **35,396 interventions** (35,090 due to faults, 306 leak detection) |
| planned interventions | **11,540 interventions** |
| Meter installations (new installations and replacements) | **15,726 interventions** (12,501 new installations and 3,225 replacements) and **45,780 mass replacements** under contract |
| network extension | **9.04 km** of expanded network |
| network reclamation | **204.5 km** of reclaimed network |
| drinking water quality control | **11,966 samples** collected and **365,546 tests** performed |
| **ACEA ATO 5** | |
| interventions due to network failure/leak detection | **10,119 interventions** |
| planned interventions | **3 interventions** (on distribution network) |
| Meter installations (new installations and replacements) | **26,005 interventions** (3,044 new installations and 22,961 replacements) |
| network extension | **0 km** of expanded network |
| network reclamation | **46.3 km** of reclaimed network (*) |
| drinking water quality control | **2,565 samples** collected and **107,420 tests** performed |
| **GORI** | |
| interventions due to network failure/leak detection | **16,412 interventions** |
| planned interventions | **7,003 interventions** |
| Meter installations (new installations and replacements) | **25,484 interventions** (12,565 new installations and 12,919 replacements) |
| network extension | **0.78 km** of expanded network |
| network reclamation | **14.7 km** of reclaimed network |
| drinking water quality control | **4,908 samples** collected and **132,538 tests** performed |
| **GESESA** | |
| interventions due to network failure/leak detection | **3,190 interventions** (3,090 due to faults, 100 leak detection) |
| planned interventions | **123 interventions** |
| Meter installations (new installations and replacements) | **1,162 interventions** (257 new installations and 905 replacements) |
| network extension | **2 km** of expanded network |
| network reclamation | **1.8 km** of reclaimed network |
| drinking water quality control | **1,048 samples** collected and **12,307 tests** performed |
| **ADF** | |
| interventions due to network failure/leak detection | **8,901 interventions** (8,288 due to faults, 613 leak detection) |
| planned interventions | **54 interventions** |
| Meter installations (new installations and replacements) | **19,728 installations** (3,257 new installations and 16,471 replacements) |
| network extension | **2 km** of expanded network |
| network reclamation | **33 km** of reclaimed network |
| drinking water quality control | **4,514 samples** taken and **121,738 tests** performed (120,940 on drinking water and 798 on surface water) |
| **INTERVENTIONS ON SEWERAGE NETWORKS AND TESTS** | |
| **type of work** | |
| **ACEA ATO 2** | |
| interventions due to network failure | **2,986 interventions** |
| planned interventions | **245 interventions** |
| network extension | **21.8 km** of expanded network |
| network reclamation | **13.4 km** of reclaimed network |

Law 108/21.

| | |
|---|---|
| wastewater quality control | **6,999 samples** collected and **135,906 tests** performed |
| **ACEA ATO 5** | |
| interventions due to network failure | **347 interventions** |
| planned interventions | - |
| network extension | - |
| network reclamation | **1.7 km** of reclaimed network |
| wastewater quality control | **3,281 samples** collected and **67,810 tests** performed |
| **GORI** | |
| interventions due to network failure | **433 interventions** |
| planned interventions | **7,521 interventions** |
| network extension | **15.9 km** of expanded network |
| network reclamation | **8.4 km** of reclaimed network |
| wastewater quality control | **1,582 samples** collected and **43,564 tests** performed |
| **GESESA** | |
| interventions due to network failure | **117 interventions** |
| planned interventions | **6 interventions** |
| network extension | - |
| network reclamation | - |
| wastewater quality control | **630 samples** collected and **12,234 tests** performed |
| **AdF** | |
| interventions due to network failure | **335 interventions** |
| planned interventions | **24 interventions** |
| network extension | **3.95 km** of expanded network |
| network reclamation | **2.95 km** of reclaimed network |
| wastewater quality control | **7,734 samples** collected and **40,481 tests** performed |

**Acea Ato 2**'s aqueducts and supply network are equipped with **remote-control systems**: **meters and sensors** connected to the field equipment provide the **central system** with useful information on the condition of the network and its operation (system set-up, pump and valve status, hydraulic, chemical, physical and energy measurements), **highlighting any alarms** and offering the possibility of **remote operation**, such as turning pumps on or off, opening, closing or adjusting valves. Rome's particularly complex distribution network is fed by water centres, where **remote control has been implemented extensively**. The number of **water centres** and **points on the network** that are partially or fully **remote-controlled** has **further increased**: at the end of 2022, there were **1,211 remote-controlled plants** on the collection and distribution network (springs, wells, aqueducts, supply systems, water centres, drinking water treatment plants) and a further **1,947** remote-controlled ones along the distribution network (1,256 districtisation points, 124 water kiosks and 567 network pressure measuring points, including 401 hydro valves and 166 pressure points). Of these, **507** are equipped with **water quality** measurement systems. **For** thethe sewage system the progressive remote control of the entire sector is very advanced **which intervenes on both central systems and plants** (large and small treatment plants and sewage lifting plants): **the main treatment plants are already remotely controlled through on-site rooms** and further work to upgrade the technology and connect them to the central room is in progress.

The water sites managed by **Acea Ato 5** - including supply sources, distribution plants, sewage lifting stations and purification plants - are partly **equipped with remote control**, which makes telemetry, remote command and control possible, as well as the detection of hydraulic (water flow rate, network pressure, tank level, operating status of electric pumps), electrical and qualitative (turbidity and residual chlorine) parameters.

qualitative (turbidity and resid al chlorine) parameters. At the end of 2022, there were **395 plants with a remote control system installed** (equipped with hydraulic measurements – flow rates, pressure and levels – 16 of which were also equipped with water quality control), and 111 network points (with continuous pressure or flow monitoring systems).

The plants managed by **Gori**, relating to the drinking water, sewage and purification systems, **are all equipped with remote-control systems**; there are a total of **677 plants** (269 water sites and 203 water network nodes, 195 sewage sites and 10 purification sites), at which telemetry, remote command and control activities, as well as the detection of hydraulic parameters, are carried out. A local control system provides automated management[89] of electric pumps and valves, according to a logic of energy efficiency and saving of water resources; in the largest reservoirs, outflow control valves are installed and remotely controlled, for dynamic adjustment of the quantity of resource supplied, based on different water availability scenarios. The application of **IoT technologies** in nodes of the water and sewerage networks **where electricity is absent** also allows essential network parameters (pressures and flows) to be monitored.

With **another 2 interventions** in 2022, **Gesesa** continued the gradual installation of the remote-control system at the sites managed; in particular, automation was implemented in the Forchia reservoir well and a remote-control system only previously accessible locally was moved to the company SCADA (Supervisory Control and Data Acquisition) system. A tender was also held in the final part of the year to award contracts for further interventions.

In 2022, **AdF** expanded remote control to **another 52 aqueduct sites**; constant monitoring of the networks (district flow measurements and control valves) and of the smaller reservoirs makes it

89 With human intervention only in emergencies.

possible to reduce inefficiencies, as well as to optimise their management. The automatic instruments installed on the pumping systems of the sewage lifts also facilitate predictive maintenance, frequency analysis of alarms, and the status of priority process meters for management and budgetary purposes. Work continued during the year to implement **automatic regulation of the network**, depending on pressure conditions, and tests on battery-powered pressure and flow rate sensors with NB-IoT technology. As at 31 December 2022, there were a **total of 1,895 remote-control** sites managed by **AdF**, relating to the drinking water, sewage and purification systems, including plants and manholes (of which 508 aqueduct sites and 221 water network nodes, 202 sewage sites and 115 purification sites).

The issue of **limiting losses on distribution networks** is carefully monitored by all Group companies, which are committed to the **sustainable management of the water cycle**; to this end, **organisational structures dedicated to protecting the resource** have been set up. The companies carry out districtisation, inspection and reclamation of the networks, installation of automatic valves and other pressure control instruments, verification and calibration of meters, identification of abnormal consumption and implement interventions to counter illicit connections and improper use of the resource. The specific activities undertaken in 2022 by each company are illustrated in the dedicated chapter *Water Segment* in the section Relations with the environment, to which reference should be made.

### *UTILITY MANAGEMENT AND SERVICE CONTINUITY*

**The companies** continued **in 2022** with the **installation of new meters and the replacement of old ones** (see figures in Table no. 29). As part of its **mass meter replacement activities, Acea Ato 2** has continued its functional project for the gradual remote reading of water meters, initially by developing and patenting, in collaboration with Areti, an "Add-On" remote reading device called "Proteus" and, in 2022, by installing, in addition to Proteus, other NB-IoT "Add-On" devices, for around 6,000 devices installed in the year, which led, in total, to around **34,000 remote reading devices**. The Company also plans to introduce **specific solutions** according to different requirements, with the installation of "Add-On" devices mainly on the large sizes, whereas for lower sizes (for example with DN15 pipes), it is implementing **the design and development of an "integrated smart meter" remote reading device with innovative and advanced NB-IoT technology for the water service**, which is expected to provide benefits in terms of remote management and optimisation of quality, quantity and security of data.
**AdF** continued to implement **remote reading of meters** in the area, installing a device that makes it possible to increase reading frequency and to facilitate data collection; in 2022 it installed **around 20,000 remote reading meters**, achieving **coverage of 58% of the entire fleet of meters**. AdF also has a **platform for analysing, checking and monitoring** data from remote reading, which, by also integrating data collected from fixed and mobile concentrators, allows greater control of the flows supplied and network balance.

The **continuity of the water supply** is a fundamental service parameter for customer satisfaction, which is subject to regulation by the ARERA. Table no. 30 shows the data of the last three years relating to **disruptions and water reductions**, **urgent** (due to accidental breakdowns of pipelines or plants, energy interruption, etc.) **or planned**, for the Companies in question.

**Table no. 30 – Number, type and duration of disruptions in the supply of water (2020-2022)**

| type of disruption | 2020 | 2021 | 2022 |
|---|---|---|---|
| **ACEA ATO 2 (*)** | | | |
| urgent disruptions (no.) | 1,207 | 911 | 882 |
| planned disruptions (no.) | 212 | 336 | 262 |
| **total disruptions (no.) (**)** | **1,419** | **1,247** | **1,144** |
| suspensions lasting > 24hrs (no.) | 196 | 167 | 179 |
| **ACEA ATO 5** | | | |
| urgent disruptions (no.) | 521 | 691 | 686 |
| planned disruptions (no.) | 568 | 397 | 457 |
| **total disruptions (no.) (**)** | **1,089** | **1,088** | **1,143** |
| suspensions lasting > 24hrs (no.) | 0 | 0 | 0 |
| **GORI** | | | |
| urgent disruptions (no.) | 3,042 | 2,629 | 2,610 |
| planned disruptions (no.) | 103 | 59 | 141 |
| **total disruptions (no.) (**)** | **3,145** | **2,688** | **2,751** |
| suspensions lasting > 24hrs (no.) | 0 | 0 | 0 |
| **GESESA** | | | |
| urgent disruptions (no.) | 90 | 17 | 36 |
| planned disruptions (no.) | 57 | 19 | 46 |
| **total disruptions (no.) (**)** | **147** | **36** | **82** |
| suspensions lasting > 24hrs (no.) | 1 | 8 | 0 |

| AdF (*) | | | |
|---|---|---|---|
| urgent disruptions (no.) | 1,918 | 2,158 | 2,470 |
| planned disruptions (no.) | 313 | 342 | 457 |
| **total disruptions (no.) (**)** | **2,231** | **2,500** | **2,608** |
| suspensions lasting > 24hrs (no.) | 48 | 44 | 62 |

(*) The 2021 figures for Acea Ato 2 have been consolidated; the figures for the 2020-2021 two-year period for AdF, net of the item suspensions lasting > 24hrs, have been adjusted excluding the disruptions lasting over one hour, in line with what was reported to ARERA. Additionally, the 2022 figures for Acea Ato 2 and AdF are being consolidated. Any adjustments, after data consolidation, will be reported in the next reporting cycle.
(**) As envisaged by ARERA, total disruptions include shutdowns (due to damage to pipes/pipelines and network changes) and interruptions due to disruptions and system anomalies. The number of total out of service cases is therefore used for the calculation.

### *WATER DISTRIBUTED AND RETURNED TO THE ENVIRONMENT*

**The quality of the drinking water** distributed safeguards aspects related to **the health and safety of the community** and the resource **returned to the receiving water bodies** has impacts on **safeguarding ecosystems**. Consequently, **all the Companies independently carry out controls on drinking and wastewater** using internal laboratories or with the support of **Acea Elabori** (see Table no. 29).
In particular, **tests on water intended for consumption** are carried out on samples collected from springs and wells, supply plants, reservoirs and along distribution networks, as well as samples collected for extraordinary testing and specific parameters. Test frequency and sampling points are defined taking into consideration **the volumes of water distributed, population served, network and infrastructure conditions and specific characteristics of local springs** (see also *Environmental relations*).
All the Water Operations Companies in the Group have started preparations or begun to implement **Water Safety Plans (WSPs)**, aimed at **preventing and reducing the risks inherent to the drinking water service**; the activities in question, conducted in 2022, are illustrated in the Water Area chapter in the "Relations with the Environment" section, to which reference should be made.

As regards the territory managed by Acea Ato 2, the spring water collected to supply the Rome and Fiumicino area presents levels of excellent quality at the source, while in the Castelli Romani area and other areas of upper Lazio, the volcanic nature of the terrain adds mineral elements to the aquifer such as fluorine, arsenic and vanadium, in concentrations exceeding those envisaged by the law. For some time, Acea Ato 2 has been working to resolve these issues, such as by decommissioning some local sources of supply and replacing them with higher quality springs. In 2022, in particular, **Acea Ato 2** built new drinking water plants or upgraded/expanded existing plants in the municipalities of Ariccia, Allumiere, Rignano Flaminio and Manziana. It has also **started work on aqueduct interconnections in the municipalities of Civitavecchia and Albano Laziale** that will ensure greater network resilience and improve the service provided.

In 2022, AdF implemented the project launched in 2021 to **monitor the quality of supply sources with online instrumentation**. The project involved the installation of the instruments, the acquisition of the remote-control signals and the preparation of the relative control/reporting dashboards, through which it is possible to integrate the qualitative data collected with quantitative information and with the meteorological and hydrogeological information made available online by the related regional services, updated on a daily basis. The 8 supply sources monitored in 2021 were joined in 2022 by **another 10 sources**, for a total control of around **75% of the resource collected from the environment**. The installation of online measurement systems and the uptake of remote control makes it possible to continuously monitor the quality of the water and activate early warning systems as provided for in the guidelines of European Directive 2020/2184 on the safety of drinking water.
**Gori** distributes quality water, **collected from deep wells**. The qualitative characteristics of the water are verified by the internal "Francesco Scognamiglio" laboratory, located in Pomigliano d'Arco, which uses cutting-edge instruments, including a spectrometer capable of determining **all the metals** indicated by the regulations in force on drinking water.
**Gesesa** participates in the technical round table, together with the Campania Water Authority, local, provincial and regional institutions, Arpac and the local health authorities, dedicated to the monitoring and characterisation of the groundwater resource that, through the Campo Mazzoni and Pezzapiana wells, supplies the city of Benevento. In 2022, Gesesa continued a project for the creation of an **activated-carbon filtration system** for the treatment of drinking water for the water plant in Benevento (see also *Water Segment* in *Relations with the Environment*).

In 2022, there were **165 water kiosks** active (**124 of Acea Ato 2**, of which 36 in the City of Rome and 88 in the province of Rome, **20 of Gori** and **21 of AdF**); these are dispensers of chilled natural or sparkling water, installed throughout the territory, **available to citizens and tourists**, free of charge or at minimal cost. The water distributed is the same as the aqueducts and **the quality is certified by regular checks** conducted by the companies and the relevant local health authorities. The initiative continues to be met with a positive response and in the year in question, the "kiosks" **supplied a total of over 38.7 million litres of water** (about 34.2 million litres from Acea Ato 2, about 3.5 million litres from Gori and about 1 million litres from AdF water kiosks), with a percentage of sparkling water of about 39%. The **environmental benefits** are clear: **the litres dispensed are equivalent to 774 tonnes of plastic saved over the year** (equal to around 26 million 1.5 litre bottles) and **over 2,000 tonnes of $CO_2$ not emitted into the atmosphere** (around **34% more emissions avoided** than the 2021 figure of 1,580 tonnes of $CO_2$ avoided), due to the lack of bottle production[90] and net of emissions due to the energy consumption of the kiosks[91] and the $CO_2$ added to obtain sparkling water.

**Acea Ato 2** is also responsible for water up to the "point of supply" for the **drinking water fountains** in Rome (so-called . The **Waidy**

90 The figure, although significant, is certainly underestimated because it does not take into account the emission savings induced by not transporting the bottles by road/rail.
91 Consumption data of the AdF water kiosks managed by the municipalities are not available.

**Wow** app, designed by a team in the Acea Group, makes it possible to **identify the water supply points** located throughout the territory, not only in the areas served by the Group companies, but across Italy, with over 50,000 water points mapped. The application is designed and developed to **create a community**, to improve the lifestyle of the people who use it, and to promote values and habits formed with respect for the environment. It led to communication initiatives that disseminate the culture of water and the beauty of the territory: indeed, one feature makes it possible to identify **personalised routes by following the "water ways"** (drinking fountains, fountains, water kiosks) or to access pre-set thematic routes and related multimedia content. Finally, the app gives access to a "web radio", a channel dedicated to infotainment with 24-hour music programming and the inclusion of short videos on sustainability in collaboration with LifeGate. As part of **Acea Innovation Day 2022**, the latest upgrade to the Waidy application was presented, carried out with the start-up UP2YOU, which can precisely calculate the environmental benefits that people can help generate by using drinking fountains, and in particular to reduce plastic and $CO_2$ emissions. As at 31 December 2022, **the Waidy Wow app was installed on 105,947 devices**.

*FUNCTIONS OF THE WAIDY WOW APP*

**Geolocalise water points**
To find the closest drinking fountain and learn about the water quality

**Create or follow routes**
To walk or cycle alongside the water and experience its beauty

**Rediscover the past**
To discover historical news about water fountains

**Encourage good practices**
To take part in contests, to monitor hydration and the impact on the environment

**Leave feedback**
To send possible reports and add water points not yet surveyed

**Read news and advice**
To stay updated about sustainability with exclusive content

## THE PERCEIVED QUALITY OF DRINKING WATER, RESULTS OF THE 2022 SATISFACTION SURVEYS

Acea **measures customer habits and perceptions regarding the quality of the drinking water supplied**. The customer satisfaction surveys not only include an overall opinion on water quality, but also an in-depth analysis of the subject. The outcomes presented below are the **average of the two half-yearly surveys**.

For **Rome and Fiumicino**, where the service is managed by **Acea Ato 2**, the **overall opinion on taste, smell and clarity of drinking water** expressed by the sample of respondents remains **stable and high at 7.5/10** (7.6/10 in 2021); **35.8%** of those interviewed, a figure that is down compared to 2021 (39.2%), **state that they habitually drink the water that comes to their homes**, while **30.7**% (28% in 2021) **state that they never drink it**; the **reasons given** by those who never drink water at home continue to include the habit of drinking mineral water, followed by the response "it is not good for my health".

In the other areas served by Acea Ato 2, in the province of Rome, the **overall satisfaction** rating for water quality was **7/10**, a slight increase (6.8/10 in 2021); as for consumption habits, **24%** of the sample (25.1% in 2021) **stated that they regularly drink tap water** and **41%** (45.9% in 2021) **never drink it**; for the latter, the main reason is related to the habit of drinking mineral water, followed by the opinion on the taste.

For **Acea Ato 5** customers in Frosinone and vicinity, in 2022 the overall opinion expressed on drinking water came to **6.4/10** (it was 6.1/10 in 2021). **The percentage of respondents** stating that they **habitually drink** tap water remains limited and is decreasing at **15.6%** (17% in 2021), while the percentage of those stating that **they never drink it**, equal to **58.7%** is high (previously 54.9%).

For the latter, the main reasons given were the habit of drinking mineral water and aspects related to health.

In the Sarnese Vesuviano district, the overall opinion on drinking water expressed by **Gori** customers in 2022 remains stable at **6.4/10** (6.2/10 in 2021), with the percentages of **respondents** who say they **habitually drink** tap water decreasing to **19.6%** (23% in 2021), and those who **never drink it** increasing to **58.7%** (52.4% in 2021). The main reasons cited by those who do not prefer tap water are "it is not good for my health" and "I am accustomed to drinking mineral water".

For customers of **Gesesa**, in Benevento and province, the overall opinion expressed on the quality of drinking water is **6.8/10** (6.9/10 in 2021); **a slight decrease** is recorded in the percentage of customers who say **they drink tap water regularly**, which was **15.3% in 2022** (16.6% in 2021) and an increase (**62%**) in those who state that they never drink it (55.6% in 2021); in this area, the prevailing reasons given were "I am accustomed to drinking mineral water" and "it is not good for my health".

For customers of **AdF**, operating in the provinces of Grosseto and Siena, the overall opinion expressed on drinking water improved and was **7.5/10** (6.9/10 in 2021). The percentage of respondents stating that **they habitually drink tap water, 38.9%**, also increased (36.9% in 2021) and the percentage of those stating that **they never drink it** decreased to **37.7%** (40.2% in 2021), mainly, also in this case, due to the habit of drinking mineral water and because they do not like the taste.

**The collection of wastewater and its treatment** prior to being returned to the environment takes place through a complex system and a configuration **organised by "areas"** comprising **wastewater treatment plants, sewerage networks** connected thereto and the associated **pumping stations**. **Acea Ato 2** manages **725 sewage lifting plants**, **171 purification plants** and **more than 7,000 km of sewerage networks** (of which 6,447 km mapped on GIS); in 2022, the company continued with its **plan to centralise the purification plants**, for the work carried out, see the box in the *Water Area* chapter of the section *Relations with the environment*.

The **Acea Ato 2 Environmental Operations Centre constantly monitors data** recorded remotely using **cutting-edge technology** relating to **hydrometric and rainfall information** for the Rome area, shared with the Rome Hydrographic and Tide Gauge Operations Office, as well as data on the **quality of water of the water bodies**: in 2022, **349 samples were taken at 25 sampling points on the Tiber and Aniene rivers and at 33 sampling points on Lake Bracciano**.

In the territory of the municipality of Rome, Acea Ato 2 also manages the lifting plants and tanks for the watering network and the **non-drinking water network supplying the water features of the most important artistic fountains.** In particular **9 of the main artistic and monumental fountains of the capital**: the Triton Fountain, the three fountains in Piazza Navona – the Fountain of the Four Rivers, the Moor Fountain and the Fountain of Neptune – the Trevi Fountain, the Fountain of Turtles, the Fountain of Moses, the Fountain of the Naiads.

The infrastructure of the water treatment and sewerage service managed by **Acea Ato 5** includes, as at 31 December 2022, **233 sewage lifting plants**, **125 purification plants** and **approximately 1,800 km of dedicated networks**. **Gori** manages **2,697 km of network** serving the water treatment and sewage system and **12 treatment plants** some serving individual municipalities and others serving inter-municipal areas of Sarnese-Vesuvius agriculture.

Gori continues to implement an important project, launched in 2021, to complete the sewerage and purification works in the **Sarno hydrographic basin**, which will have a significant **environmental impact** not only in terms of re-establishing the river ecosystem, thanks to the elimination of polluting discharges, but also with positive effects on the entire area, including the health of agricultural products, and the Gulf of Naples.

As at 31/12/2022 the infrastructure of the water treatment and sewerage service **managed by AdF** included **294** sewerage lifting plants, **150 treatment plants** (and 152 Imhoff tanks) and over **1,754 km of sewage networks**. **Gesesa**, in the territory served, manages **20 sewerage pumping stations, 32 treatment plants and 527 km of dedicated networks**.

## QUALITY LEVELS REGULATED BY ARERA IN THE WATER SECTOR

The Regulatory Authority for Energy Networks and Environment (ARERA) defines the **specific and general levels of contractual quality for the water sector**[92]. With resolution 547/19, **the Authority** amended and supplemented the previous regulations outlining **an incentive system** divided into bonuses and penalties **to be attributed from 2022 based on operator performance**. In late 2021, the ARERA issued its guidelines for consultation on the update of the methods for verifying contractual quality data (control procedures and penalty amounts) and, with resolution 639/2021 of 30 December, established flexible elements in the mechanisms used to assess performance, including **cumulative evaluation of quality objectives on a two-year basis** (2022-2023).

The introduction of the new contractual quality incentive system did not maintain the possibility, provided for in the past[93], of accessing premiums in the event of the achievement of improved quality standards with respect to those defined at national level.

Acea Ato 2 has **in any case maintained the improved levels of contractual quality standards**, as defined by the application submitted in 2016 by the Area Governing Body (Conference of Mayors of OTA 2 Central Lazio) and accepted by ARERA, and by the amendments subsequently made by resolution 4/20 of the Conference of Mayors relating to the updating of the Service Charter. In particular, the improvement standards concern **39 indicators out of the 47 established by the resolution**. **For some services** envisaged in the Service Charters attached to their respective concession agreements, **Acea Ato 5 and AdF also pursue and have maintained standards that are better than those imposed by the Authority**.

The timing of the delivery of data on specific and general contractual quality levels to the Authority shall be subsequent to the publication of this document. Therefore, **unconsolidated data for all companies are presented here**, based on the best estimates available at the time of publication, and are intended as **indicative of performance trends**; consolidated data will be published in the next reporting cycle (see Tables 31-35).

There is a mechanism for **automatic compensation of customers** in the event of non-standard performance on "specific" indicators, the value of which varies according to the delay in performance (see also the box describing investigations, rewards and penalties in the chapter *Institutions and the Company*).

The water companies, as required by the Authority, **communicate commercial performance data to users in their bills once a year**: Acea Ato 2, Acea Ato 5 and AdF also publish them online, and all publish **information on the quality of the drinking water distributed** on their websites.

92 For most of the services the regulation of contractual quality aspects is in force from July 2016 according to resolution 655/2015/R/Idr or RQSII (*Regulation of the contractual quality of the integrated water service*).

93 Contractual quality premiums related to the achievement of improved quality standards with respect to those defined in Resolution 655/2015/R/IDR were introduced by Resolution 664/2015/R/Idr on the Integrated Water Service Tariff Method for the second regulatory period (2016-2019).

**Table no. 31 – The main specific and general levels of contractual quality in the water sector (2021-2022) – Acea Ato 2 – (ARERA parameters, improvement standards and Acea Ato 2 performance – 2021 data are consolidated, 2022 data are not consolidated)**

**ACEA ATO 2 - CONTRACTUAL WATER QUALITY SEGMENT**

**SPECIFIC LEVELS OF QUALITY**

| SERVICES | ARERA STANDARDS | ACEA ATO 2 IMPROVEMENT STANDARD | ACEA ATO 2 PERFORMANCE | | | |
|---|---|---|---|---|---|---|
| | | | 2021 | | 2022 | |
| | | | average actual completion time for services | degree of compliance | average actual completion time for services | degree of compliance |
| estimate for water connection with inspection | 20 working days | 15 working days | 6.1 | 98.6% | 4.0 | 99.1% |
| estimate for sewage connection with inspection | 20 working days | 15 working days | 3.7 | 98.6% | 3.6 | 100% |
| execution of the water connection with simple work | 15 working days | 10 working days | 4.2 | 100% | 4.3 | 100% |
| execution of the sewage connection simple work | 20 working days | 15 working days | 6.6 | 100% | / | / |
| supply activation | 5 working days | 3 working days | 2.7 | 97.4% | 3.2 | 97.7% |
| reactivation or takeover of the supply without changing the meter rate | 5 working days | 3 working days | 1.5 | 98.4% | 1.5 | 98.6% |
| reactivation or takeover supply with changes to the meter rate | 10 working days | 6 working days | 1.0 | 100% | 1.0 | 100% |
| reactivation of supply following disconnection for late payment | 2 working days | 1 weekday | 0.8 | 99.3% | 0.6 | 99.5% |
| deactivation of supply | 7 working days | 3 working days | 2.8 | 98.4% | 2.1 | 99.4% |
| transfer of registration | 5 working days | 3 working days | 0.2 | 99.6% | 0.3 | 99.2% |
| estimates for works with inspection | 20 working days | 15 working days | 5.8 | 99.2% | 4.0 | 99.7% |
| completion of simple work | 10 working days | 6 working days | 3.9 | 100% | 3.2 | 100% |
| punctuality band for appointments | 180 minutes | 120 minutes | 0.8 | 99.8% | 0.9 | 99.1% |
| reply to complaints | 30 working days | 20 working days | 5.7 | 99.8% | 5.7 | 100% |
| reply to written enquiries | 30 working days | 20 working days | 5.3 | 99.7% | 4.8 | 100% |
| billing adjustment | 60 working days | 55 working days | 6.8 | 100% | 6.4 | 100% |

**GENERAL LEVELS OF QUALITY**

| | | | ACEA ATO 2 PERFORMANCE | | | |
|---|---|---|---|---|---|---|
| | | | 2021 | | 2022 | |
| completion of complex water connection | 90% of the services within 30 working days | 90% of the services within 20 working days | 8.2 | 97.6% | 8.2 | 97.9% |
| completion of complex sewage connection | 90% of the services within 30 working days | 90% of the services within 25 working days | 13.1 | 97.1% | 38.0 | 70.0% |
| completion of complex works | 90% of the services within 30 working days | 90% of the services within 20 working days | 14.9 | 93.1% | 12.9 | 94.9% |
| maximum time for the agreed appointment | 90% of the services within 7 working days | 90% of the services within 5 working days | 2.8 | 97.0% | 2.2 | 99.6% |
| arrival at the location of the emergency call | 90% of the services within 3 minutes from the telephone conversation with the operator | 90% of the services within 2 minutes from the telephone conversation with the operator | 1.4 | 98.9% | 1.9 | 97.4% |
| reply to written billing adjustment requests | 95% of the services within 30 working days from receipt of the request | 95% of the services within 20 working days from receipt of the request | 6.0 | 99.8% | 5.7 | 100% |
| reply to the emergency call (CPI) | 90% of the services within 120 seconds | 90% of the services within 110 seconds | 55 | 97.4% | 13 | 98.0% |

**Note**: the 2022 data are being consolidated and have still not been submitted to the OTS or reported to ARERA. The symbol "/" is used when there are no services during the year.

**Table no. 32 – Main specific and general levels of contractual quality in the water sector (2021-2022) – Acea Ato 5 – (ARERA parameters, improvement standards from the Service Charter, and Acea Ato 5 performance – 2021 data are consolidated, 2022 data are not consolidated)**

| ACEA ATO 5 - CONTRACTUAL WATER QUALITY SEGMENT | | | | | | |
|---|---|---|---|---|---|---|
| **SPECIFIC LEVELS OF QUALITY** | | | | | | |
| **SERVICES** | **ARERA STANDARDS** | **ACEA ATO 5 IMPROVEMENT STANDARD (from SC)** | **average actual completion time for services** | **degree of compliance** | **average actual completion time for services** | **degree of compliance** |
| | | | **ACEA ATO 5 PERFORMANCE** | | | |
| | | | | **2021** | | **2022** |
| estimate for water connection with inspection | 20 working days | 10 working days | 3.6 | 98.0% | 3.4 | 99.5% |
| estimate for sewage connection with inspection | 20 working days | 10 working days | 7.9 | 94.1% | 5.8 | 90.6% |
| execution of the water connection with simple work | 15 working days | | 1.9 | 99.3% | 2.5 | 100% |
| execution of the sewage connection simple work | 20 working days | | - | - | - | - |
| supply activation | 5 working days | | 2.9 | 97.4% | 2.1 | 99% |
| reactivation or takeover of the supply without changing the meter rate | 5 working days | | 1.4 | 98.9% | 1.7 | 98.7% |
| reactivation or takeover supply with changes to the meter rate (*) | 10 working days | | 0.0 | 100% | - | - |
| reactivation of supply following disconnection for late payment | 2 working days | | 0.9 | 97.3% | 0.9 | 98.8% |
| deactivation of supply | 7 working days | 5 working days | 2.1 | 99.4% | 2.2 | 99.9% |
| transfer of registration | 5 working days | | 0.1 | 99.7% | 0.2 | 99.6% |
| estimates for works with inspection | 20 working days | | 3.3 | 99.3% | 2.8 | 100% |
| completion of simple work | 10 working days | | 2.0 | 100.0% | 6.0 | 100% |
| punctuality band for appointments | 180 minutes | | 0.8 | 99.7% | 1.6 | 99.4% |
| reply to complaints | 30 working days | 20 working days | 10.0 | 98.7% | 9.2 | 96.4% |
| reply to written enquiries | 30 working days | 10 working days | 7.9 | 99.9% | 7.2 | 99.2% |
| billing adjustment | 60 working days | | 6.5 | 100% | 5.9 | 100% |
| **GENERAL LEVELS OF QUALITY** | | | | | | |
| | | | **ACEA ATO 5 PERFORMANCE** | | | |
| | | | | **2021** | | **2022** |
| completion of complex water connection | 90% of the services within 30 working days | 90% of the services within 20 working days | 12.6 | 90.4% | 22.2 | 85% |
| completion of complex sewage connection | 90% of the services within 30 working days | 90% of the services within 20 working days | 21.5 | 66.7% | 50.9 | 60.8% |
| completion of complex works | 90% of the services within 30 working days | | 11.8 | 85.7% | 18.3 | 85.4% |
| maximum time for the agreed appointment | 90% of the services within 7 working days | | 1.9 | 99.8% | 2.5 | 99.8% |
| reply to written billing adjustment requests | 95% of the services within 30 working days from receipt of the request | 95% of the services within 10 working days from receipt of the request | 8.8 | 98.5% | 8.1 | 98.4% |
| arrival at the location of the emergency call | 90% of the services within 3 minutes from the telephone conversation with the operator | 90% of the services within 70 minutes from the telephone conversation with the operator | 96.5 | 87.9% | 105.3 | 89.3% |

**NOTE**: The symbol "-" indicates that the average time cannot be calculated because the service is on/off.

**Table no. 33 – Main specific and general levels of contractual quality in the water sector (2021-2022) – Gori (ARERA parameters and Gori performance - 2021 data are consolidated, 2022 data are not consolidated)**

| CONTRACTUAL QUALITY WATER SECTOR- GORI | | | | | |
|---|---|---|---|---|---|
| **SPECIFIC LEVELS OF QUALITY** | | | | | |
| **SERVICES** | **ARERA STANDARDS** | **average actual completion time for services** | **degree of compliance** | **average actual completion time for services** | **degree of compliance** |
| | | | **GORI PERFORMANCE** | | |
| | | | **2021** | | **2022** |
| estimate for water connection with inspection | 20 working days | 6.05 | 98.9% | 6.51 | 99.0% |
| estimate for sewage connection with inspection | 20 working days | 36.47 | 98.2% | 6.49 | 98.6% |
| execution of the water connection with simple work | 15 working days | 15.13 | 81.2% | 11.71 | 85.7% |
| execution of the sewage connection with simple work | 20 working days | 8.57 | 100% | 23.00 | 66.7% |
| supply activation | 5 working days | 4.76 | 93.4% | 4.81 | 91.8% |
| reactivation or takeover of the supply without changing the meter rate | 5 working days | 1.94 | 97.3% | 1.78 | 97.9% |
| reactivation or takeover of the supply with changes to the meter rate | 10 working days | / | / | / | / |
| reactivation of supply following disconnection for late payment | 2 working days | 2.55 | 97.4% | 1.14 | 96.5% |
| deactivation of supply | 7 working days | 3.71 | 98.6% | 3.06 | 98.5% |
| transfer of registration | 5 working days | 0.5 | 99.1% | 0.5 | 98.7% |
| estimates for works with inspection | 20 working days | 5.48 | 99.4% | 18.70 | 99.1% |
| completion of simple work | 10 working days | 17.23 | 62.5% | 16.24 | 67.2% |
| punctuality band for appointments | 180 minutes | 0.91 | 99.1% | 1.9 | 98.0% |
| reply to complaints | 30 working days | 13.9 | 85.8% | 11 | 98.7% |
| reply to written enquiries | 30 working days | 6.5 | 95.9% | 6.4 | 99.0% |
| billing adjustment | 60 working days | 1.2 | 100% | 16 | 100% |
| **GENERAL LEVELS OF QUALITY** | | | | | |
| | | | **GORI PERFORMANCE** | | |
| | | | **2021** | | **2022** |
| completion of complex water connection | 90% of the services within 30 working days | 25.39 | 77.7% | 31.15 | 70.5% |
| completion of complex sewage connection | 90% of the services within 30 working days | 27.37 | 72.4% | 27.78 | 73.0% |
| completion of complex works | 90% of the services within 30 working days | 41.44 | 66.3% | 31.76 | 67.6% |
| maximum time for the agreed appointment | 90% of the services within 7 working days | 6.71 | 93.8% | 3.1 | 97.6% |
| arrival at the location of the emergency call | 90% of the services within 3 minutes from the telephone conversation with the operator | 2.04 | 98.0% | 1.4 | 97.8% |
| reply to written billing adjustment requests | 95% of the services within 30 working days from receipt of the request | 9.5 | 95.2% | 14.4 | 99.0% |
| reply to the emergency call (CPI) | 90% of the services within 120 seconds | 52 | 97.4% | 47 | 97.2% |

**NOTE**: The symbol "/" is used when there are no services during the year.

**Table no. 34 – Main specific and general levels of contractual quality in the water sector (2021-2022) – Gesesa (ARERA parameters and Gesesa performance – 2021 data are consolidated, 2022 data are not consolidated)**

**CONTRACTUAL QUALITY WATER SECTOR - GESESA**

**SPECIFIC LEVELS OF QUALITY**

| SERVICES | ARERA STANDARDS | average actual completion time for services | degree of compliance | average actual completion time for services | degree of compliance |
|---|---|---|---|---|---|
| | | GESESA PERFORMANCE | | | |
| | | 2021 | | 2022 | |
| estimate for water connection with inspection | 20 working days | 5.08 | 98.5% | 5.78 | 62.44% |
| estimate for sewage connection with inspection | 20 working days | / | / | / | / |
| execution of the water connection with simple work | 15 working days | 2.56 | 94.7% | 2.31 | 100% |
| execution of the sewage connection with simple work | 20 working days | / | / | / | / |
| supply activation | 5 working days | 28.90 | 57.1% | 7.61 | 65.67% |
| reactivation or takeover of the supply without changing the meter rate | 5 working days | 3.15 | 89.8% | 3.48 | 83.24% |
| reactivation or takeover of the supply with changes to the meter rate | 10 working days | / | / | / | / |
| reactivation of supply following disconnection for late payment | 2 working days | 69.38 | 83.7% | 2.33 | 66.67% |
| deactivation of supply | 7 working days | 3.22 | 98.8% | 3.21 | 94.50% |
| transfer of registration | 5 working days | 1.0 | 98.9% | 0.91 | 97.01% |
| estimates for works with inspection | 20 working days | 4.16 | 100.0% | 4.93 | 98.15% |
| completion of simple work | 10 working days | 1.74 | 97.2% | 3.20 | 93.33% |
| punctuality band for appointments | 180 minutes | 1.77 | 94.9% | 9.8 | 97.26% |
| reply to complaints | 30 working days | 10.35 | 100% | 18.9 | 99.29% |
| reply to written enquiries | 30 working days | 9.62 | 100% | 15.8 | 100% |
| billing adjustment | 60 working days | 1.94 | 100% | 4.6 | 100% |

**GENERAL LEVELS OF QUALITY**

| | | | | | |
|---|---|---|---|---|---|
| | | GESESA PERFORMANCE | | | |
| | | 2021 | | 2022 | |
| completion of complex water connection | 90% of the services within 30 working days | 9.49 | 93.0% | 8.46 | 95.65% |
| completion of complex sewage connection | 90% of the services within 30 working days | / | / | / | / |
| completion of complex works | 90% of the services within 30 working days | 2.16 | 100% | 4.89 | 98.21% |
| maximum time for the agreed appointment | 90% of the services within 7 working days | 3.09 | 97.7% | 3.6 | 94.98% |
| arrival at the location of the emergency call | 90% of the services within 3 minutes from the telephone conversation with the operator | 34.69 | 68.0% | 9.22 | 85.94% |
| reply to written billing adjustment requests | 95% of the services within 30 working days from receipt of the request | 31.14 | 100% | 14.9 | 100% |
| reply to the emergency call (CPI) | 90% of the services within 120 seconds | 85.85 | 88.0% | 84.85 | 87.0% |

**NOTE**: The symbol "/" is used when there are no services during the year.

**Table no. 35 – Main specific and general levels of contractual quality in the water sector (2021-2022) – AdF – (ARERA parameters, improvement standards from the Service Charter, and AdF performance – 2021 data are consolidated, 2022 data are not consolidated)**

| CONTRACTUAL QUALITY WATER SECTOR- AdF | | | | | | |
|---|---|---|---|---|---|---|
| **SPECIFIC LEVELS OF QUALITY** | | | | | | |
| **SERVICES** | **ARERA STANDARDS** | **AdF IMPROVEMENT STANDARD (from SC)** | **average actual completion time for services** | **degree of compliance** | **average actual completion time for services** | **degree of compliance** |
| | | | **AdF PERFORMANCE** | | | |
| | | | **2021** | | **2022** | |
| estimate for water connection with inspection | 20 working days | | 5.41 | 98.9% | 7.41 | 99.63% |
| estimate for sewage connection with inspection | 20 working days | | 5.40 | 99.0% | 7.81 | 99.31% |
| execution of the water connection with simple work | 15 working days | | 6.56 | 94.6% | 7.34 | 96.88% |
| execution of the sewage connection simple work | 20 working days | | N.A. | N.A. | N.A. | N.A. |
| supply activation | 5 working days | | 3.58 | 93.1% | 6.25 | 90.89% |
| reactivation or takeover of the supply without changing the meter rate | 5 working days | | 2.03 | 97.8% | 1.87 | 98.28% |
| reactivation or takeover supply with changes to the meter rate | 10 working days | | / | / | / | / |
| reactivation of supply following disconnection for late payment | 2 working days | | 0.85 | 97.6% | 0.85 | 98.59% |
| deactivation of supply | 7 working days | 5 working days | 2.81 | 98.1% | 2.34 | 96.99% |
| transfer of registration | 5 working days | | 0.19 | 99.9% | 0.20 | 99.97% |
| estimates for works with inspection | 20 working days | | 5.82 | 99.2% | 7.04 | 99.33% |
| completion of simple work | 10 working days | | 3.85 | 95.1% | 4.63 | 94.74% |
| punctuality band for appointments | 180 minutes | | 1.6 | 99.4% | 1.5 | 99.12% |
| reply to complaints | 30 working days | 25 working days | 15.4 | 99.5% | 14.25 | 100% |
| reply to written enquiries | 30 working days | 25 working days | 15.3 | 99.5% | 12.46 | 100% |
| billing adjustment | 60 working days | | 11.8 | 100% | 25.14 | 100% |
| **GENERAL LEVELS OF QUALITY** | | | | | | |
| | | | **AdF PERFORMANCE** | | | |
| | | | **2021** | | **2022** | |
| completion of complex water connection | 90% of the services within 30 working days | | 14.5 | 92.8% | 11.71 | 95.13% |
| completion of complex sewage connection | 90% of the services within 30 working days | | 20.4 | 84.9% | 19.68 | 93.18% |
| completion of complex works | 90% of the services within 30 working days | | 20.0 | 90.6% | 11.57 | 96.05% |
| maximum time for the agreed appointment | 90% of the services within 7 working days | | 2.6 | 98.0% | 3.10 | 98.28% |
| arrival at the location of the emergency call | 90% of the services within 3 minutes from the telephone conversation with the operator | | 1.5 | 94.3% | 1.51 | 94.86% |

| | | | | | | |
|---|---|---|---|---|---|---|
| reply to written billing adjustment requests | 95% of the services within 30 working days from receipt of the request | | 17.2 | 99.9% | 19.81 | 99.53% |
| reply to the emergency call (CPI) | 90% of the services within 120 seconds | | 43 | 97.5% | 33.42 | 98.70% |

**NOTE**: The symbol "/" is used when there are no services during the year.

# PRICING

## ELECTRICITY SERVICE PRICING

In Italy, there are two main types of electricity markets: the standard market service and the free market. In the standard market service, the operator of reference of the territory, which operates in a monopoly regime, offers the supply service to the customer at economic and contractual conditions regulated by ARERA. On the other hand, in the free market the services offered and related prices are the result of competition among all operators. In this context, customers choose their supplier and the offer that most meets their requirements. The legislation has established the gradual abandonment of the standard market service, setting the dates by which the transition to the free market system will become definitive, the full entry into force of which is now set for January 2024.

The costs of supplying electricity are made up of **three items of expenditure**: "**energy**" (supply and retail marketing), "**transport and meter management**" (costs for delivery to customers and reading consumption) and "**taxes**" (consumption tax and VAT), while "**system charges**" (costs for activities in the general interest of the electricity system, borne by all end customers), present up to 2021, were reduced to zero by the Government.

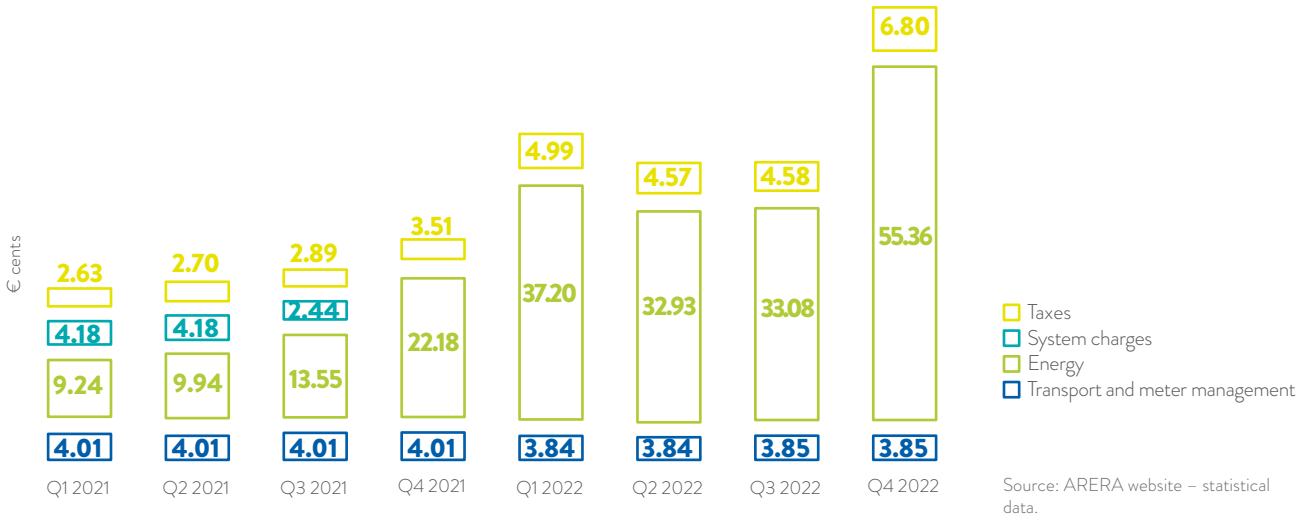
In 2022, the decreasing trend in the number of customers subscribing to the **standard market** service was confirmed, accelerated by the increase in prices, mainly due to international tensions, which drove customers to look for more favourable economic conditions and therefore to change suppliers.

According to the latest ARERA data available, the number of **standard market** service customers, in terms of **withdrawal points**, accounts for **38% of Italian domestic and non-domestic customers** (43% in 2021).

The expansion of the **free market** is evident observing the volumes of electricity sold: free market customers, in fact, consume **86% of the total energy** intended for the end market[94] (84% in 2021).

For a **"standard" consumption** on the standard market – equal to **2,700 kWh/year**, with a power of 3 kW – the **total annual expenditure** for electricity, estimated by ARERA[95] in December 2022, was € 1,081.67, **more than double** the previous year (€ 515 per year).

**Chart no. 28 – Electricity price trend for a standard domestic customer (€ cent/kWh) (2021-2022)**




Source: ARERA website – statistical data.

94 Based on the number of served collection points and the volumes sold in 2021 (ARERA, *2022 annual report*).

95 Resolution 289/2022/R/com provides for the monthly update to the spending estimate of offers at variable price and of the protection services in order to include the effects of volatility in prices to allow for an adequate comparison between the fixed price and variable price offers. Source: ARERA – data and statistics.

### WATER SERVICE PRICING

By Resolution no. 580/2019/R/IDR of 27 December, the Energy, Networks and Environment Regulatory Authority (ARERA) approved the **Water Tariff Method (WTM-3) for the period 2020-2023**, the guiding principles of which are to overcome *the Water Service Divide*, making operating and management costs more efficient, promoting environmental sustainability and increasing the public's awareness of their water consumption habits. Moreover, the added tools and checks envisaged ensure that any **tariff increases are only possible as a result of investments actually made** or **certified improvements in management**.

**Table no. 36 – Average water prices applied (2022)**

| Company | €/mc |
|---|---|
| Acea Ato 2 | 1.95 |
| Acea Ato 5 | 2.78 |
| Gesesa | 1.65 |
| Gori | 2.52 |
| AdF | 4.04 |

## CUSTOMER CARE

**Higher members** and volumes of charging sessions carried out through the **Acea e-mobility app**

In 2022, **new apps** were activated for the electricity and water services: **MyAcea Energia** and **MyAcea Acqua**

**20 Waidy Points** for Acea Ato 2, in the city and province of Rome, and **189 Acea Energia Points** active across Italy

Around **2,536 GWh of "green" energy sold** by **Acea Energia** to customers of the free market, + 15% compared to the consolidated figure for 2021

**208.5 tonnes of paper/year saved**, +37% compared to the 2021 figure, thanks to customers of the electricity and water services who have chosen **electronic billing**

### CUSTOMER CARE POLICY

Looking after customer relations forms the basis of the strategy of Acea, which intends to improve the "customer journey", the experience customers have when they come into contact with the Group. The **operating companies** pursue this objective in their **daily management of interactions with customers**, while at the Parent Company **the Customer Listening Unit** ensures the monitoring and measurement of customer satisfaction with services provided, to support the companies with finding possible improvement actions. In 2022 the customer satisfaction surveys consolidated and upgraded reporting on the experience on the **digital channels** (see paragraph *Perceived quality*).
In addition, the Customer Listening Unit, in conjunction with the operating companies and through a market research company, carries out **mystery client surveys** to **monitor the quality of customer contact channels**: in 2022, the check on the "video call" channel was also rolled out to AdF. The results are shared with Service Managers and contact operators and facilitate the identification of areas for improvement in each contact channel to take any necessary corrective measures.

Through the unit **ADR Body - Consumer Associations Coordination Unit** within the Parent Company, Acea monitors **how requests made by Consumer Associations are handled**. The Unit of the Holding has maintained constant relations with the main Consumer Associations to gather requests from local communities and continued to raise awareness for the use of **exclusively dedicated** digital and telephone channels, which are **managed by the Companies** to respond adequately to the new needs emerged since the beginning of the pandemic.
The **Consumer Associations** recognised by the National Consumer and User Council (CNCU) also support and represent customers who intend to resort to a **joint settlement procedure** for the out-of-court settlement of **commercial disputes**, used by Acea. Following the **Memorandum of Understanding for ADR** (Alternative Dispute

Resolution) conciliation signed **by 19 consumer associations** and the main Group companies[96], the **ADR body**[97] was set up, which allows customers of Acea Energia, Areti, Acea Ato 2, Acea Ato 5 and Gesesa to access **out-of-court dispute resolution through the ADR procedure**. With a view to continuous improvement, in 2022 a process of surveys launched in the previous year was consolidated with the aim of measuring customer satisfaction in relation to such activities. In 2022, the Body received a total of **356 requests for procedures – 135 for the water sector and 221 for the energy sector** – an increase of 3.2% compared to the previous year (345 requests in 2021). Of these, in accordance with the law and the Regulation, 235 were assessed as proceeding and 121 as not proceeding.

**Gori**, which has long signed a **Memorandum of Understanding** for the conciliation of disputes with local consumer associations, also handled **91 conciliation requests** in 2022 and concluded **119 ARERA conciliation requests**.
**AdF** has a relationship of constant collaboration and comparison with the Consumer Associations active in the territory; in 2022 it ensured direct channels of contact with the representatives of the local associations, in order to limit disputes and facilitate their settlement, through open and constructive dialogue.

The **judicial disputes that took place during the year** between Acea and the customers is explained in the dedicated box.

## DISPUTES WITH CUSTOMERS 2022

Legal proceedings **brought by customers** against companies of the Acea Group mainly concerned disputes relating to **charges for service supply**, **adjustments**, **pricing structures and** service **activation delays**.
There were **391** such disputes in 2022, **significantly less** than the 2021 figure (612 disputes started in the year).

As at 31 December 2022, the total number of **disputes pending with customers** (including disputes initiated in previous years) amounted to **1,741**, down with respect to the previous year (1,985). This type of litigation is the one that can be resolved most quickly and normally with a less costly procedure.

**Acea Energia** has defined and applies **specific procedures**, depending on the channel used, to combat "**disputed activations/contracts**" and "**unsolicited supplies**"[98].
For **customers of the free market**, in the event of a contract proposal signed using **door-to-door sales or by telephone**, the Company carries out procedures to **verify the correct behaviour of the sales operator**, the clear presentation of the content of the contract signed, and, above all, the customer's awareness of having made a choice by means of a confirmation call aimed at limiting the risk of misunderstanding and belated exercise of the right of withdrawal. Acea Energia **checks** the **completeness and absence of alterations of all printed contracts** and **listens to all the telephone records produced by the sales reps**. In the event of issues being detected, the IT systems prevent continuation of activation of the offer.
For the **digital sales channel**, in use at the physical channel shop in shop, **in 2022 the digital acceptance process was introduced** to replace the process with a biographometric signature via tablets and an App external to the Acea Energia systems. The new process is implemented by preparing the contract directly on the CRM of Acea Energia and providing customers with all the contractual and precontractual elements to affix their electronic signature, through the receipt of a **one-time password (OTP)** directly to their mobile phone.
**For the telemarketing channel**, in 2022, **the "Adobe Sign" digital sales process went live**, nearly entirely replacing the more complicated traditional method. The new process only has one vocal order (not of a contractual nature but to reinforce privacy and quality checks) with an electronic signature also based on a one-time password (OTP). With the digital process, the customer contacted, who has expressed interest in receiving a contract proposal, **can receive in advance**, at his/her e-mail address, **all the precontractual and contractual material in digital format** and proceed only later, if desired, with the digital signature of the contract, by entering the OTP received via SMS on the mobile phone number indicated. Signing of the contract by digital signature is the only method envisaged for acceptance of the proposal and this **reduces the risk** of **persuasive phenomena** induced by the sales network.
With the **2022 Agency Mandates**, which govern the relation with the network of sales agents, Acea Energia confirmed the application of a specific annex ("Penalties") which **regulates the sanctioning process** of the Agencies, providing for a broad, articulated and scalable range of violations and related amounts to be paid according to valid principles of proportionality. In this context, in 2022 **Acea Energia analysed 940 contract proposals** (subject to "unfair commercial practice"), identified through customer complaints or reports or through quality controls carried out internally by the Company, for cases of "disputed activations/contracts", "unsolicited supplies", "malpractice" or other violations provided for in the "Penalties" annex. **As a result of the verification activities**, Acea Energia **reported** to the Agencies **827 cases of "unfair commercial practices"**, nearly 88% of the cases analysed. As is customary, in 2022 the Company again carried out a **mandatory training programme for sales representatives** (see the Suppliers chapter) and maintained, in the aforementioned agreements, **bonus/malus mechanisms related to the quality of the contracts acquired**.

Additionally, in 2022 Acea Energia continued the process, already undertaken and in continuous evolution, intended to improve the usability and functionality of the digital channels available to customers, through **digitalisation** and **simplification**, to provide services that are more and more **focused on the needs of customers**. This includes a project launched during the year to update and simplify the MyAcea Energia app. The **commercial and communication strategy** was also strengthened, highlighting aspects of **sustainability**, through commercial offers and value-added services that contribute to protecting the environment.

96 The Protocol was signed in 2016 between the Associations and the companies Acea Energia, Areti, Acea Ato 2 and Acea Ato 5; since December 2020, Gesesa has also joined the ADR body. Three other Group companies active in the water sector, not included in the scope of the NFS, are signatories of the Protocol, and have received a total of 20 requests for ADR procedures, 14 of which are considered eligible.

97 Since February 2017 the ADR Body has been included by resolution in the list maintained by the Authority.

98 In compliance with ARERA resolution 228/17 and Article 66 quinquies of the Consumer Code.

This strategy is also found in the partnership with WINDTRE, which, since 2021, has seen the **creation of a shared brand**: **WINDTRE Electricity&Gas Powered by Acea Energia** with a portfolio of sustainable offers. With the new brand, highly innovative for its configuration, Acea Energia has introduced a **model of collaboration** that enhances the commercial potential of the WINDTRE brand and the strength of Acea Energia in the management of the Electricity & Gas service, with the aim of proposing to customers offers marked by transparency, reliability and proximity, thanks to its **widespread national presence** in 2022.

Acea Energia communication in 2022 prioritised the proximity to customers and their central role. For this purpose, the communication campaigns, mainly carried out through the digital channel, aimed to educate and raise customer awareness, while promoting virtuous behaviour, digital services, electric mobility, value-added and environmentally sustainable products such as latest generation air conditioners and boilers. Communication focused on regions with high potential, with the aim of promoting the knowledge of the brand, the values and the company assets. The digital and innovative positioning achieved was therefore enhanced thanks to the MyAcea Energia app, which allows for self-management of accounts, and the Acea e-mobility app, which allows customers to charge their electric vehicle easily. The recognition expressed by the Financial Times and Statista also deserves a special mention, with **Acea Energia**, representing the Acea Group, included in "Europe's Climate Leaders 2022", namely among the **400 leading companies in Europe in the fight against climate change**.

## THE ACEA E-MOBILITY APP BY ACEA ENERGIA

In 2022, Acea Energia strengthened its presence on the market of charging services for electric vehicles. Performances arising from diffusion of the **Acea e-mobility** app show a **150% increase in registered users** compared to the end of 2021 and a **50% increase in charging sessions carried out**. The development of the sector of charging stations also allowed for the significant increase in charging points reachable via app.

The **Acea e-mobility** app is characterised by a number of strengths:

- **widespread presence**, with more than 15,000 easily identifiable recharging points around the country;
- **affordability**, with a tariff that has not changed, despite price increases by competitors;
- digitalisation: **top-up and payment via Card or App**;
- **assistance 24 hours a day and 7 days a week** for using the app and for information on prices, payment methods, invoices and problems with the recharging service or the charging stations.

Using the App, customers can geolocate the nearest charging station, book it and recharge their car in a smart way. The offer is based on two different tariffs, depending on the type of charging station, for quick or fast recharges.

In 2022 the **"green" energy sold**[99] by Acea to customers on the free market, estimated at 2,536 GWh, continued to increase, by **over 15%** compared to the volumes consolidated in 2021 (2,196 GWh).

The **share** of this item out of the **total energy sold** in the year to free market customers (around 5,986 GWh, see also *Environmental Accounts*) **reached 42%** (36% on the 2021 consolidated figures).

## ACEA ENERGY'S 2022 COMMERCIAL PROPOSALS FOR THE FREE MARKET: 100% ECO AND NEW SERVICES

In 2022 Acea Energia continued the **commercial offer** of 100% Eco electricity and gas and value-added products such as boilers and air conditioners.

Acea Energia's **sustainable offers** include **100% Green Light** and **0% $CO_2$ Gas**, in line with the Acea Group's objectives of environmental protection and commitment to the territory.

The electricity supplied has a "Guarantee of Origin" (G.O.) electronic certificate that **attests to the renewable origin of the sources used for its production**. The gas **offsets $CO_2$ emissions**, achieved through the purchase of certified carbon credits (VER – Verified Emission Reduction). The carbon credits purchased for 2022 contributed to funding climate change mitigation projects in Peru and India with tangible benefits for the local communities.

Finally, in compliance with the provisions of ARERA, in its product catalogue Acea Energia has prepared the differentiated **PLACET** offers – Free Price at Equivalent Protected Conditions – for families (domestic use) or small businesses (non-domestic use).

During the year, sales of so-called "VAS" (value-added services) were consolidated, such as **high energy efficiency boilers, air conditioners and other products**, to reduce consumption, with a view to sustainability. With the purchase or replacement of obsolete equipment with that offered by Acea Energia, **the customer can take advantage of the tax benefits** envisaged by current regulations. The offer proposed by Acea Energia consists, in addition to the physical asset, of services such as consulting, installation and assistance, aimed at ensuring **a "turnkey" solution**. Acea Energia **installed over 5,000 units of high efficiency products** in 2022.

99 Like the 2021 figure, the figure for G.O. certified green energy sold in 2022 by Acea Energia and AEMA also includes the main Group companies' internal consumption, which contributes approximately 350 GWh out of an estimated total of 2,536 GWh. The final calculation is expected in March 2022, and the consolidated data will be updated in the next reporting cycle.

In January 2022, Acea Energia launched the third edition of the loyalty programme **Acea con Te** with multiple new changes and a strong focus on sustainability:

- the section **sustainable awards in the catalogue and in the "*Emozioni da Prima Fila*" [Front Row Excitement] competitions was expanded;**
- **"Green Lovers" was launched**, an ongoing section in the reserved area dedicated to engagement and edutainment initiatives focused on sustainability;
- **engagement initiatives** were carried out, such as surveys on energy efficiency and reducing consumption;
- **a competition** was created with prizes up for grabs to **support households in their daily spending** (economic sustainability).

Thanks to the improvement in the health emergency, the in-person events of the "*Emozioni da Prima Fila*" [Front Row Excitement] competition resumed, with prizes such as e-bike tours, visits to the beehive, and trekking in Monte Terminillo. The partnership with Gambero Rosso also continued through a co-marketing agreement to convey a sustainable food and wine culture to those enrolled in the programme. Subscribers can take advantage of ad hoc events on the Gambero Rosso Academy training platform, plus win prizes and follow specific events in the wine, travel and food sectors, while enjoying dedicated discounts.

## ACEA ENERGIA POINTS INCREASE ACROSS ITALY

Acea Energy confirmed its commitment to the optimisation of its physical network and, during the health emergency, in compliance with all the safety measures, opened **new "Acea Energia Points"**, in Rome and outside Rome using a Shop in Shop formula, i.e. setting them up in pre-existing multi-brand stores.
The Acea Energia Points, a point of reference for customers who want to activate an electricity and gas account on the free market, ensures, thanks to digitalised procedures, **reduced waiting times, quality of service and an improved customer experience**. A total of **189 Acea Energia Points** were active as at 31 December 2022, distributed across Italy, in particular in the regions of Lazio, Campania, Calabria, Molise, Apulia, Veneto, Lombardy, Piedmont, Sicily and Sardinia.

**Water companies** have also stepped up **communication initiatives aimed at customers**. On World Water Day, the Acea Group confirmed its commitment by launching a national campaign to raise awareness about saving water, in which Acea Ato 2 took part. In line with previous years, **Acea Ato 2** also re-proposed the **communication campaign on the supplementary water bonus**, to inform eligible customers about the possibility to take advantage of this significant benefit at local level in their bill, which can be used in conjunction with the national social bonus, subject to an application to the Operational Technical Secretariat of OTA 2 Central Lazio (OTS). The communication campaign was carried out through press, digital and outdoor, especially in the province, where there is a higher concentration of direct users. During 2022, outdoor LED walls were used for the first time in the communication campaigns, placed at strategic points in Rome with a notable image return; this method was used, for example, close to the Auditorium on Via della Conciliazione, close to St Peter's Basilica, to promote the interactive web bill. Lastly, the water-saving campaign was also re-proposed in the summer months, to raise customer awareness on the responsible use of water, when LED advertising walls were used once again, for example at the Rome Marina in Ostia or along the main Roman consular streets, guaranteeing excellent return thanks to the high brightness that allows for visibility day and night.
Each year, **Acea Ato 5** proposes communication initiatives to make customers aware of specific issues, such as communicating meter readings and mitigating the risk of meters freezing, and informing them about the planned replacement of the meters. **The "Water Identity Card" initiative was also maintained in 2022**, allowing users to provide their residential address in order to have access to data and information on the quality of the water supplied, including an indication of the values of the main analytes that characterise the water in the area of interest.
**AdF** has defined an **integrated communication plan** with new "customised" touch points for the specific needs of customers. To promote the activation of web billing and bank or post office direct debits, the Company had already promoted the **loyalty bonus** in 2021, a one-off incentive intended to reward the most virtuous users who, through this choice, activated at least 12 months ago, contribute to paper savings and demonstrate trust in AdF. As at 31 December 2022, by virtue of this initiative, AdF has paid a total of **€ 230,270 to 46,054 users**. From June 2022, with "***AdF da te, un nuovo servizio per rimanere sempre informati***" [AdF at home, a new service to stay informed], the Company invited customers to provide their contact details, via online forms, in order to receive real-time updates via e-mail or SMS about possible water disruptions and important communications about the integrated water service. In December 2022, the ***Singolarizzare conviene*** [Singularising is worth it] information campaign was launched, to promote the separation of users who use a single centralised meter in a shared apartment complex. The main benefits for customers who choose to "singularise" their water account are more awareness around water use, measurement and precise billing of consumption and incentives.
Each year, **Gori** informs customers and raises their awareness of the correct protection of meters and systems from frost and on the quality of water distributed, transmitting the communication initiatives on various channels and using videos and other media for the web and the press.

### CONTACT CHANNELS AND PERFORMANCE

In all customer relations, Acea Group is committed to **guaranteeing the respect of privacy in the management of personal data**. In particular, Acea keeps updated safeguards on the issue of privacy to better respond to the evolution of the relevant legislation, in line with the European regulations (General Data Protection Regulation - **GDPR**)[100] on the protection of personal data (see in-depth analysis in *Corporate Identity*, *The Internal Control and Risk Management System).*

100 Regulation EU 679/2016 (GDPR).

Acea makes available to customers **traditional contact channels** (call centre and branch) and **digital contact channels** that are more advanced every year. The health emergency, triggered in 2020 and continuing partly into 2022, has in fact made it **essential to spread the use of remote channels**, spurring companies to continually improve them. In 2022, therefore, all Group companies managing customer relations implemented initiatives aimed at improving remote contact channels and increasing the digitalisation of commercial processes. This strategy **led to the separation of dedicated apps for different services**, succeeding the single MyAcea app, to allow for the development of **more targeted and distinctive communication methods**.

Acea Energia launched the **new MyAcea Energia reserved area**, live since March 2022, **also available in the form of an app** for mobile devices (Android and iOS), which allows customers to **manage their electricity and gas accounts**, with a new user experience plus an **expanded range of actions available**. The **MySER App**, on the other hand, is dedicated to the **standard market service**.

As at 31 December 2022, over **196,000 users** were registered on the **MyAcea Energia App** and **over 284,300** on the **MySER App**. The **web area** for the free market recorded more than **438,000 total unique log ins** during the year.

In 2022, Acea Energia also continued to develop new features on the portal for "**large customers**" to access information about supplies, payments, contracts, invoices and consumption data. In particular, features were released during the year for the bulk uploading of technical and commercial services and improvements to graphics and reporting.

In March 2022, the new app (for Android and iOS) was also launched for the **water service** (Acea Ato 2 and Acea Ato 5): **MyAcea Acqua**.

As at 31 December 2022, there were **362,918 users registered** in the online customer area pertaining to **Acea Ato 2**, an **increase of around 5%** (345,355 in 2021). This figure corresponds to 48% of the customers with active water supplies at the end of the year (754,569).

Through an external supplier, Acea Ato 2 manages **the chat service** to help customers browse the website and, after registration, use the services available in the customer area MyAcea.

During the year, the Company continued the initiatives already undertaken to promote the greater digitalisation of the customer experience:

- the development of the **digital branch**, the service that can be used, upon reservation, via computer equipped with a webcam or via smartphone. With a view to overcoming the *digital divide*, the Company has also made available, by appointment, access to **local branches**, known as "**Waidy Points**" (see the dedicated box below);
- **an integrated customer relationship management platform**, **Salesforce**, with an omnichannel perspective; the project also includes the development of a tool (Salesforce dunning) aimed at streamlining the solicitation process in the event of credit recovery;
- digitisation of two important commercial processes (transfer and takeover), to make them digitally usable with the possibility of finalising the contract by accepting a link received by email;
- the **transition to the new telephone platform**, CTI Genesys, and consequent transfer of the contact centre service. The tools accompanying the new platform, which speed up call management thanks to the integration, already usable, in SalesForce, will simplify contact centre operations and improve customer experience.

**Acea Ato 5** continued to implement new technologies to develop more effective customer management systems and solutions and for the evolution of the contact channels (digital branch, sales toll-free number, My Acea Acqua app, e-mail, web portal), increasing the offer of new digital services. The initiatives undertaken centre on the intention to bring the customer closer to smart technology services, so as to rely less and less on help from operators. In 2022, the company also carried out information campaigns, both in the press and via e-mail and SMS, to promote **the use of remote contact channels** (MyAcea Acqua app, website, toll-free number, dedicated numbers) and the new interactive bill. **Subscriptions to the relevant web area** increased reaching a total of **61,820 users**, **9% more** than the 2021 figure (56,623 users), accounting for around 30% of total active contracts in the year. Furthermore, through an external supplier, Acea Ato 5 also manages **the chat service** to help customers use the services on the MyAcea customer area.

**AdF** sought to promote the use of the new MyFiora customer area, introduced in late February 2022 with an advertising campaign ***Un nuovo modo di essere MyFiora*** [A new way to be MyFiora], using traditional and digital media. The initiative contributed to an increase in the number of registered customers to **59,073**, **up 12%** on the 2021 figure (52,847 registered). Thanks to a completely revamped interface, the new customer area provides an excellent response to the needs of customers, with the possibility to manage water accounts completely autonomously, and offers a more intuitive navigation experience. In addition to the web section, **updated versions of the MyFiora app** were also released on the digital stores (for Android and iOS), with a new and more modern interface. With the aim of promoting the digital services, AdF also introduced, in July 2022 the ***myfiora transfer bonus***, which rewards customers who choose to manage the transfer request using the self-service feature, by accessing the portal. The one-off bonus is paid in the first bill. As at 31 December 2022, **251** customers had chosen this method (equal to a total amount paid by the company of around € 8,500). Lastly, **social media** are the most used communication channels by customers for interacting with AdF. In 2022, the company invested in the growth and development of the **social community**, recording a **16% increase** compared to the previous year with **11,291 fans/followers** on Facebook (9,696 in 2021).

**Gori** continued to promote participation in digital services (MyGori, web bill and interactive bill), recording an **increase of around 16%** in registered users in the **MyGori** reserved area and, as at 31 December 2022, totalling **186,180 users** (160,843 in 2021). In 2022, **Gesesa** undertook communication initiatives to promote the **MyGesesa** area, sending meter readings and awareness of the toll-free numbers. Registered users in the MyGesesa reserved area **increased by 13%** compared to the previous year, reaching 10,200 users as at 31 December 2022 (9,009 users in 2021).

On the **website www.acea.it** dedicated to the **free market** and on the **website www.servizioelettricoroma.it** dedicated to the **protected market of Acea Energia** there are **guides to reading the bill**. These guides are also available for customers of the **water service** found in the **Water section** of the Acea Group website www.gruppo.acea.it.

The bill for all the water companies in the Acea Group was renewed, in 2021, with a complete restyling, simplification and rationalisation of the content, an e-mail template for the delivery of the web bill, designed to convey to users the image of a company that is digitally ready and attentive to sustainability issues. The **interactive bill** was also introduced, which complemented the web bill in PDF format. The latter, available via PC, smartphone and tablet, is **designed as a navigable dashboard** available to the customer and shows the main information elements on the home page (water user data, billing period, actual billed consumption, amount to be paid, payment status), allowing for easy and immediate understanding of the dynamics of consumption and related expenditure.

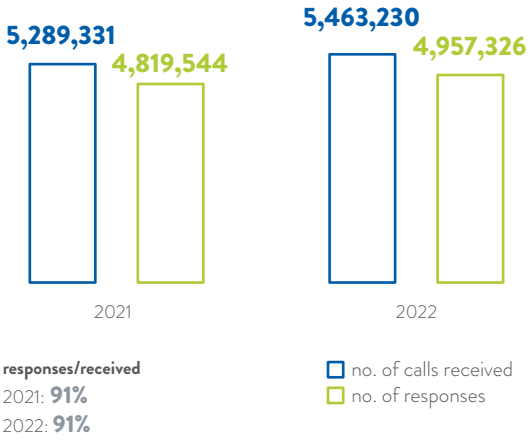
As mentioned, all companies, in the water service as well as energy sales, **have encouraged the activation of the web bill** and digital payments by promoting the **increase of the significant related environmental benefits**[101].
In particular, as at 31 December 2022, the number of **Acea Ato 2** users with digital billing was **385,353**, around **7% more** than in 2021 (358,707 users with web billing), with an **annual paper saving of 78.3 tonnes**.
At the end of 2022, there was a total of **87,631 AdF** users with active web billing, around 37% of the total users, with a **5% increase** compared to the previous year (83,277 users with web billing in 2021) and a paper saving of **10.9 tonnes per year**.
Subscriptions to the web bill service, for **Gori** users, reached **221,408** as at 31 December 2022, around **12% higher** than the previous year (197,790 users with web billing in 2021), with a saving of **6.5 tonnes of paper per year**.
At the end of 2022, **Acea Ato 5** recorded **53,869** users with active web billing, **13% more** than the figure for 2021 (47,623 users), with a saving of **5.7 tonnes of paper per year**.
As at 31 December 2022, **Gesesa** had **9,344** users with active web billing, around **14% more** than in 2021 (8,206 users), **with a saving of 1.5 tonnes of paper per year**.
Lastly, as at 31 December 2022, **Acea Energia** recorded **489,146 active supplies with web billing** (specifically, 322,054 for the free market and 167,092 for the standard market service), with **an increase of around 24%** compared to the figure for 2021 (394,655 supplies with web billing), for a paper saving in the year of **80.7 tonnes**.

**Overall**, therefore, thanks to the **web billing service offered by Group companies and the customers who activated it**, **208.5 tonnes of paper were saved in the year, 37% more than the 2021 figure** (152 tonnes of paper).

For Acea Ato 2 and Acea Ato 5, **the contact centre service** is managed by an external supplier, identified by each company through a tender[102] (Acea Ato 5 awarded the contract for the service in June 2022). The service is carried out according to the One Call Solution (OCS) approach, in order to meet the needs expressed by customers through a single contact; the quality of the service is monitored and **the staff are trained and attend refreshers** on procedure and how to interact with the customer.
**Acea Energia** internally manages the **social media channel** (Facebook) for free market customers and the dedicated **chat channel**, while for the standard market service (Rome Electricity Service) the chat channel is managed by an external supplier; it also manages the toll-free numbers for the free market and the standard market service, outbound campaigns, *back office customer care* activities, the toll-free number for making appointments at the branch, the Pedius toll-free number and the Premium toll-free number. The **Pedius App**, which is available for all devices, allows **people with a hearing impairment** to contact the call centre – on a telephone line with a dedicated priority queue – by writing text messages in chat, which are read to the operator by a computerised voice, while the operator's answers are returned to users in written form.

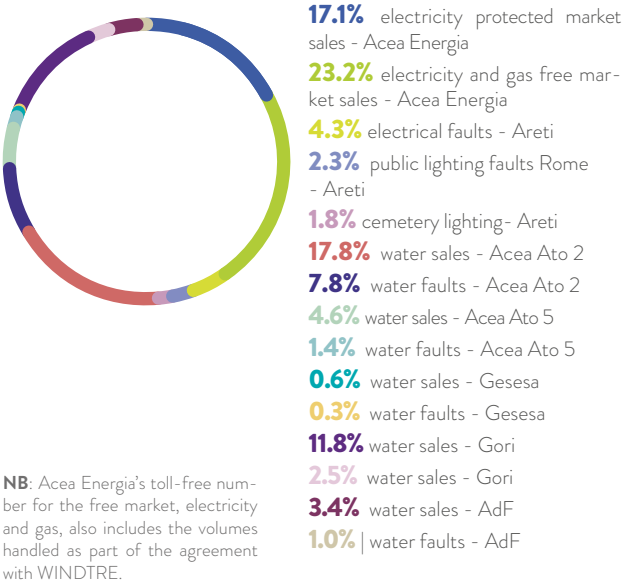
In 2022, the **Group's toll-free numbers received** a total of **more than 5.4 million calls, an increase of 3.3%** compared to 2021 (approximately 5.3 million calls); the upward trend recorded in recent years is consistent with the greater use of remote contact channels.
The **overall service level**, despite the increase in the number of calls received in the year under review, was 91%, in line with the performance recorded in 2021 (see Chart no. 29 and Tables nos.37 and 38 for the performance of individual companies, at the end of this section).

**Chart no. 29 – Total telephone traffic for Acea's toll-free numbers (2021-2022)**




**NB**: the 2021 figures have been slightly adjusted to consolidate Acquedotto del Fiora's data; the 2021 and 2022 figures also include Acea Energia's commercial toll-free number, activated following the agreement with WINDTRE.

**Chart no. 30 – Percentage breakdown of inbound calls to Acea toll-free numbers (2022)**




**NB**: Acea Energia's toll-free number for the free market, electricity and gas, also includes the volumes handled as part of the agreement with WINDTRE.

101 It is important to consider that the paper savings shown for each company are calculated on the basis of sheets/envelopes effectively saved, with variables, from company to company, that depend on the billing frequency and the type of communications sent to customers.

102 Acea Ato 5 awarded the service contract in June 2022 to the supplier that won the public tender held in 2021.

The opening of **physical branches** continues to be organised to ensure maximum safety for users and staff, with **customers allowed entry by appointment only**. This, together with the further development of remote channels, has continued to result in **much lower number of visitors than in pre-pandemic years** and, for some companies, another decrease in 2022.
The **branches** at **Acea's headquarters in Rome**, in Piazzale Ostiense, for the electricity, gas and water services managed by **Acea Energia** and **Acea Ato 2**, allowed **entry to a total of 47,232 customers** in 2022 (the figure for 2021 was 50,254 customers, that for 2020 was 88,723 customers and that for 2019, before the pandemic emergency, 204,542 customers), **with service levels close to 100%**. In compliance with health safety measures, branches allowed entry by appointment only.
If the total figures for **all companies in the scope** are considered, **126,918** customers were received at the branches (121,674 in 2021; 163,527 in 2020 and 555,496 in 2019); the slight increase on the figure for 2021 is due to higher numbers of visitors than in the previous year, recorded by Gori, AdF and Gesesa, and for the standard market service of Acea Energia. See Tables 37 and 38 for the performance over the last two years of the individual Companies.

In June 2022, the **digital service point was internalised by Acea Ato 2**, with an increase in the **quality of the service** provided and a **decrease in the volumes managed** – from an average of 1,200 monthly appointments at the start of the year to an average of 400 monthly appointments at the end of 2022 – thanks to the experience of the resources employed, the synergy between the different channels and the commitment to resolve the customer's request during first contact. Acea Ato 2 also activated new **Waidy Points** in 2022 (see box with details).

## ACEA ATO 2 OPENS NEW WAIDY POINTS IN THE TERRITORY

Waidy Point, launched by Acea Ato 2 in May 2021, is an additional service and contact channel, which performs the same functions as the traditional physical branch but in a digital version, with the aim of combining innovation and proximity to customers. It is a mobile structure equipped with a monitor, internet, scanner and printer, which customers can use, **assisted by an on-site staff member**, to contact an operator via video call and carry out any commercial action. The service was designed, using innovative solutions, to reduce the "digital divide", with the aim of supporting customers with less familiarity with computer tools or with no access to them. The Waidy Point solution also allows for a more widespread diffusion across the territory. In fact, the municipalities that request one and provide a digital facilitator can activate agreements with Acea Ato 2 for the opening of additional territorial hubs, in premises within the municipality itself, with hardware provided by the company.
As at 31 December 2022, there were **20 Waidy Points across the territory** (6 in 2021), of which 14 managed by Acea Ato 2 and 6 by municipalities.

Also for AdF, access to the two AdF Points in Grosseto and Siena was kept by appointment[103], which could be booked through the sales toll-free number, the website or at both locations. Customers were also able to use the **digital service point**, again by appointment; this contact method, which guarantees widespread coverage across the territory, is increasingly more appreciated and has recorded **an increase in contact of over 36%** compared to the previous year, managing to cover **19% of total contact** via branch. The customer clustering process has seen the definition of new professional figures dedicated to the management of specific customer segments (Member Municipalities, Businesses, Condominiums, "Industrial Waste"), which have confidential contact channels. Since 2022, a **channel with dedicated staff has also been reserved for top clients**, i.e. large customers with monthly billing. Lastly, close attention was paid during the year to users that recorded significant **anomalous consumption**, with prompt telephone contact, to allow customers to act as quickly as possible on any hidden leaks, reducing difficulties related to billing and to protect the water resource.
Lastly, **Gesesa** also has the digital service "***Prenotami***" [Book me], with which customers can choose the day and time to access the branch by appointment.

The operating companies handle **written complaints, following the processing of cases using information systems: from reporting to resolution**.
For the **energy service**, the "replies to written complaints/enquiries" both by the sales Company and the distribution Company, are services included among the **levels of commercial quality** subject to regulation by the national Authority (see sub-paragraph *Quality levels regulated by ARERA in the electricity sector)*. Likewise, for the **water service**, **the contractual quality levels**, specific and general, introduced by the Authority, also provide for management procedures and response times to enquiries, written complaints and requests for billing corrections (see sub-paragraph *Quality levels regulated by ARERA in the water sector)*.
For the **public lighting service**, responses to **written complaints/requests** are handled directly by Areti. In 2022, a total of **3,409 complaints/enquiries** were received, a slight decrease on the figure for 2021 (3,704 complaints/enquiries); Areti **replied to 92%** of them by 31 December 2022.

103 For the use of branches by appointment, the Authority has introduced an additional standard, linked to the maximum time of appointment at the branch. The maximum time for the agreed appointment at the branch is the time between the day on which the Operator receives the request for an appointment at one of its branches from the end user and the day on which the appointment is made available at that location.

**Table no. 37 – Energy: toll-free number and branch performance (2021-2022) (*)**

| TOLL-FREE NUMBERS | u. m. | 2021 | 2022 |
|---|---|---|---|
| **COMMERCIAL TOLL-FREE NUMBER (Acea Energia) - STANDARD MARKET SERVICE** | | | |
| total calls received | no. | 774,011 | 934,318 |
| total answers | no. | 740,472 | 875,662 |
| service level (% of answers to calls received) | % | 95.7% | 93.7% |
| average waiting time | min. sec. | 1'48" | 2'32" |
| average conversation time | min. sec. | 6'03" | 5'43" |
| **COMMERCIAL TOLL-FREE NUMBER (Acea Energia) - FREE MARKET (energy and gas) (**)** | | | |
| total calls received | no. | 1,042,053 | 1,269,188 |
| total answers | no. | 971,657 | 1,135,789 |
| service level (% of answers to calls received) | % | 93.2% | 89.5% |
| average waiting time | min. sec. | 1'22" | 2'48" |
| average conversation time | min. sec. | 7'13" | 6'56" |
| **FAULT TOLL-FREE NUMBER (Areti)** | | | |
| total calls received | no. | 214,186 | 236,028 |
| total answers | no. | 209,074 | 229,120 |
| service level (% of answers to calls received) | % | 97.6% | 97.1% |
| average waiting time | min. sec. | 1'46" | 1'24" |
| average conversation time | min. sec. | 3'37" | 3'06" |
| **PUBLIC LIGHTING - FAULT TOLL-FREE NUMBER (Areti)** | | | |
| total calls received | no. | 160,998 | 126,103 |
| total answers | no. | 156,758 | 121,189 |
| service level (% of answers to calls received) | % | 97.4% | 96.1% |
| average waiting time | min. sec. | 2'12" | 1'16" |
| average conversation time | min. sec. | 3'00" | 2'57" |
| **CEMETERY LIGHTING - COMMERCIAL TOLL-FREE NUMBER/FAULTS (Areti)** | | | |
| total calls received | no. | 121,817 | 98,081 |
| total answers | no. | 120,013 | 85,665 |
| service level (% of answers to calls received) | % | 98.5% | 87.3% |
| average waiting time | min. sec. | 8'03" | 3'04" |
| average conversation time | min. sec. | 4'34" | 4'04" |
| **BRANCHES** | | | |
| **ACEA ENERGIA - STANDARD MARKET SERVICE BRANCH** | | | |
| tickets issued | no. | 13,594 | 15,648 |
| customers served | no. | 13,562 | 15,547 |
| service level (% customers served/tickets issued) | % | 99.8% | 99.4% |
| average waiting time | min. sec. | 3'17" | 5'58" |
| average service time (***) | min. sec. | 7'07" | n/a |
| **ACEA ENERGIA - FREE MARKET BRANCH (ENERGY, GAS AND OFFERS)** | | | |
| tickets issued | no. | 19,262 | 17,683 |
| customers served | no. | 19,234 | 17,645 |
| service level (% customers served/tickets issued) | % | 99.9% | 99.8% |
| average waiting time | min. sec. | 4'13" | 4'00 |
| average service time (***) | min. sec. | 8'49" | n/a |

(*) The volumes of channels subject to sector regulation are consistent with the calculation methods envisaged for reporting to ARERA. For example, for the toll-free numbers of Acea Energia and Areti, the average waiting time is the time that elapses between answering, even if it is made through an automatic answering machine, and the beginning of the conversation with the operator or the end of the call if the caller hangs up before the beginning of the conversation with the operator.
(**) Includes data from the "WindTre Luce and Gas powered by Acea Energia" partnership service, active from 12 July 2021.
(***) For 2022, the average management time (TMG) of the branches is no longer present in the system since the current queue manager does not manage this method.

**Table no. 38 – Water: oll-free number and branch performance (2021-2022) (*)**

| TOLL-FREE NUMBERS | u. m. | 2021 | 2022 |
|---|---|---|---|
| **COMMERCIAL TOLL-FREE NUMBER (Acea Ato 2 - city and province of Rome) (**)** | | | |
| total calls received | no. | 1,059,740 | 977,149 |
| total answers | no. | 952,917 | 888,961 |
| service level (% of answers to calls received) | % | 89.9% | 91.0% |
| average waiting time before answer | min. sec. | 2'17" | 2'29" |
| average conversation time | min. sec. | 4'30" | 4'35" |
| **FAULT TOLL-FREE NUMBER (Acea Ato 2 - city and province of Rome) (***)** | | | |
| total calls received | no. | 427,973 | 428,607 |
| total answers | no. | 423,858 | 406,634 |
| service level (% of answers to calls received) | % | 99.0% | 94.9% |
| average waiting time before answer | min. sec. | 0'15" | 0'12" |
| average conversation time | min. sec. | 3'02" | 2'57" |
| **COMMERCIAL TOLL-FREE NUMBER (Acea Ato 5 – Frosinone and province)** | | | |
| total calls received | no. | 293,023 | 252,139 |
| total answers | no. | 249,970 | 224,531 |
| service level (% of answers to calls received) | % | 85.3% | 89.1% |
| average waiting time before answer | min. sec. | 2'42" | 2'49" |
| average conversation time | min. sec. | 4'09" | 4'48" |
| **FAULT TOLL-FREE NUMBER (Acea Ato 5 - city and province of Frosinone) (***)** | | | |
| total calls received | no. | 149,171 | 76,502 |
| total answers | no. | 120,255 | 73,267 |
| service level (% of answers to calls received) | % | 80.6% | 95.8% |
| average waiting time before answer | min. sec. | 0'53" | 0'29" |
| average conversation time | min. sec. | 3'55" | 3'21" |
| **COMMERCIAL TOLL-FREE NUMBER (Gesesa - city and province of Benevento)** | | | |
| total calls received | no. | 38,475 | 35,246 |
| total answers | no. | 28,264 | 30,968 |
| service level (% of answers to calls received) | % | 73.5% | 87.9% |
| average waiting time before answer | min. sec. | 3'08" | 2'59" |
| average conversation time | min. sec. | 5'00" | 4'57" |
| **FAULT TOLL-FREE NUMBER (Gesesa - city and province of Benevento)** | | | |
| total calls received | no. | 16,708 | 16,086 |
| total answers | no. | 14,007 | 14,168 |
| service level (% of answers to calls received) | % | 83.8% | 88.1% |
| average waiting time before answer | min. sec. | 1'12" | 1'32" |
| average conversation time | min. sec. | 2'27" | 2'33" |
| **COMMERCIAL TOLL-FREE NUMBER (Gori - Naples and Salerno provinces)** | | | |
| total calls received | no. | 588,292 | 648,444 |
| total answers | no. | 458,648 | 508,066 |
| service level (% of answers to calls received) | % | 78.0% | 78.4% |
| average waiting time before answer | min. sec. | 4'51" | 4'53" |
| average conversation time | min. sec. | 5'09" | 5'05" |

| | | | |
|---|---|---|---|
| **FAULT TOLL-FREE NUMBER (Gori - Naples and Salerno provinces)** | | | |
| total calls received | no. | 131,595 | 134,442 |
| total answers | no. | 125,845 | 131,308 |
| service level (% of answers to calls received) | % | 95.6% | 97.7% |
| average waiting time before answer | min. sec. | 0'52" | 0'48" |
| average conversation time | min. sec. | 3'26" | 3'27" |
| **COMMERCIAL TOLL-FREE NUMBER (AdF - provinces of Grosseto and Siena) (****)** | | | |
| total calls received | no. | 213,496 | 188,750 |
| total answers | no. | 191,453 | 176,149 |
| service level (% of answers to calls received) | % | 89.7% | 93.3% |
| average waiting time before answer | min. sec. | 2'18" | 1'53" |
| average conversation time | min. sec. | 5'50" | 6'31" |
| **FAULT TOLL-FREE NUMBER (AdF - provinces of Grosseto and Siena) (****)** | | | |
| total calls received | no. | 57,793 | 55,659 |
| total answers | no. | 56,353 | 54,938 |
| service level (% of answers to calls received) | % | 97.5% | 98.70% |
| average waiting time before answer | min. sec. | 0'43" | 0'33" |
| average conversation time | min. sec. | 3'35" | 3'47" |
| **BRANCHES** | | | |
| **Acea Ato 2 (Rome - head office branch)** (**) | | | |
| tickets issued | no. | 17,398 | 13,901 |
| customers served | no. | 17,293 | 13,817 |
| service level (% customers served/tickets issued) | % | 99.4% | 99.4% |
| average waiting time | min. sec. | 1'00" | 01:00" |
| average service time | min. sec. | 18'55" | 21:43 |
| **Acea Ato 5 (2 branches city and province of Frosinone)** | | | |
| tickets issued | no. | 14,896 | 13,872 |
| customers served | no. | 14,896 | 13,872 |
| service level (% customers served/tickets issued) | % | 100% | 100% |
| average waiting time | min. sec. | 1'15" | 1'05" |
| average service time | min. sec. | 16'12" | 17'20" |
| **Gesesa (1 branch Benevento and province)** | | | |
| tickets issued | no. | 5,563 | 9,939 |
| customers served | no. | 5,562 | 9,891 |
| service level (% customers served/tickets issued) | % | 100% | 99.5% |
| average waiting time | min. sec. | 0'42" | 4'01" |
| average service time | min. sec. | 14'42" | 8'45" |
| **Gori (6 branches in provinces of Naples and Salerno) (*****)** | | | |
| tickets issued | no. | 44,602 | 47,637 |
| customers served | no. | 42,103 | 43,705 |
| service level (% customers served/tickets issued) (****) | % | 94.4% | 91.7% |
| average waiting time | min. sec. | 13'13" | 7'07" |
| average service time | min. sec. | 16'43" | 16'43" |

| | | | |
|---|---|---|---|
| **ADF (7 branches in provinces of Grosseto and Siena) (****)** | | | |
| tickets issued | no. | 6,385 | 8,238 |
| customers served | no. | 6,385 | 8,238 |
| service level (% customers served/tickets issued) | % | 100% | 100% |
| average waiting time | min. sec. | 2'00" | 1'00" |
| average service time | min. sec. | 15'00" | 16'00" |

(*) The volumes of channels subject to sector regulation are consistent with the calculation methods envisaged for reporting to ARERA. For example, for the fault toll-free number, 'total answers' means, in line with the Authority's guidelines, 'total answers within TMA' and 'service level' means the % of calls with TMA within the standard.
(**) the 2022 figures of Acea Ato 2 for both toll-free numbers and the branch are being consolidated and have not yet been communicated to the Authority.
(***) Calls handled by the automatic system or terminated by the customer during navigation within the interactive voice responder are also considered as answers. The figures of the 2022 fault toll-free number are still being consolidated.
(****) Certain 2021 figures have been adjusted for consolidation in line with what has been communicated to the Authority, while the 2022 figures are being consolidated and have not yet been communicated to the Authority.
(*****) The figures for 2022 are updated to November since at the time of drafting the document they were being consolidated and had not yet been communicated to the Authority.

## COMMUNICATIONS, EVENTS AND SOLIDARITY

Special award at the **19th Press**, Outdoor & Promotion Key Awards for the institutional campaign: ***Leaders in the ecological transition with all our energy***

**Acea Green Cup** **2022**, second edition: awarding the **Group's most sustainable projects**

**Acea Scuola** ***2022/2023 Let's Protect the Environment*** in digital format on the Acea EcoVillage platform

Inaugurated the first multimedia totems in the Rieti area as part of the project ***Tourist trails to discover Italy's waters*** – **MIA (Acea Immersive Museum)**

### COMMUNICATION

The **Communication Function** of the Parent Company directs and coordinates the **communication and information strategies and initiatives**, of Acea SpA and of the subsidiaries, defining the **development of the Group image**. The main tool for this activity is the **Annual Communication Plan**, which is defined and monitored as time progresses. The Function also oversees **information coverage by journalists**, managing **relations with the media** and drafting and disseminating non-price-sensitive press releases, the preparation of press reviews and the organisation of press conferences for the various business areas. It also coordinates **communication activities and internal dissemination** of documents, news and editorial content, **brand enhancement**, **management of corporate identity**, creation of **institutional**, **advertising and commercial campaigns**, organisation of **public or institutional events**, development and management of **environmental education and solidarity projects**, as well as special projects and external events aimed at **strengthening the bond between Acea and the territory**.
In-house expertise also covers the design and production of **photographic and video services,** management of the **Group's modern and historic documentary and photographic archives,** and the **promotion of Acea sites/plants for educational and cultural purposes**.
The Communication Function also defines the **digital strategy and digital identity**, in line with the strategic guidelines decided by Top Management, the positioning of the Group in the digital ecosystem, through the design, development and management of the **institutional website** and the websites of the companies aligned with the corporate identity.
It is responsible for the operational management of **social media channels to disseminate and enhance, in addition to news and information about the Group, brand awareness, the Group's values and mission** and the initiatives it carries out during the year.

In 2022, **the Group's advertising communication** emphasised the key elements of the Communication Plan: **sustainability and environment, innovation, and territory**. These were the "pillars" of the major **institutional campaign** on the ecological transition launched in April in the main national and local newspapers, online and in print, intended to highlight Acea's role in this area, aligned with European and national strategy (see the dedicated box).

## ACEA'S INSTITUTIONAL CAMPAIGN FOR THE ECOLOGICAL TRANSITION

The campaign carried out in 2022, called ***Protagonisti della transizione ecologica con tutte le nostre energie*** [Leaders in the ecological transition with all our energy], sought to increase brand awareness and underline the company's sense of commitment to the **ecological transition** at national level. The campaign therefore capitalised on Acea's positioning, based on the synergy and collaboration with the territories where it operates and on the constant drive towards the future and the innovation of the businesses managed, with a particular focus on aspects of sustainability.
Through impactful and iconic communication, the institutional campaign drew attention to the Group, describing all areas of activity. The textual part of the campaign, with the payoff "*Il futuro è il nostro ambiente*" [The future is our environment], aimed to convey the Group's commitment to and energy spent on creating progress in the ecological transition.
This was a very substantial communication effort, **on air in April and May**, with a total of over **50 appearances in the press** and over 10 million web impressions.
In July 2022, **the campaign was awarded the 19th Press, Outdoor & Promotion Key Award – Special Prize**.

The Group's commitment to **sustainability** and the **environment** was also underlined by a **water saving campaign by Acea Ato 2**, which was on air for three months in the summer across the entire province of Rome in the press, digital and outdoor with over 5,000 posters, and by an **energy saving campaign by Areti**, focused on the responsible use of air conditioners, on air in August 2022, with digital and outdoor formats in Rome.
Homage was paid to the "**territory**" by the campaign to spread awareness of the **water bonus by Acea Ato 2** (press and digital in April and May 2022), by the **digital campaign on the Acea Immersive Museum**, online between May and December, and the final campaign of the year **dedicated to the "*Roma By Light*" Christmas contest**, the photography competition pair with the Christmas light decorations set up by Acea.
To support the **activities of Acea Energia**, a communication campaign was launched in April 2022 and continued until early 2023 to improve awareness of the company and the digital channels available to customers. The campaign, developed through targeted and crossing actions, with thousands of radio adverts, press releases and digital strategy, had a significant media response thanks to the involvement of two exceptional testimonials, Emanuela Fanelli and Frank Matano.

In 2022, the Group's commitment to **students** continued with **Acea School – *ProteggiAmo l'ambiente*** [Let's Protect the Environment], a training course that allowed young people to discover the best practices, projects and technologies implemented by the Group to manage the activities sustainably, learning about certain aspects such as alternative energy sources (see the dedicated box).

## 2022/2023 DIGITAL EDITION OF ACEA SCHOOL – *PROTEGGIAMO L'AMBIENTE* [LET'S PROTECT THE ENVIRONMENT]

For the third year in a row, Acea has offered the digital edition of the training course to raise young people's awareness of environmental sustainability. Before the health emergency, the course was carried out in person. This delivery method has been effective and in 2022, the Acea School – *ProteggiAmo l'ambiente* [Let's Protect the Environment] event was held on **Acea EcoVillage, a digital platform** rich in multimedia content and presented by Biagio Venditti and Francesca La Cava, two young actors from the Netflix series "DI-4RIES". The actors were given the task of guiding students on their discovery of the Acea EcoVillage: a colourful and interactive world of information, videos and quizzes centred around sustainability and protecting the planet. The **educational course** aimed to promote environmental training and raise young people's awareness of the innovative actions, projects and technologies implemented by the Acea Group to help preserve the natural environment for future generations. The educational event was offered to students in Rome and the Metropolitan City in November 2022, will be repeated in February 2023, then made available to everyone across Italy.

In June and July 2022, ***Acea Innovation Day*** was renewed, the event dedicated to the world of innovation and to new frontiers in sustainable development, this year offered as a **roadshow with three stops** – Terni, Naples and Rome – each of which covered specific topics: smart city, open innovation for the ecological transition, and digital transformation (see the dedicated box in the chapter *Institutions and Businesses*). The Acea Innovation Tour 2022 was live streamed by 5,000 people and, afterwards, Acea prepared and published **a dedicated report** on its institutional website.
In September 2022, with the collaboration of Marevivo and Monina Corporate Sailing, Acea organised the **second Acea Green Cup**, in the area in front of the Port of Cala Galera, a day of sport reserved for Group employees, with the aim of strengthening the sense of team and sharing the projects carried out by the Group companies relevant for sustainability and environmental protection (see box with details).
Lastly, Acea launched the project ***Itinerari turistici alla scoperta delle acque d'Italia*** [Tourist trails to discover Italy's waters] - MIA (Acea Immersive Museum) created by the Communication Function of the Parent Company, by Acea Ato 2 and with scientific support from the Gecoagri Landitaly Cultural Association, inaugurating several interactive totems in Terni/Rieti (see the dedicated box).

## *ACEA GREEN CUP* 2022

Over the years, the Acea Group has undertaken a virtuous and responsible journey through the creation of projects intended to promote industrial growth while staying mindful of protecting the territory and the environment. To boost awareness of such projects among employees and to underline their importance, for the second year in a row Acea organised Acea Green Cup, the intercompany initiative held on 18 September 2022 at the Marina of Cala Galera, in the province of Grosseto.
Sponsored by the Ministry for the Ecological Transition and carried out in collaboration with Monina Corporate Sailing, Marevivo and Safe, the event **received certification as a low environmental impact initiative from EcoEvents**, a partner company of Legambiente. The day involved different sports activities, including a beach volleyball tournament, a padel tournament and a sailing regatta between 14 teams of employees from the Acea Group companies, for a total of around **250 people involved**.
In addition to competing in the sports competition, **each participating team presented a project in an internal contest**, which **rewarded the best initiatives in terms of sustainability**. The projects presented included: the creation of a website, energieperilsarno.it, to inform the territory about the reclamation and monitoring works of the Sarno hydrographic basin; the Renewable Energy Communities; the research and study *Volatolomics da espirato*, conducted by the Engineering area with Tor Vergata University and the association Sagen, aimed at the early diagnosis of certain kinds of tumours; the "UP2YOU" study to calculate savings of $CO_2$ emissions thanks to reduced use of plastic bottles; *Insieme a noi, con la vostra energia!* [Alongside us, with your energy!], a training programme based on new assessment methods and tools that make it possible to develop the potential and habits of candidates; Resilient Umbria, for the creation of a pipeline that will supply a new water treatment plant near the Petrignano Station. Prizes were awarded in the following categories: **ecological transition, social protection and development, innovation, and start-ups**, in addition to several special prizes such as the Marevivo Award, SAFE Award, and People's Prize.

## ACEA LAUNCHES THE *ITINERARI TURISTICI ALLA SCOPERTA DELLE ACQUE D'ITALIA* MIA [TOURIST TRAILS TO DISCOVER ITALY'S WATERS ACEA IMMERSIVE MUSEUM] PROJECT

At a press conference on 22 March 2022, **on World Water Day**, Acea presented the project *Itinerari turistici alla scoperta delle acque d'Italia* MIA [Tourist trails to discover Italy's waters Acea Immersive Museum], carried out with scientific support from Gecoagri Landitaly, an Interuniversity Research Group and Cultural Association, which involved the inauguration of several **interactive totems** across the territory, through which users can connect to the Acea Immersive Museum. This **digital portal** is dedicated to the over 110 years of Acea Group history where visitors can take **3D virtual tours** to follow the routes of the water, from springs to aqueducts, to the tap in homes, and discover the world of water in an innovative and interactive manner. Each totem has a QR code that allows users to navigate a virtual environment of text and photo galleries that explain the history and water resources of Rieti and the surrounding area: rivers, lakes, waterfalls, springs, canals, aqueducts, and baths. Thanks to immersive high-resolution aerial shots, the tourist water trail lets users fly over towns, the course of rivers, wide valleys, the Rieti valley, protected areas, and "land" in multiple points of interest, enriched with data sheets and material developed by the Gecoagri Landitaly Association.

The Communication Function manages Acea's attendance at important events each year. In 2022 the Group attended the ***Green Med Symposium***, a "workshop for green ideas, training and dissemination" (see box for details). It also attended and supported the ***Maker Faire in Rome – European Edition***; centred around technological innovation, the event is now a regular fixture in Acea's calendar and the chance to show its evolution in this area year after year. Over the three days of the 10th edition, held in Rome from 7 to 9 October 2022 at the Gazometro in Ostiense, Acea presented technological solutions that, applied to its infrastructure and industrial areas, support the development of the circular economy (see the dedicated box in the chapter *Institutions and Businesses*). In November, Acea also renewed its active presence at **Ecomondo**, confirming its "green" calling and presenting several particularly innovative and sustainable projects (see the dedicated box in *Relations with the Environment*, *Environmental Sustainability and the Main Challenges*).

## ACEA AT THE GREEN MED SYMPOSIUM 2022

The Green Med Symposium 2022, held in Naples from 8 to 10 June, is organised by Ricicla.tv, an editorial organisation that sought to become an aggregator of businesses and institutions, to create synergy among the expertise required for recovery in Southern Italy. The objective is to propose the dissemination of quality scientific information by training and informing citizens, students and professionals about the possibilities offered by innovation and research in the field of technologies that serve the environment.
*The event's main institutional partner was the Campania Region, with involvement from the Ministry for the Ecological Transition, the Ministry for the South and Territorial Cohesion, the National Register of Environmental Operators, ISPRA and Ecomondo.*
The Acea Group sought to participate by contributing its expertise in various areas and businesses. In particular, **Gori and Gesesa** presented several aspects of **sustainable water management**, **Acea Ambiente** analysed the waste transition, with particular **focus on "critical materials"** and **Acea Innovation** shared its experience of **e-mobility and circular communities** (energy & waste transition).

With the coordination of the Communication Function, Acea **opens its plants** to students and visitors with a technical/scientific interest, thanks to employees willing to be their guide at the sites. This opportunity, suspended during the health emergency, resumed again in 2022 as soon as it became possible, **welcoming 130 people** over 3 visits.

As mentioned, **communication on the digital channels**, web and social media, is handled by the **Digital and Corporate Media** Unit, in the context of the Communication Function, in line with the Group's digital strategy and digital identity and reflecting its **values, mission and industrial positioning**.
The corporate site (www.gruppo.acea.it) explains Acea's **background and how it operates**. The site is constantly updated and has a **clear organisation of information** with corporate content as well as the services and initiatives of Acea, and allows for a **fluid and intuitive navigation**, with distinctive graphics, consistent with the Group's brand identity, and a particular focus on **visual communication**. In 2022, the **new "features" homepage was introduced**, to highlight the topics and developments of greatest interest located further within the site, bringing the most relevant initiatives of the Group to the fore.
Acea's commitment to effective communication in terms of transparency and quality of the content present on its institutional site is also recognised through significant rankings in sector classifications. For example, the company was ranked in the category of "5 star" companies in the most recent study, now available, conducted by Lundquist and Comprend (*Webranking Italy 2021-2022*).

During the year, the **Acea website** highlighted the **initiatives undertaken** to ensure the continuity of services and express closeness to the community, also in the face of the Covid-19 health emergency, through the constant updating of the page dedicated to this information, including the activities of the Acea Vaccine Hub.
Information was given about the **main events in 2022**, mentioned previously, organised by the Group or in which it took part, highlighting the events to which **Acea associates its brand**, through sponsorships (see the dedicated paragraph below), such as the **Rome Marathon** and the **Film Festival**. During the year **the "Events" section** underwent **restyling** and reorganisation to make its navigation more effective and to optimise its positioning in search engines. A search by category feature was introduced to the "Events" main page and, in the detailed pages, a timeline of previous editions was inserted, facilitating the immediate use of older content. Furthermore, in line with the most recent style trends in digital communication, **the "Stories" section** was renewed, which describes the Group's commitment to the territory, innovation and sustainability, characterising it with a design that breaks away from the rest of the site, to

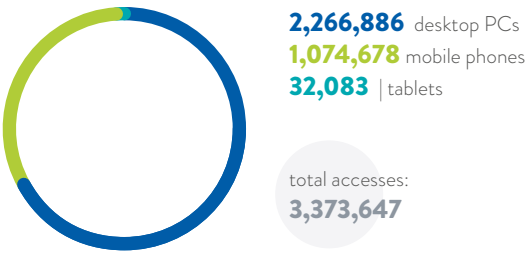
make it **even more distinctive**. The work was also centred around the aspects of user experience and user interface, to make the navigation more simple and fluid.
As well as being dealt with in the "Stories" and the reference section "**Our Commitment**", **sustainability** is highlighted on all pages of the website as a key element for the Group's growth and value creation, with **references to dedicated initiatives and projects in each area**. In 2022, in particular, much visibility was given to topics of **social sustainability**, including **diversity, equity and inclusion**, by developing specific content.
Furthermore, the website highlighted the main **lighting of monuments or institutional sites** by Acea, in coordination with the Public Administration, on particular anniversaries, for example to **raise awareness among citizens** for the prevention of diseases such as breast cancer or other events with a high social impact.

Every year, on the occasion of the **Shareholders' Meeting**, the Acea Group's "Navigable Financial Statements" are published on the website, making the **Consolidated Financial Statements and Sustainability Report** available for viewing in interactive mode, with open data and multimedia content. The online reports present Acea's results, values and projects and allow visitors to **grasp the multiple connections that link the two annual reports on one screen**. For the first time, in 2022, the navigable version of Acea Ato 2's Sustainability Report was created.
The website also performs a **service function**, with the **timely publication of notices** about any water stoppages affecting the areas where the Company operates. For several years, it has provided data about **emissions**, monitored in real time, from the Group's two **waste-to-energy** facilities and the **Tor di Valle power plant**, and the **main parameters of the quality of the water** supplied by companies that operate in the industry can be consulted online. In addition, the institutional website has given visibility to the **certifications** and **environmental declarations** that illustrate Acea Ambiente's commitment.

In April 2022, following the company's rebranding, **Areti's website** (www.areti.it) underwent a restyling: it now features information content aimed at electricity distribution users, for example an area devoted to the plan to replace 2G meters, and it offers smooth navigation and an effective user experience as well as quick access, **further improved by recent interventions**, to the reserved area to manage utilities and services.
**Acea Innovation's mini-site** (www.aceainnovation.it), hosted **within the Group's website**, was created to introduce the company to a wide audience and as a **contact channel** for customers interested in the services offered: **sustainable mobility, widespread composting and energy upgrading**; during 2022 three dynamic forms were created for the acquisition of leads grouped by the three services offered, namely evolutionary techniques that improve user experience, facilitating initial contact with the company.

The Group's website is active on the domain www.gruppo.acea.it. The 2022 figures for page views and access **cannot be compared with the 2021 figures** because, from last year, accesses and views on the MyAcea reserved area, now grouped by type of service (water and energy) and outside the Group domain, are no longer included in the analysis. In 2022, therefore, the corporate site recorded a total of around **6.1 million page views**, equal to around **3.4 million accesses**. The **desktop connection method** still prevails, accounting for around **67%** of accesses (2,266,886), followed by **mobile phone** for around **32%** (1,074,678 accesses) and **connection via tablet** remains low, at 32,083 accesses in the year, or around **1%**.
The **Acea Energia website** (www.acea.it) recorded **over 2 million accesses** in 2022. In the year in question, the most used device to access the site was **mobile phone** for the first time, surpassing **desktop** (52% via mobile and 45% via desktop); tablet access also increased slightly, to 3% (2% in 2021). The website, dedicated to the **sale of electricity and gas for the free market**, has a user-friendly navigation to help customers, in addition to sections devoted to "**guides**" and "**stories**", where insights are provided on topics such as innovation in the energy sector, wind energy, e-mobility, energy saving, etc., which **account for around 27%** of total access to the site from Google.
On the website www.servizioelettricoroma.it, **dedicated to Acea Energia customers on the standard market service**, in 2022 **456,754 accesses** were recorded, with **desktop** accounting for 80.3% of the connection method, **mobile** phone 19% and **tablet** 0.7%.
Lastly, on **Areti**'s website (areti.it), over **715,000 page views** were recorded in 2022, equal to more than **175,000 accesses**; again in this case the connection method via **desktop** prevailed – around **60%** of accesses (105,896) – followed by **mobile** telephone – around **38%** of accesses (67,278) – and by **tablet** – for around 1% (2,195 accesses).

**Chart no. 31 – Acea corporate website 2022: access methods**




Acea continues to **strengthen its social media presence, increasing the number of followers** (see the dedicated box) thanks to an effective storytelling strategy and specific content for each channel, with the aim of highlighting the elements that characterise the Group's commitment, in line with the communication tone of the institutional website. In 2022, **Areti's LinkedIn page** and **Waidy Wow's Instagram channel** were also created, and are managed in line with the respective strategies and brand propositions.

## ACEA NUMBERS ON SOCIAL MEDIA – 2022

Acea **strengthened its presence on the main social channels during 2022**. Here are the key figures, all up on the previous ones:
The Acea Group's **Facebook** channel, which focuses on corporate content and supported cultural events, has reached a fanbase of 7,712 followers, an increase of 22.4% compared to 2021, and achieved **over 40,000 interactions** (and 7.1 million video views). Thanks to constant moderation, **user enquiries** received on the page are **directed to the dedicated support channels**.
The **Instagram** profile, with direct and informal communication aimed at talking about Acea's commitment to the area, counts 5,689 followers (+19% compared to 2021) and received 7,871 clicks.
The **Twitter** profile, which is one of the main touchpoints for interaction with **institutional stakeholders** and **updates on corporate content and Group results**, has 5,299 followers (+11% compared to 2021) who interact with Acea through comments and shares (22,356 interactions during the year);
The **LinkedIn** profile reached **75,089** followers (around 23% more than in 2021), with 217,295 interactions during the year. On this channel Acea reinforces its role as a multi-utility company in order to attract talented and skilled workers.
The **YouTube** profile, where Acea's videos are collected, has 1,280 subscribers (+18.5% compared to 2021).
The Group is also present on **Facebook** and **Instagram** with **Acea Energia**. Both channels were used for the promotion of electricity and gas offers and for the dissemination of commercial initiatives on the free market. Facebook and Instagram respectively reached 16,071 (+11.6% compared to 2021) and 1,826 followers (+62% compared to 2021) and both have become important touchpoints for **managing customer requests**, also by inviting customers to use online services available in the MyAcea customer area of the website www.acea.it.
**Areti** has been present on LinkedIn since February 2022 with a channel dedicated to highlighting the company's initiatives and conveys, in line with the brand proposition, its values and mission. The LinkedIn channel of **Areti** reached 2,320 followers.
Lastly, **Waidy Wow** has also been present on Instagram with its own channel since June 2022. Waidy Wow is a new tool, which in these initial months has laid the foundations for a solid online presence: a clear editorial format that balances socially active and light-hearted content, communicating it with a current and authoritative tone.

The **Media Relations and Internal Communication Unit** monitors **relations with national and local media**, in a spirit of mutual respect for roles and cooperation, with the aim of conveying the correct corporate image and position of the Group through the media.
**Press releases** and **press conferences** in 2022 disclosed **the economic results achieved, the initiatives carried out** by the Group and **information of public interest** relating to the provision of services. Media Relations, together with the Digital and Corporate Media Unit and in coordination with other competent Functions/Departments of the Holding Company, handles **the dissemination of press releases relating to major corporate events**, such as the Shareholders' Meeting and **the approval of the financial statement figures**. Through press articles, television, radio and web services and "**Tg Acea**" – published weekly on the intranet, the company's website and YouTube – the Unit has guaranteed media coverage of the main events and initiatives carried out by the Group, with a particular focus on the development of the content of **corporate communication**.
The constant interaction **with the operating companies** allows the Unit to **provide feedback on reports of inefficiencies** coming from the media, interacting with press editors to have the company's replies published.
Media Relation manages the national and local **press review** on a daily basis, making it **available through the company's Intranet**. This activity is complemented by the transmission of additional and timely information about the Group or relevant to the business managed, thanks to the regular **monitoring of press agencies** and the web (**web** news, social media and blogs).
Among the **communications** that **accompanied the initiatives of particular importance during 2022** are, by way of **example**:

- communication actions on **sustainability**, including communications on Acea's evaluation by Gaia Rating, on the improvement achieved in the Bloomberg Gender Equality Index, on the new *Sustainability Rating Linked* credit facility and on Acea's entry into the MIB ESG index; the communications on World Energy Saving Day, the event *M'illumino di Meno* [I will use less light], World Earth Day and World Water Day; the communication with ASviS on the opening of the Sustainable Development Festival, with special lighting of the Cestia Pyramid, and the communications on the Group's presence at the Ecomondo trade fair in Rimini;
- communications issued in the year regarding the **electric mobility sector and Acea Innovation's agreements for the ecological transition**. These include the initiatives with Federdistribuzione, with the ESA, with the Municipality of Scarlino, and with the Municipality of Castel Gandolfo. Plus communications on the launch of works for the Ecological Transition Plan and, for Ecomondo, the communication on Acea Innovation's **new services for electric mobility**: "iPads" and "Nose";
- communications regarding **the HR results achieved**, such as the positioning in the Top Employers ranking, the agreement signed with UnitelmaSapienza, the launch of the service aimed at employees for e-bike rental; the initiatives activated on International Day for the Elimination of Violence against Women; the result achieved in the Financial Times and Statista ranking for Diversity & Inclusion and the gender equality certification from RINA;
- communications linked to news and current affairs, with a particular focus in 2022 on the **health emergency and rising utility bills**. These include the communications regarding the Acea Vaccine Hub, also opened in March to Ukrainian refugees; the note regarding excess profits and the communication on the agreement between Acea Energia and SACE for instalment arrangements for utility bills;
- for **Acea Energia**, the communication on the launch of the new national campaign dedicated to **sustainability** and the communications on the extension of the commercial partnership **with Wind** across Italy;
- the initiatives regarding electricity distribution include the communication **on the agreement between Areti and RSE** for the decarbonisation of electricity infrastructure and communications on the creation of the **new high-voltage power line** in south Rome and on the start of consultations for the **RomeFlex project**;
- the water sector communication on the installation of a water kiosk at the MEF site and the presentation with NTT Data of

the **Waidy Management System**, with press release and dedicated interviews about the agencies; summer communications following media requests about the **drought emergency**, to reiterate the lack of critical situation in the territory of Rome, for which press releases, responses to newspapers and websites were given, as were interviews with press agencies;
- communications regarding the **photovoltaic plants** in Basilicata, with the inauguration of the Ferrandina plant, and in Sardinia with the authorisation for the Bolotana plant;
- actions connected to carrying out and promoting the **Acea Innovation Tour 2022**, with stops in Terni, Naples and Rome, and the communication in April regarding the launch of an Acea **digital antenna** in San Francisco;
- communications on the consolidation of Acea's position in the **waste recycling and treatment** industry, through the acquisitions of plants and companies during the year;
- communications relating to **Acea programmes aimed at young people**, such as the launch and completion of the school-to-work programme called *GenerAzione Connessa* and the launch of the new edition of Acea School on a digital platform;
- communication actions for the installation and inauguration **of the multimedia totems** as part of the project "*Itinerari turistici alla scoperta delle acque d'Italia*" [Tourist trails to discover Italy's waters], tied in with the Acea Immersive Museum;
- **corporate communications** about the *closing* of the transaction for the sale to Equitix of a majority stake in the *newco* acquiring the photovoltaic assets; on the signing of the agreements with Suez for the design and marketing of digital metering systems for the water service; on the closing of the acquisition of certain A2A connections as part of the gas distribution and lastly on the closure of the first stage of the business combination with ASM Terni.

The Media Relations and Internal Communication Unit also guaranteed – through press articles, television, radio and web services – media coverage of the **main events and initiatives in which Acea participated or which it held** in the field of value liberality and sponsorship.

## EVENTS AND SOLIDARITY

The **economic value distributed to the community** (in terms of sponsorships, trade fairs, conferences, etc.) in 2022 is approximately **€ 6.3 million**[104] (€ 8 million in 2021). Of this amount, some 800 thousand euros have been earmarked for sponsoring cultural, social and sporting events. Allocations by way of **donations** for major initiatives amounted to approximately **€ 1.8 million** (€ 2 million in 2021).

Acea offers its services, such as the **supply of electricity and water** or **switching on/off public lighting**, on the occasion of events and **special circumstances of a solidarity and symbolic nature**, such as, for example, **special lighting/switching off of the Colosseum**, in expression of solidarity with the Ukrainian population, as part of the campaign to raise awareness of the fight against the death penalty, on *Rare Disease Day*, on National Day against Eating Disorders, the *M'illumino di meno* [I will use less light] event, **of the Senate Palace**, such as for International Day for the Elimination of Violence against Women and World Multiple Sclerosis Day, **of the Lazio Region Palace**, on particular anniversaries, such as during Breast Cancer Awareness Month in October, World Patient Safety Day and World Autism Awareness Day, and **the special lighting of the Cesta Pyramid**, for the Festival of Sustainable Development. These services, referred to as '**technical sponsorships**', had **a total economic value of around €274,000 in 2022**.

The company participates in the main events related to its business activities and supports, every year, **including with sponsorships**, initiatives considered of high cultural and social value for the **development of the areas it operates in** and **for the benefit of the community** (see also the summary boxes at the end of the section). The **Sponsorship and Value Liberality** Function **advises on and manages requests** from the entire region and from the Group's corporate structures, **to submit them for the assessment of the Committee for the Region**, a corporate body assigned the tasks of consultation and monitoring in relation to sponsorships and donations, in order to guarantee a sound and virtuous development of relations with the territories in which the Acea Group operates. The applications approved by the Committee for the Region are subject to Integrity Due Diligence, for an ethical and reputational assessment of the applicants, according to best practices.
In 2022, Acea continued to support several **hospitals**, allocating to them a portion of the funds allocated to sponsorships, in particular the Policlinico Agostino Gemelli and the Policlinico Umberto I, which upgraded and created several wards, and carried out other solidarity initiatives.

## ACEA FOR THE COMMUNITY

In 2022, Acea **launched a project**, sponsored by the Municipality of Rome, **which involves the members of senior centres in the city and province of Rome**. The goal of the initiative is to create more awareness about energy use among this population group, both in terms of saving and safeguarding resources. It also intends to improve knowledge of the digital channels. Events are planned at senior centres during which staff from Acea Ato 2 and Acea Energia will raise the community's awareness of various topics: social bonus, instalment arrangements for utility bills and lessons about scams, information about the water cycle and the energy supply chain, with a focus on the natural environment, and training on water and energy saving. A tablet will also be activated and delivered to the chairpersons of the senior centres selected, to communicate via video call with the branches of Acea Ato 2 and Acea Energia and to carry out online commercial practices, to report faults, disruptions, or to submit complaints or enquiries.

The Group also sought to contribute to **cultural events and events of social interest**, for the relaunch of the territory and the well-being of citizens. The main events held in 2022 included the ***Van Gogh*** exhibition open in Rome from October 2022 to March 2023 at Foro Bonaparte, which made some 60 works by the great Dutch painter and other artists in his circle exceptionally accessible. To promote the recovery of theatre, musical and cinema activities, Acea once again joined the **Fondazione Teatro dell'Opera di Roma** as a private member and sponsored shows by that theatre and by Caracalla. It also sponsored the 2022 editions of the ***Two Worlds Festival*** in Spoleto, the ***100 Cities in Music*** initiative, the ***Film Festival*** at Rome's Auditorium Parco della Musica, and other similar local initiatives, such as the Etruria Eco Festival 2022 and the Tolfa Jazz Festival 2022.

104 This item also includes expenses incurred for "trade fairs and conference" but not "technical" sponsorships.

Alongside entrepreneurial initiatives for young people and the **promotion of innovation**, **Acea** sponsored the second edition of the ***Italian Smart Design 2022*** competition and the catalogue that presented the projects.
Among the main sporting events of the year, Acea, as per usual, associated its brand with the two running events of great importance for the capital: the Rome Marathon – **Acea Run Rome The Marathon** – and the **Rome-Ostia Half Marathon**, which were held on 27 March and 17 October 2022 respectively, as well as the **2022 Rugby Six Nations**, held from 13 February to 12 March at Rome's Stadio Olimpico. The Group has sponsored numerous other sports initiatives and some teams, such as Virtus Basket Siena, ASD Orvieto Basket and Rugby Perugia, and has supported, as every year, initiatives aimed at children such as **Volley Scuola - Acea Trophy** (see the dedicated box) and **Acea Camp**. Started in 2015 from an idea of Carlton Myers and thanks to the support of Acea, every summer, at the end of the school year, the latter event has offered, over time, the opportunity to thousands of children, aged between 6 and 16, **to practice individual and team sports**, at a sustainable cost for families and accepts, first of all, those in greater economic hardship.

## THE VOLLEY SCUOLA TOURNAMENT – ACEA TROPHY 2022

With a focus on the promotion of the values conveyed by sports, every year Acea supports events that concern children, combining them with awareness of sustainability issues. In particular, the 2022 Volley Scuola Tournament, organised by FIPAV Lazio (Volleyball Association), **saw the involvement of around 120 secondary schools in the city and province of Rome**, with a potential catchment of around 100,000 students. The tournament has always been inspired by strong ethical values and has transformed, over time, into a workshop of ideas with an educational purpose, **adding an educational element to the sport**, through seminars on civic education, in-person or remote events with figures and experts from different sectors, and the creation of publications. The celebration of World Water Day and World Food Day, topics such as bullying, cyberbullying and the values of sport have become part of education guidance and also constituted an excellent catalyst for students during the pandemic.
In the 2022 edition of the Volley Scuola Tournament, Acea held **three seminars** for students: the first, entitled "*L'acqua è vita. L'impegno di Acea*" [Water is Life. Acea's Commitment], was held on 22 March on World Water Day, and also saw the presentation of the Waidy Wow App; the second, held on 6 April, was dedicated to the topic "*Il laboratorio, la ricerca e l'innovazione per l'acqua e l'ambiente*" [Laboratory, Research and Innovation for Water and Environment]. On World Earth Day on 22 April, students were told about the "*Biomonitoraggio della qualità ambientale attraverso l'utilizzo delle api*" [Biomonitoring of Environmental Quality using Bees], a project studied by Acea for several years.
Lastly, following the seminars, the finals of the 2022 edition of the **Beach Volley Scuola – Acea Trophy** were held on 25 May at the "La Spiaggia" facility in Ostia. Throughout the month, the event marked a turning point – and recovery – for sports and education, and saw **750 teams** from the Lazio Institutes face off on the sand.
From 12 November to 12 December, the Waidy Wow team, in collaboration with Acea and Volley Scuola, promoted the ***Waidy Wow sustainability mission***, a contest with the aim of **rewarding students and schools that make concrete commitments** to becoming examples of excellence in terms of sustainability, **reducing their environmental footprint** and promoting a culture of respect for the environment through virtuous behaviours and actions.

The following boxes describe some of the **main events supported by the Acea Group in 2022**, through sponsorships or donations.

## ACEA FOR CULTURE, INNOVATION AND SUSTAINABILITY

sponsor of the "**Van Gogh**" exhibition at the Museo Foro Bonaparte in Rome from 8 October 2022 to 26 March 2023, dedicated to the famous Dutch painter (Arthemisia Arte e Cultura)

contribution as private partner and sponsor of the 2021/2022 theatre season of the **Rome Opera Theatre** (Rome Opera Theatre Foundation)

sponsor of the 42nd **Festival of Medieval Towns and Villages** dedicated to classical and lyrical music (Associazione Musicale Ernico Simbruina)

partner and sponsor of the 17th **Rome Film Festival**, held from 13 to 23 October 2022, which saw the organisation of showings, exhibitions, meetings and events, welcoming directors and international stars (Fondazione Cinema di Roma)

sponsor of **100 Cities in Music 2022** (XIII edition), dedicated to the promotion of live music through the organisation of performances at low prices or free admission in 14 municipalities in Lazio (European Music Cultural Association)

sponsor of the **2022 Two Worlds Festival**, the international music event held in Spoleto between 24 June and 10 July (Two Worlds Festival Foundation)

sponsor of various cultural initiatives and summer events outside of Rome, such as the **Tolfa Jazz Festival 2022** (ETRA cultural association), the **Etruria Eco Festival 2022** (Circolo del Cinema Luce a Cavallo), the **Civitavecchia Summer Festival 2022** (Associazione Culturale Stazione Musica), the theatre performances of **Reate Festival** 2022 (Fondazione Vespasiano)

participation, through the payment of 3 scholarships, in the 14th Edition of the 2nd Level Master in "**Homeland Security** – Systems and Tools for Security and Crisis Management" (UCBM Academy – Biomedical Campus University)

sponsor of the **2022 Italian Smart Design national competition** for students and recent graduates of architecture and design, on the development of smart urban system sustainable designs, and the creation of the catalogue that presented the designs (Casa della Creatività SCRL)

sponsor of **Forum PA Smart City – Digital Agenda**, the most important national event dedicated to organisational and technological innovation processes in the Public Administration. Its 2022 edition focused on the implementation of investments and reforms of the NRRP (FPA SRL)

technical sponsorship of the initiative "**I will use less light (M'illumino di meno) 2022**", with the switching off of the Senate Palace to raise awareness of energy saving

technical sponsorship for the **2022 Sustainable Development Festival**, involving the projection of the **UN SDG logo on the Pyramid of Cestius**

## 2022: ACEA FOR SOLIDARITY

**solidarity contributions aimed at upgrading or equipping healthcare infrastructure** for hospital centres in Rome, such as **Policlinico Agostino Gemelli** (Pulmonology Department) and **Policlinico Umberto I** (Cancer Centre).

contribution to the **2022 Fiaba Day** event (XX edition), organised in Rome on 4 October 2022, to promote discussion and awareness of issues relating to the removal of architectural, psychological and sensory barriers, to ensure equal opportunities, accessibility and usability for everyone (Fiaba Non-profit)

participation in **International Day for the Elimination of Violence against Women**, **World Autism Awareness Day**, **International HPV Awareness Day**, **National Day against Eating Disorders**, in awareness campaigns **against the death penalty**, in **Breast Cancer Awareness Month 2022**, in **Rare Disease Day** and many other anniversaries, with **technical sponsorships** such as special lighting for the Senate Palace, the Colosseum and the headquarters of the Lazio Region

contribution to "**Est...iamo ancora insieme 2022**", a summer camp for socialising, inclusion and developing the independence of disabled young people. The event represents an opportunity for children and young people with disabilities to come together and socialise during the summer period

support for the Municipality of Santa Marinella for the ***Help Ukraine*** project to offer material, psychological and social inclusion aid to refugees fleeing the war

support for schools in the Municipalities of the Marche aimed at **restoring the social and emotional well-being of young students** in the regions affected by flooding in September 2022

## 2022: ACEA FOR SPORT AND YOUNG PEOPLE

sponsor of **Acea Run Rome The Marathon 2022**, the 42 km competitive road race, held in the capital on 27 March 2022, is the one with the most spectators (Infront Italy) and the most Italian and foreign athletes participating.

sponsor of the **Rome-Ostia Half Marathon 2022**, the most important running event over a distance of 21 km, held in Rome on 6 March 2022 (RCS Sport)

sponsor of the 7th edition of the "**Tournament for Peace**", an event held in Umbria in May 2022 and dedicated to **Under 16s football clubs** from across the world (L.N.D. Servizi – Umbria Regional Committee)

sponsor of the 23rd **Rugby Six Nations 2022**, the annual rugby tournament between the national teams of France, Wales, England, Ireland, Italy and Scotland, held in March 2022 (FIR)

support for **sports activities and events** in the territories of operation outside of Rome: **basketball** (ASD Virtus Basket Siena; ADS Orvieto Basket, ASD Pink Basket Terni), **football** (Benevento Calcio), **running** (ASD Filippide - D. LF Chiusi Avis Castiglione del Lago, Amatori Podistica Terni, Athletic Terni), **rugby** (Rugby Perugia), **hockey** (ADS Follonica Hockey 1952), and **volleyball** (Pallavolo Follonica)

title sponsor of the 2022 edition of the **Volley Scuola Tournament – Acea Trophy**, dedicated to **secondary schools in the city and province of Rome** and organised by Fipav Lazio; at the 2022 event the sport was accompanied by an **educational element**, through seminars on civic education, and in-person or remote events with figures and experts from different sectors (Fipav Lazio)

sponsor of **Acea Camp 2022**, the event aimed at students, in June and July, with the aim of introducing and disseminating the practice of sports and raising awareness of social and environmental issues (Beside Management Srl)

sponsor of **Run For Autism 2022**, the 10 km competitive race and 5 km open to all, held in Rome on 3 April and promoted by Progetto Filippide, to raise awareness of autism and give hundreds of young people from all over Italy a special day (A.S.D. Sport and Society Association - Filippide Project Rome)

sponsor of the **2022 "I'm Separating Wastes Too" project for schools**, which combines sports activities with educational activities on circular economy issues (ASD Virtus Basket Aprilia)

# SUPPLIERS

Around **€ 1.9 billion** = total value of the **2022 Orders** for goods, services and works:

processed over **7,830 orders/contracts** and **3,780 suppliers** involved

**78% of qualified suppliers** completed a self-assessment questionnaire on **sustainability-relevant aspects during the year**

**399 suppliers** (+129% compared to 2021) assessed according to the **EcoVadis model: the sustainability rating is a bonus criterion**

The Construction Site Safety Unit carried out **14,724 safety inspections** at construction sites: ratio of "serious" non-conformities to total non-conformities detected decreased in the three-year period

## CONSOLIDATED EXTERNAL COSTS

In 2022, the Group's **consolidated external costs** totalled about **€ 3.56 billion** (+44.5% compared to 2021). The higher increase, for around € 900 million, is due to the procurement of electricity on the free market and on the gradual protection market.

**Procurement of goods**, **services and works** related to the Group Companies subject to reporting are managed centrally by the **Purchases and Logistics** Function of the Parent Company[105], with the exception of Gori, AdF, Gesesa and Deco, which independently manage their business. The **total value of the order** recorded in 2022, including the amounts of the aforesaid non-centrally managed companies[106], amounts to **around € 1.9 billion**, a slight decrease compared to 2021 (over € 2 billion). Regarding the centrally managed companies, the value of 2022 procurement was approximately € 1.5 billion, compared to over € 1.7 billion in 2021.

## PROCUREMENT POLICIES

The Purchasing and Logistics Department of the Parent Company defines **policies and guidelines** and manages, as a service, the procurement of goods, services and works required by the Departments of the Holding Company and the main Group Companies. To perform its duties, it **values the technical skills of the buyers**, handles the **requests of "internal customers"** (Functions/Companies in the Group) and develops a **transparent relationship with suppliers**.

In 2022, the Purchasing and Logistics Department also oversaw the flow of **materials**, **logistics** and **warehouses** of the Group, managing **the operations of the central depot and most of the territorial depots of Areti and Acea Ato 2**, at the service of the operational personnel dispatched to the territory. It also supplied materials for scheduled and urgent works, interacting with most of the companies contracted by the two largest operating companies. At the logistics centre of Santa Palomba, verification of water meters and activities at the low-voltage laboratory of Areti (Engineering and Testing Unit) were carried out. From November 2022, with a view to flow optimisation, all activities carried out by the logistics centre of Santa Palomba were taken over directly by the operating companies.

### DEALINGS WITH SUPPLIERS AND PROCUREMENT MANAGEMENT

**The Acea Code of Ethics**, updated at the end of 2022, recalls the reference principles[107] that should guide **relations between Acea**, as a contracting authority, **and its suppliers** (contractors and subcontractors), "on the basis of the principle of mutual benefit and cooperation that underlies such relations":

105 For the NFS scope, see *Disclosing sustainability: methodological note*. With reference to this scope, the water companies Gori, AdF and Gesesa, the environment companies Berg, Demap and Deco (the latter in the NFS scope from 2022) and the companies operating in PV (with the exception of Acea Solar) are not centrally managed.

106 The data of the three companies operating in the water sector that manage procurement activities independently and of Deco are aggregated here with those managed centrally in order to represent overall relations with suppliers in the year under review. The figures for Berg and Demap and the photovoltaic companies (except Acea Solar) have not been included, as these companies recorded very low costs for materials and services totalling 1% of those incurred by the companies in the NFS scope.

107 The *Acea Code of Ethics*, approved by the Board of Directors in its latest version updated in November 2022, dedicates specific space, and numerous other references in the text, to *Relations with Suppliers*. The Code is shared on the company's intranet and is available online at www.gruppo.acea.it, in the Governance section. Particular attention is paid to social safeguards in higher-risk contexts: "*In supply contracts with suppliers from at-risk countries, defined as such by recognised organizations, contractual clauses have been introduced that involve compliance of the supplier with specific social obligations (e.g. measures that guarantee employees respect for their fundamental rights, the principles of equal treatment and non-discrimination, protection against child labour, the fight against forced labour, guaranteed minimum wage, limited work hours, etc.).*"

- **equal opportunities** for each supplier;
- conduct based on **mutual loyalty**, **transparency and collaboration**;
- compliance with **rules and procedures**, including verification processes to identify potential **risks to reputation and/or corruption**;
- protection, by the supplier or sub-supplier, of the **human rights** of their employees (decent working conditions, protection of health and safety) and **safeguarding of the environment** (protection of ecosystems and biodiversity, rational use of natural resources, minimisation of waste, energy saving, etc.), respect for **privacy,** and guarantee of the **quality** of goods, services, and performance.

Suppliers issue a **declaration of acceptance and commitment to comply with the provisions contained in the Code of Ethics**, which constitutes an **element of the contractual relationship**. Any violation of the principles and criteria of conduct envisaged by the Code of Ethics, revealed by audits, will authorise Acea to take appropriate measures.

With a specific focus on topics of social importance along the supply chain, for many years now, Acea has shared a **Water Contracts Protocol** with the trade unions involved in the water contracts and contractors, which concerns aspects such as **employment protection** (fair application of the social clause on the subject of contract changes), combating irregular forms of work or work that does not comply with the applied national collective bargaining agreements, **health and safety at work** and **compliance with contractual regulations**.

**Acea mainly uses tenders**[108] **to select suppliers**, adopting criteria of transparency: in 2022, **60% of procurement, managed at a centralised level**[109]**, was awarded through a tender procedure**.
For centrally-managed Group companies, the Purchases and Logistics Function has **published on the website** [110], in the "Supplier" Area, **the documentation relating to purchases** regulated by the Public Procurement Code[111]. **Operators who are interested in participating in tenders** can **freely** access the **portal of the Qualification Systems** and the portal for **participation in online calls for tenders**. The **web portal** is based on the same operational procedure as traditional tenders: it checks the adequacy of the supporting document, acknowledges possession of the eligibility requirements, discloses the bids and displays the ranking. The companies operating in the water segment, which manage their own procurement process, also carry out tenders electronically, while Deco does not use tenders, rather it follows a procedure that involves the qualification of suppliers, market surveys accompanied by several offers from qualified suppliers on the company's vendor list and the issue of purchase orders.

The Administration, Finance and Control Function **monitors supplier payment times**: in 2022, for the companies in the scope[112], the **average payment delay** was **34.4 days**[113] (a slight increase compared to the 27.3 days recorded in 2021); the same figure, weighted in light of the amounts, falls to 26 days[114]. This was the case for 34% of the value of payments made in the year (compared to 26% in 2021), while **the percentage of amounts paid on time was 66%** (74% in 2021).

## DISPUTES WITH SUPPLIERS IN 2022

The disputes[115] between the company and its suppliers mainly concern non-payment of invoices and judgements on procurement matters.
With regard to **non-payment of invoices** for supplies of goods, services and works, there has been a decrease in the number of disputes that have arisen: **4** in 2022 (8 in 2021). These are injunctions concerning invoices that were not paid for formal reasons and are quickly resolved by settlement proceedings.
As for the civil litigation in the field of **procurement contracts**, mainly concerning the registration of reservations by contractors, contract terminations, considerations and damages, **8** cases were filed in **2022**, a decrease compared to the previous year (14 cases).

Moreover, **12 administrative disputes** began in 2022 (20 the previous year) concerning **tenders**.
As at 31 December 2022, the total number of **disputes pending with suppliers** (including disputes initiated in previous years) amounted to **102**, in line with the figure for 2021 (100 disputes).
At the end of the year, there were also **26 pending disputes started by employees of contractors**, who are **appealing against the latter and against the contracting authority** – as jointly and severally liable – for work credits accrued as an employee of the contractor during the duration of the contract. The figure is in line with the previous year.

108 Acea issues tender procedures for the procurement of works, goods and services in compliance with current legislation (Legislative Decree no. 50/2016), with reference to the ordinary and special water and energy sectors. In particular, for tenders in special areas involving amounts below the EU threshold, Acea applies Internal Regulations consistent with the principles of the EU Treaty for the protection of competition. Finally, for tenders that do not fall within the scope of application of the *Code on public contracts* (so-called "extraneous or private law"), selection procedures are used which comply with the principles of free competition, equal treatment, non-discrimination, transparency and proportionality.

109 Equal to 82% of the total volumes of the companies in the NFS scope, including those not managed centrally.

110 In compliance with the requirements of the National Anti-Corruption Authority (ANAC) and the so-called "Anti-Corruption Law" (Law 190/2012).

111 Legislative Decree no. 50 of 18 April 2016 and subsequent amendments and additions. *Public Contracts Code.*

112 The 2022 analysis produced by Administration, Finance and Control also included the companies Gori, AdF and Gesesa, which have provided data even through they are not managed at the centralised level. It was not possible to include Deco for this first year of entry in the NFS scope. The companies Berg, Demap and two photovoltaic companies were also left out of the analysis due to the low share of the costs incurred.

113 The calculation of the figure is a simple average of the difference between the due date of the invoice in the system and the date of actual payment.

114 The calculation of the figure is the result of the average of the difference between the expiry date of the bill in the system and the date of actual payment weighted according to the amount of the bills.

115 The figures for the 2022 dispute refer to all the Companies within the NFS scope (see *Disclosing Sustainability: Methodological Note*).

### SUSTAINABILITY CRITERIA IN TENDERS

In 2022, for the Group Companies under analysis, **over 7,830 orders/contracts** were processed, for a total of **more than 3,780 suppliers** involved (please see the *Order Analysis* below).
Within the **centralised management** of tenders, which covers around 82% of the total value of procurement within the 2022 scope of consolidation, amounting to 3,115 orders/contracts managed and 1,664 suppliers involved, as a **requirement for participation**, for **100% of tenders for the award of works contracts** and for numerous contracts for the purchase of goods and services, Acea requires UNI EN ISO 9001 **quality management system** and the UNI EN ISO 45001:2018 **occupational health and safety certifications**. Furthermore, **for the 149 product categories subject to tender** and relating to the purchase of goods, services or works, **evaluation criteria of the technical offer based on the following systems** are included during the tender process, when applicable: **UNI EN ISO 14001 – UNI CEI EN ISO 50001 – UNI ISO 37001 – FSC Chain of Custody**.
**These requirements were added to potentially eligible calls for tenders**, awarded on the basis of the most economically advantageous offer. **In 2022, 98% of the 112 potentially eligible contracts concluded**[116] were **awarded on the basis of sustainability criteria**. Specifically, for some tenders for water, electrical and civil engineering works awarded with the method indicated, rewarding criteria were also included regarding the use of **ecological vehicles**, **additional training of workers in the area of safety**, and the possession of **certifications** (where not already participation requirements) in the following areas: **environment**, **health/safety**, **energy efficiency**, the **use of environmentally sustainable materials** and **anti-corruption**. Finally, the **technical specifications** for procurement by Group Companies include sustainability criteria concerning **materials**, such as recycling, re-usage and the repairability index.

Acea will include, where relevant, the normative references to the **Minimum Environmental Criteria** (CAM) adopted by Decree of the Ministry for the Environment, Land and Sea Binding parameters or bonuses in tender documents[117]. In particular, the reference to CAMS was applied in tenders related to the rental services for generators, ordinary and extraordinary maintenance contracts for lifting systems, the purchase of computers and printer cartridges, in addition to categories such as paper, office furnishings, public lighting – supply and design of LED lighting fixtures – work clothes, cleaning of buildings, maintenance of green areas and vehicles.

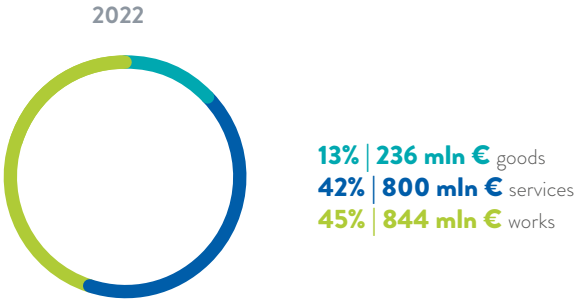
## ANALYSIS OF PROCUREMENTS AND THE SUPPLY CHAIN

### SCOPE

The information and data presented in the paragraph in an aggregated manner concern all companies included in the scope – please see Disclosing Sustainability: *Methodological note – including the companies Gesesa, Gori and AdF, operating in the water sector, and Deco, in the environment sector, which are not managed centrally, and excluding Berg and Demap and two FTV companies, which together account for 1% of the costs of materials and services of the companies in the consolidation area.*

The **2022 tenders** for the procurement of **goods**, the provision of **services** and the execution of **works**, had a **total economic value**, as initially mentioned, of around **€ 1.9 billion**[118] (compared to over € 2 billion in 2021); in terms of the percentage ratio with the figures from the previous year, the following three items decreased, almost entirely uniformly: "goods" (-10%), "works" (-9%) and "services" (-8%) (see Table no. 39).

**Chart no. 32 – Value of ordered goods, services and works and percentage on total (2022)**




**NOTE**: Figures are rounded off to the nearest unit.

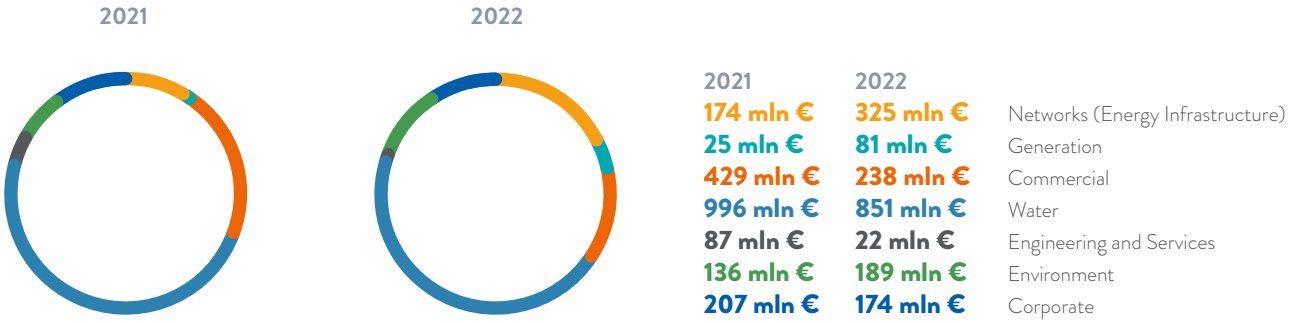
The distribution of the **value of procurement** for the **business macro-areas** – Network Operations (Energy Infrastructure), Generation, Commercial, Water Operations, Engineering Operations, Environment Operations (waste-to-energy and environmental services) and Corporate (Acea SpA) – shows, in particular, compared to 2021, a decrease in absolute values of procurements for the Engineering, Commercial and Water sectors, though the latter continues to account for the highest weighting of total procurements, and a significant increase for the Generation, Networks (in particular "works") and Environment sectors (see Chart no. 33 and Table no. 39).

116 Consultancy activities are excluded from this calculation.

117 From www.mite.gov.it: "Minimum Environmental Criteria (CAM) are the environmental requirements defined for the various phases of the purchasing process, aimed at identifying the best design solution, product or service from an environmental point of view throughout the life cycle, taking into account market availability. [...] Their systematic and uniform application makes it possible to spread environmental technologies and environmentally preferable products".

118 The amount of purchases managed at the centralised level refers to tenders awarded during the year, without any distinction between investments and operating cost, annual and multi-annual contracts. Purchases of commodities, regularisation orders and intercompany orders are excluded. The figures for the companies that are not centrally managed, for a total of € 343 million, do include all purchase types.

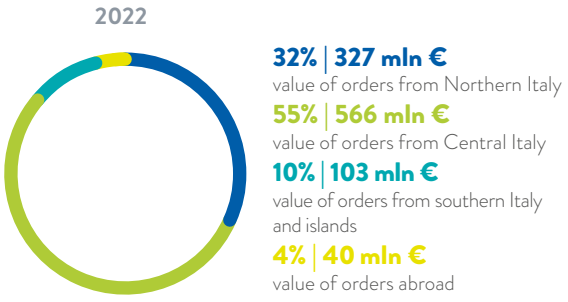
**Chart no. 33 – Orders (goods, services, works) by business area (2021-2022)**




**NOTE**: Figures are rounded off to the nearest unit. **Networks** (Energy Infrastructure) includes the company Areti, **Generation** includes the companies Acea Produzione, Ecogena and Acea Solar. **Commercial** includes Acea Energia and Acea Innovation. **Water** includes the companies: Acea Ato 2, Acea Ato 5, Gori, Gesesa, AdF. **Engineering and Services** includes Acea Elabori. **Environment** includes: Acea Ambiente, Aquaser, Acque Industriali and Deco. Present in the **Corporate** segment is only Acea SpA.

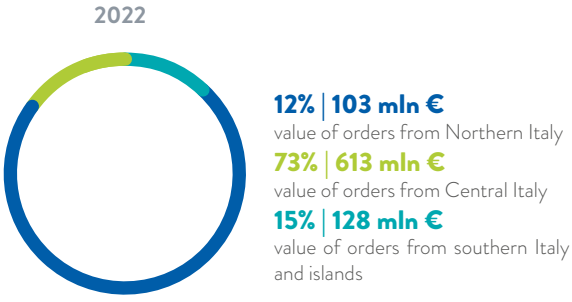
As mentioned, the procurement needs of the Group's companies included in the scope in the year totalled **7,837 orders/contracts** and **involved 3,780 suppliers** (around 32%[119] more than the 2,869 suppliers in 2021). **In terms of the geographic distribution of the suppliers**, in 2022, most suppliers (52%) were in central Italy, of which 26% in Lazio, followed by northern Italy (30%), southern Italy and the islands (16%) and only 2% were foreign. The **geographical distribution of the value of the procurements among the macro-regions**, in terms of percentage weight on the total amounts (€ 1,036 million for goods and services and € 844 million for works), is more concentrated in central Italy, with 55% of the item "goods and services" and 73% of the item "works", followed by northern Italy, which absorbs 32% of the item "goods and services" and 12% of the item "works" and by southern Italy and Islands (with 10% of the item "goods and services" and 15% of the item "works"). During the year, **40% of the value of "goods and services"** and **60% of the value of "works"** were concentrated in **Lazio** (Graphs 34 and 35, and Table no. 40).

**Chart no. 34 – Geographical distribution of the amounts for goods and services in Italy and abroad (2022)**




**NOTE**: figures are rounded off to the nearest unit.

**Chart no. 35 – Geographical distribution of the amounts of works in Italy (2022)**




**NOTE**: figures are rounded off to the nearest unit. In 2022, for the companies in the scope, the value of foreign procurement was zero.

**Table no. 39 – Procurement data (2021-2022)**

| | u. m. | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|
| **VALUE OF PROCUREMENT THROUGH TENDERS** | | | | |
| goods | million € | 262 | 236 | -10% |
| services | million € | 866 | 800 | -8% |
| works | million € | 926 | 844 | -9% |
| **total** | **million €** | **2,054** | **1,880** | **-8%** |
| **GOODS, SERVICES AND WORKS AS A PERCENTAGE OF TOTAL ORDERS** | | | | |
| goods | % | 13% | 13% | 0% |
| services | % | 42% | 42% | 0% |
| works | % | 45% | 45% | 0% |

119 It should be noted, however, that Deco, which entered the scope of analysis in 2022, contributes to the total for the year with 599 suppliers; with the same scope, the difference compared to 2021 would have been 11%.

| | | | | |
|---|---|---|---|---|
| **VALUE OF ORDERS BY BUSINESS AREA** | | | | |
| Networks (Energy Infrastructure) | million € | 174 | 325 | 87% |
| Generation | million € | 25 | 81 | 224% |
| Commercial | million € | 429 | 238 | -44% |
| Water | million € | 996 | 851 | -15% |
| Engineering and services | million € | 87 | 22 | -75% |
| Environment | million € | 136 | 189 | 39% |
| Corporate | million € | 207 | 174 | -16% |
| **NUMBER OF PURCHASE ORDERS MANAGED** | | | | |
| POs for goods, services and works | no. | 6,482 | 7,837 | 21% |

**NOTE**: all the figures in the table are rounded off to the nearest unit.

**Table no. 40 – Procurement nationwide (2021-2022)**

| | u. m. | 2021 | weight as % of total/year | 2022 | weight as % of total/year |
|---|---|---|---|---|---|
| **NUMBER OF SUPPLIERS OF GOODS, SERVICES AND WORKS NATIONWIDE** | | | | | |
| suppliers north Italy | no. | 893 | 31% | 1,136 | 30% |
| suppliers central Italy | no. | 1,366 | 48% | 1,956 | 52% |
| *suppliers Lazio* | *no.* | *897* | *31%* | *969* | *26%* |
| suppliers south Italy and islands | no. | 556 | 19% | 617 | 16% |
| foreign suppliers | no. | 54 | 2% | 71 | 2% |
| **total suppliers** | **no.** | **2,869** | **100%** | **3,780** | **100%** |
| **GEOGRAPHICAL BREAKDOWN OF AMOUNTS FOR GOODS AND SERVICES** | | | | | |
| value of orders from Northern Italy | million € | 426 | 38% | 327 | 32% |
| value of orders from Central Italy | million € | 575 | 51% | 566 | 55% |
| *value of orders from Lazio* | *million €* | *426* | *38%* | *419* | *40%* |
| value of orders from southern Italy and islands | million € | 117 | 10% | 103 | 10% |
| value of orders abroad | million € | 10 | 1% | 40 | 4% |
| **total value of orders for goods and services** | **million €** | **1,128** | **100%** | **1,036** | **100%** |
| **GEOGRAPHICAL BREAKDOWN OF AMOUNTS FOR WORKS** | | | | | |
| value of orders from Northern Italy | million € | 118 | 13% | 103 | 12% |
| value of orders from Central Italy | million € | 701 | 76% | 613 | 73% |
| *value of orders from Lazio* | *million €* | *546* | *59%* | *505* | *60%* |
| value of orders from southern Italy and islands | million € | 107 | 11% | 128 | 15% |
| value of orders abroad | million € | 0 | 0% | 0 | 0% |
| **total ordered for works** | **million €** | **926** | **100%** | **844** | **100%** |

**NOTE**: all the figures in the table are rounded off to the nearest unit. The "northern Italy" geographical area includes Valle d'Aosta, Piedmont, Lombardy, Veneto, Trentino-Alto Adige, Friuli Venezia Giulia, Emilia-Romagna and Liguria; "central Italy" includes Tuscany, Umbria, Marche, Lazio, Abruzzo and Molise; "southern Italy and islands" includes Campania, Basilicata, Apulia, Calabria, Sicily and Sardinia. The geographical area "abroad" includes suppliers that are mainly European.

## SUSTAINABILITY IN THE SELECTION AND ASSESSMENT OF SUPPLIERS: FROM QUALIFICATION TO ONGOING CONTRACTS

Various **systems for qualifying suppliers of works, goods and services** are active in Acea in observance of principles of competition and equal treatment.
The **Supplier Qualification** Unit:

- coordinates working groups to identify the **qualification requirements**;
- draws up the **Qualification Regulations**;
- establishes **Qualification systems** of European significance[120] and **Supplier Lists** for so-called "below threshold" or private contracts.

During 2022, the product tree shared between the Group companies whose procurement is managed centrally included **567 product groups** and the Unit in charge managed, as of 31.12.2022, **162 Supplier lists**.
**To register with the Lists/qualification systems**, companies must visit the Acea institutional website (www.gruppo.acea.it suppliers section) which is a **dedicated portal**; the requests are processed, including verification of the possession of the requirements and related communications to the supplier. During 2022, **a total of 1,554 applications for registration** in the **Qualification Systems/Lists were processed** (+66% compared to the 934 applications in 2021), amounting to **713 successful applications in total**. Specifically:

- **253** qualification applications processed for "works" Qualification systems";
- **460** qualification applications processed for Qualification Systems/Suppliers' Lists for "goods and services".

The **qualification requirements**requested of suppliers to register on the Qualification System are "**standard**" – these include **requirements of a moral nature envisaged by the laws in force** in the sector – **and** "**specific**", i.e. they refer to the product group or groups included in each Supplier List.
Among the specific requirements, in some cases **Acea requires its potential suppliers** to have **certain Authorisations and/or certifications**:

- **UNI EN ISO 9001 certification** (binding requirement for all the "works" product groups and for almost all the "goods and services" suppliers);
- **UNI EN ISO 14001 certification** (for inclusion in the lists of suppliers for special non-hazardous waste, cleaning services, armed surveillance service and concierge/reception);
- **Registration with the National Environmental Operators' Register** or authorisation to manage a plant for the recovery/disposal of waste (for inclusion in suppliers' lists for Waste Management Systems);
- **UNI EN ISO 45001 certification** (for inclusion in the suppliers' list for the electro-mechanical maintenance of industrial plants and cleaning services);
- **UNI EN 15838:2010 certification** (for inclusion in the suppliers' list for "Call Centre and Back Office");
- **SA 8000 certification** (for inclusion in the suppliers' list for "Cleaning services");
- **UNI 10891 certification** (for inclusion in the suppliers' list in the "Armed surveillance service and concierge/reception").

For admission to the Qualification Systems of Community-wide significance, **companies wishing to qualify must declare their availability to undergo** an **audit at the administrative head office**, aimed at assessing the truthfulness and adequacy of the documentation provided, **and at the operating plants** or product warehouses, in order to assess the implementation and application of the active management systems.

**The assessment of suppliers** involves different types of controls that are implemented **depending on the List and the different statuses that the supplier acquires** with respect to Acea:

- **during the qualification phase**;
- **qualified**;
- **qualified with contract in progress**.

**In order to be able to register on the suppliers' list** relating to the **Single Regulations for Goods and Services and Works** which, for 2022, concerned **116 out of 162 total Suppliers' Lists** ("qualification phase"), suppliers must complete a **self-assessment questionnaire on the Quality, Environment, Safety, Energy and Social Responsibility (*QASER*) management systems** that are considered **important for sustainability** on the Vendor Management platform. In 2022, this questionnaire was completed by **288 suppliers** (201 for goods and services and 87 for works), representing 100% of the qualified suppliers on the supplier lists for the aforementioned Single Regulations and **78% of the total qualified suppliers in the year** (equal to 368)[121].

Furthermore, in continuity with a practice that has been consolidated for several years, the **Purchasing and Logistics** Function, in synergy with the Sustainability Planning & Reporting Unit, sent a panel of **100 Group suppliers** an **in-depth questionnaire** to assess their commitment on **environmental issues**, with a particular focus on energy consumption. **47 companies** responded to the questionnaire **in full** and the results of the survey **are shown in the *Relations with the environment* section**, in the chapter on ***The Use of Materials, Energy and Water*** (Energy Consumption *paragraph)*, to which reference is made.

Of the companies that manage their own procurement, it should be noted that **Deco**, which requires suppliers that intend to register in the company's vendor list to complete a questionnaire, signed by their legal representative, centred around **topics of socio-environmental importance**, such as the adoption of a 231 Organisational Model, any presence of current legal proceedings for the offences envisaged by Italian Legislative Decree no. 231/01 or by environmental or occupational safety regulations as well as any possession of certifications on QASER management systems or EMAS registrations. Furthermore, Deco requires suppliers during registration to sign a **commitment to corporate social responsibility** on the aspects envisaged by international standard SA 8000, which allows for a **higher score to be achieved during qualification**. As at 31 December 2022, Deco had **541 letters of commitment** signed by the legal representatives of the suppliers on the vendor list, 87 of which from the 155 new suppliers registered in 2022. The company carries out **an analysis** to identify its **"key" suppliers**, namely those that, while performing their activities, could have a **greater influence on the corporate activities** and, in particular, impact the **quality** of the service, the **environment** and certain aspects of **health and safety at work**. In addition to their obligation to complete the aforesaid questionnaire before entering into a contractual relationship, all key suppliers are periodically assessed to confirm their qualification and may be subject to second-party audits.

120 Pursuant to Article 134 of Legislative Decree no. 50/2016 as amended.

121 The number of qualified suppliers does not coincide with the 713 successfully processed applications for registration in qualification systems, as suppliers can register in more than one qualification system.

**AdF** also applies, where relevant, **preferential sustainability criteria** upon **registration on the Suppliers' List**, and for **qualification** in the product categories, for example by requiring operators who intend to qualify in the product category "**hazardous and non-hazardous special waste disposal services**" to certify that they have ISO 14001:2015 certification.
AdF continues its application of the **Circular Economy Protocol**, in order to **protect local suppliers and enhance the quality and socio-environmental sustainability of the supply chain**. The Protocol, specifically promoted by AdF and drawn up with the direct involvement of stakeholders (institutions, sector authorities, credit institutes, universities, trade unions, etc.), makes it possible to **reserve part of the procurement** of goods, services and works, that are not subject to the rules of the Procurement Code, **to local economic operators**, who can register in a **dedicated and specially created register** to qualify in the **product categories related to the circular economy**. **Social and environmental responsibility** is also taken into account when assessing qualification requests, and incentive criteria that are linked to further commitments are envisaged, such as, for example, hiring staff belonging to protected categories, good practices in terms of health and safety in the workplace, use of vehicles with low environmental impact, etc. (see the Circular Economy Regulation available in the "Suppliers Area" of the institutional website www.fiora.it). As at 31 December 2022, there were **more than 130 qualified suppliers within the scope of the Protocol**. Finally, in order to assess the effectiveness of the process, AdF constantly monitors the qualifications in the categories included in the Register, **periodically checking the results achieved and the quality of the actions taken** and sharing them with local stakeholders. The success of the initiative, launched in 2020, is based on mutual benefit and generates a virtuous cycle in terms of reliability and an increase in sustainability: on the one hand, local suppliers can be confident of long-term assignments, on the other they assume the commitment, in order to remain on the Register, of full compliance with the envisaged sustainability criteria.

**Once qualified**, the supplier may be subjected to a **second-party audit on Quality, Environment, Safety, Energy and Social Responsibility (*QASER*) Management Systems** in order to verify the **actual application** of active certified Management Systems and the management methods of **other areas relevant to sustainability**. In 2022 **audits** were conducted **on the Teams platform**, with remote sharing of documentation; 29 of the main **suppliers** were selected and **subjected to an audit**. These suppliers operated in the most critical sectors for "environment" and "safety" (waste management and works).
Each supplier **was sent feedback** indicating the degree of compliance per scheme and overall, as well as a report with recommendations for improvement. Overall, it was found that 100% of the audited suppliers are certified for Quality (ISO 9001), 97% for Environment (ISO 14001), 93% for Safety (ISO 45001), 52% for Social Responsibility (SA 8000), and 41% for Energy (ISO 50001). An overall average overall **average compliance**, **compared to the requirements of the audited schemes (QASER), of about 83%** (88% for Quality, 82% for Environment, 88% for Safety, 66% for Energy and 83% for Social Responsibility).

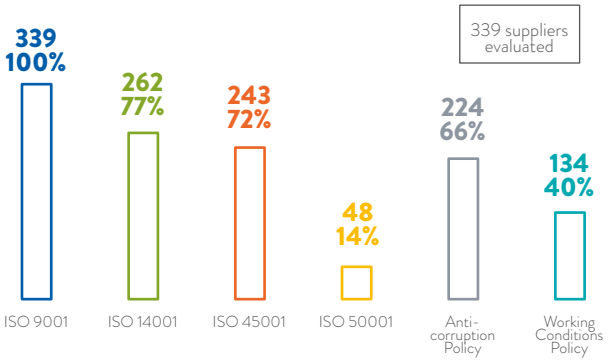
During the year, **Deco** also prepared an **Audit Plan** of its "key suppliers" and **investigated 2 companies** on aspects envisaged by the standard SA 8000 such as the use of child labour or forced or compulsory labour, discrimination, worker safety, compliance with national collective bargaining agreements and labour law, and freedom of association, which found no non-conformities. Should non-conformities be detected, based on their severity, a recovery plan is defined which allows the supplier to raise awareness and improve its performance, with the exception of particularly serious findings that could lead to the interruption of the contractual relationship.

The **Group Vendor Rating** system has been implemented in the single purchasing portal since 2021. The system monitors **various supplier performance indicators** (punctuality, quality, safety) and generates a "**vendor rating index**", which in 2022 was **calculated for 900 suppliers**; this was supplemented by a **sustainability rating**, according to the **EcoVadis model**, **calculated during the year on 339 suppliers** (see the info box and Chart no. 36).

## VENDOR RATING AND ECOVADIS MODEL: CSR AS BONUS CRITERION IN TENDERS WITH MOST COMPETITIVE BID

The Group Vendor Rating System is used to **analyse**, **assess and monitor supplier performance** using objective (non-discretionary) criteria and, where possible, automatic criteria. The **Vendor Rating index** is calculated using a weighted combination of detailed indicators that monitor the main aspects relative to the execution phases of the contract: **punctuality, quality and safety**. The model was defined for goods, services and works for the combined product supplier/group; as at 31 December 2022, the index was **calculated for 900 suppliers**, with the generation of scorecards that, for each product supplier/group of reference, show the summary indicator and the detailed indicators.
To **assess the sustainability performance of its partners**, Acea also adopted the **EcoVadis model**. EcoVadis is a global CSR (Corporate Social Responsibility) rating agency that uses international standards. The Ecovadis model calculates the **sustainability rating according to 21 CSR criteria** related to the environment, work and human rights, ethics and sustainability in purchases, which was integrated into the vendor rating model. Accurate analyses are dedicated to the suppliers through: a **customised evaluation questionnaire**; data collection and analysis done by CSR experts; the **establishment of corrective plans and relative monitoring**, and the sharing of the evaluation with the Ecovadis network. In 2022, **339 suppliers were assessed** (+129% compared to the 148 in 2021) and 180 are still under assessment, with an **average score of 59.5/100** (against an Italian average of 50.4/100).
The **CSR evaluation** was included as a **bonus criteria in tenders with the most competitive bid**, offering different scores based on the rating obtained from the Ecovadis assessment, in order to reward the most virtuous companies in terms of environmental protection and Corporate Social Responsibility.

**Chart no. 36 – management systems and policies of suppliers evaluated by Ecovadis (2022)**




**NB**: suppliers may have several management systems/policies.

## HEALTH AND SAFETY ALONG THE SUPPLY CHAIN: AWARENESS RAISING AND AUDITS

The Group is **extremely attentive to occupational safety**, which it also applies **across the supply chain**. In particular, Acea has tasked organisational structures, in the parent company and the operating companies, with activities aimed at **monitoring** and more effectively **controlling** how suppliers manage safety.

The **Site Safety Unit** [122]**in Acea Elabori**, is the Group structure of reference, for the management of the **safety of works and services contracted out** by Group companies (mainly Acea Ato 2, Acea Ato 5, Areti and Acea Ambiente[123]), **ensuring compliance with the highest standards** and with regulations[124]. To this end:

- **Support and assistance to the Works Manager** and general Safety Coordination;
- **Coordination of safety in the design phase and during execution** at specific sites;
- **Safety inspections** for works and services that do not require coordination during execution;
- **Services ancillary** to safety inspection activities.

**Site safety inspections** are mainly related to the **main works** that are the subject of **maintenance contracts for networks and services in the water and electricity sectors**, but also concern minor contracts[125].

All supported by the use of computer systems, the activities are distinguished into works requiring **Safety Coordination during the execution phase** (Coordinators appointed as needed by the Works Director) or during the **design phase** and works with **random or on-demand safety inspections**.

For the interventions carried out during the year the following people were involved:

- **21 Safety coordinators** in the execution and design phase, assigned to specific worksites as needed;
- **18 Safety inspectors**, who assessed and verified the safety standard through random inspections;
- **4 Planners**, who followed the planning and dispatching of the safety inspections to the sites of the contractors;
- **10 Technical Support resources**, who managed the technical and professional audits of the companies engaged in the contracts.

In particular, **in 2022**, the Site Safety Unit:

- carried out the activities in **support of the technical and professional audits of 1,045 companies** (45% of contractors and 55% of subcontractors and operated equipment rentals[126]), about **29% more** than in 2021 (812 companies);
- activated **Safety Coordination in the Execution phase for 411 tasks** and carried out **Safety Coordination in the Design phase** for **73 tasks**;
- carried out **14,724 on-site safety**[127] **inspections**.

During the **audit of the staff of contractor and subcontractor companies**, the Site Safety Unit **also ascertains that the Employer has provided basic health and safety training** and, where applicable, **specific training**.

The **occupational health and safety audits** conducted during the inspections in 2022 made it possible to detect a total of **1,686 non-conformities**[128] (of which 1,178 of minor importance, 380 of medium importance and 139 of major importance), confirming the trend detected in the last three-year period of **a clear prevalence of the weighting as a percentage of minor non-conformities** (70% in 2022) and the **constant decrease in the weighting as a percentage of major non-conformities** (8% in 2022) **of the total non-conformities found**[129].

122 In December 2022, the Site Safety Unit was renamed the Safety Unit.

123 For Acea Ambiente, Acea Elabori's Construction Site Safety Unit has mainly carried out Safety Coordination during execution (CSE) activities on a smaller number of sites.

124 Legislative Decree no. 81/08 "Consolidated Act on Safety", as amended.

125 Such as electrical or electromechanical maintenance work carried out on plants, meter changes, road repairs, video-inspections and sewerage pumping, etc.

126 Operated equipment rental is a contract that involves the rental of work equipment and the performance of a specialized operator, essential for the operation/use of the equipment itself.

127 The number includes visits for all types of contracts, both main ones and "minor ones".

128 For the main contracts, as envisaged in the contract documentation, the results of audits are recorded according to four categories: compliant or non-applicable, minor (generally corrected on the spot), medium and major infractions. The non-conformities are associated with corrective actions and penalties applied by the contracting company on the basis of the provisions of the tender documentation, and, serious infractions may lead to the suspension of works.

129 In 2020, over 14,904 inspections, 1,457 non-conformities were recorded (of which 962, or 66%, of minor importance; 337 of medium importance, and 158, or 11%, of major importance). In 2021, over 15,444 inspections, 1,023 non-conformities were recorded (of which 677, or 66%, of minor importance; 251 of medium importance, and 95, or 9%, of major importance).

## THE SAFETY CHECK PROJECT: "PRIVACY" CHECKS PERFORMED

Acea Elabori and the Technology & Solutions Function of the Parent Company, between 2020 and 2021, developed and carried out an initial pilot of the Safety Check project, which aims to **prevent potential risk situations by using IoT sensors to monitor remotely and in real time the safety conditions of staff in the work sites**.
During the pilot in 2021 – lasting 4 months and involving 5 operating technicians – the detection system, formed of sensors, tags, smart watches and an IoT infrastructure connected to a dashboard, received around 1,200 inputs from the field, most of which triggered deliberately (for example by removing the protective helmet) to test its efficacy.

In 2022, Acea Elabori carried out research on personal data protection: with the involvement of the DPO (Data Protection Officer), the **Data Protection Impact Assessment** (DPIA) was **carried out**, using the method provided by the French Data Protection Authority (CNIL – *Commission nationale de l'informatique et des libertés*). This activity made it possible to **identify the impacts, risks, privacy responsibilities and the adequacy of the safeguards**. The next steps will involve the Technology & Solutions Function identifying and contracting a supplier and Acea Elabori implementing measures in preparation for launching the activity.

**The Acea Elabori Site Safety Unit and all Group Companies** that independently manage site audits[130], either in whole or in part, also contribute to **protecting the safety of contractors working on the construction sites**, by meeting the employers of the companies before the start of work and **informing them of the standards adopted**. In fact, **all contractors** are informed by the relevant Units in charge of managing the contract, the Works Management and the relevant Safety Coordinators for the Execution of the Works (the latter where provided for by current legislation), **through the DUVRI** (Single Risk Assessment Document, to be attached to the contract), **the SCP** (Safety and Coordination Plan) or **specific coordination meetings**.
As an example, **AdF**, which conducts its own inspections, took steps to carry out **coordination meetings with the contracting companies** on the correct procedures to be followed in terms of health and safety, and carried out **2 training/coaching courses** aimed at contractor staff, for a total of 40 hours of training on the correct use of systems for the recovery in emergencies for staff operating in the workplace, through the preparation of specific anchor lines for each type of plant.

Acea Elabori, due to the construction activities that it carries out as a contractor, has adopted an **innovative control model** that provides for interaction between a specifically established role (the High Vigilance Monitoring Officer (REMAV)), the Delegated Executives, the Employer and the Safety Officers, with the support of a **dedicated app** (*Vigilanza 4.0*), **developed in collaboration with La Sapienza University in Rome**. The REMAV performs monitoring for the verification of compliance with prevention and protection measures on site, using checklists that consider general behaviour, safe work instructions, and requirements of conformity of the work environments and sites. The outcomes of the inspections, which are tracked and sent via the app to the delegated executives and the employers, make it possible to **assess the overall safety level** and, where necessary, to identify **improvement prevention and protection measures for workers** and to intervene to ensure their implementation. In 2022, 10 high vigilance monitoring sessions were carried out, during which no critical issues were found.

In Acea, moreover, the **Training Camp** is still operational. The space, dedicated to the training and education of staff on **occupational health and safety** and **technical/specialist subjects**, is used for both internal training (see also chapter *Staff*) and to explain certain working methods to **contractor staff**; training and coaching are related to specific activities such as, for example, **climbing/descending medium and low voltage power line poles**, **access to underground confined spaces**, and, above all, **securing the plants** during works, which represents **the activity with the greatest consequences on safety**.

Contractors **have been trained** to comply with the "Shared protocol for the regulation of measures for the prevention and containment of the spread of the COVID-19 virus in workplaces"[131] which requires the adoption of **technical**, **organisational and procedural measures** (safety measures to prevent contagion), defined on the basis of a precautionary approach, for the management of health emergencies **both in the workplace and with regard to the procurement of goods and supplies**, extending also to the site owners and all subcontractors and sub-suppliers present; **an operational instruction** containing the Covid-19 Prevention Guidelines was provided to contractors.

The Companies that carried out site inspections during the year, **above and beyond the work of the Site Safety Unit**, took the **Parent Company's guidelines** into consideration. In particular, **Acea Ato 2** increased the activities assigned to the Supervision and Inspection Unit, and **2,467 inspections** were conducted during the year (1,118 in 2021) **at contractors**, with no serious critical issues detected. **Acea Ato 5** also stepped up its audit activities and carried out **544 inspections** (270 in 2021) through its Internal Security Team (Risk & Compliance and Security Unit), to audit suppliers on occupational health and safety, environmental issues and quality of the work carried out. The findings of the inspection visits were shared with the companies concerned, to suitably raise their awareness of the issues detected by the inspection, including through specific meetings.
This also applies to non-centrally managed companies: Through its Technical Management Systems Unit, in 2022 **AdF increased the audits to verify safety conditions and compliance with the Covid-19 regulations**, performing **503 audits** (223 in 2021) and detecting 28 deviations concerning lack of documentation, but no cases of procedural problems and/or lack of PPE; **Gori conducted 2,953 on-site health and safety audits** and **Gesesa carried out 31 inspections** at contractors' sites to check compliance with safety regulations and to identify and resolve anomalies.

130 Note that the company Deco, included in the NFS scope since 2022, had no site activities in the year in question.

131 The Shared Protocol regulating measures to combat and contain the spread of the Covid-19 virus in workplaces was signed on 14 March 2020 by the trade unions and employers' organisations in agreement with the Government. It was further supplemented on 24 April 2020 and updated with the Protocol of 6 April 2021, for the duration of the emergency.

To improve oversight of **health and safety along the value chain** and to make such topic a distinctive trait of the Group, the Investor Relations & Sustainability Department and the Occupational Safety Unit of the Parent Company, in synergy with the parent company Units and the operating companies handling relations with suppliers in various capacities, launched in 2020 and subsequently implemented a project entitled "***Sustainability and safety, a virtuous pair***". The project aims to **actively involve contractors** working with Acea, urging them to conduct **training sessions** and in particular, improve the process of **collecting and reporting accident data**. For this purpose, an event was organised in 2022 to **raise awareness** about safety in the workplace **among the Group's main suppliers** (see info box).

## HEALTH AND SAFETY IN THE WORKPLACE: AN EVENT AIMED AT SUPPLIERS

On 16 May 2022 **Acea organised an event** at its *La Fornace* conference centre with the aim of **increasing awareness among the employers and workers of the contractors about accident prevention**. Thanks to support from the RSPPs of the Group companies, it was possible to involve **250 contractors**.
The event, also available via livestream, was introduced by speeches by Group managers, who **illustrated the corporate strategy**, strongly **oriented towards sustainability**, with a particular focus on the topic of **workplace health and safety of staff of contractors**, considered essential partners of the company.
Moreover, the event was attended by the Prevention and Protection Service Managers (RSPPs) of the Group companies, the Directors of Works and Services of Acea SpA and the Purchasing and Logistics Function.
The event recalled the aims of the project ***Sustainability and Safety, a Virtuous Pair*** and, in a precise manner, presented **the accident data collection survey** in order to help suppliers fill out the requested information.

In line with the previous two-year period, **in 2022** the operating companies of the Group identified **411 suppliers of the main works and services active during the year** and asked them to complete the data collection survey on access occurring during the year on Acea contracts. The questionnaire **received a response from 225 contractors**, or 55% of the panel selected. An analysis of the survey data found that there were a total of 28 accidents in 2022 involving **contractor staff** employed on Acea contracts (around 400 people), divided in **24 occupational accidents** (of which 21 with minor injuries) and **4 non-occupational accidents** (all with minor injuries). Additionally, there were no fatal accidents during the year, nor were there any occupational diseases involving contractor staff. The **main causes of accidents** are due to **stumbling**, **bumping**, **slipping**, **cuts**, **crushing**, and **road accidents**. The **frequency index**[132] of total accidents, measured by the survey, is **3.23** and the **severity index** is **0.14**.
With a view to continuous improvement, period analyses were conducted to define additional actions to be taken in order to standardise the process and successfully involve an increasing number of Group suppliers.

### INVOLVEMENT OF SUPPLIERS ALSO IN OTHER SENSITIVE ISSUES

Some Group companies carry out activities for **engagement and awareness of suppliers** with respect to technological developments implemented in operating processes and Group guidelines, to ensure **constant alignment and adequate training of partners** working on behalf of the Company.

In 2022, **Areti** involved suppliers on the use of the *new licence portal* – **training 9 contractor operators** – and continued training on "*Hammer Meter Readers - Time Meters Received*", involving **15 contractor operators**, for a **total of 20 hours of training**. The initiatives were held on the Teams platform, with **contributions from 5 internal teachers**.
Every year, **Deco** engages with 5 suppliers on aspects envisaged by the standard SA 8000, using a dedicated questionnaire, which also includes supplier **perception** of the management of those same aspects by Deco, with the aim of gradually raising their awareness of social responsibility aspects, associated in particular with the protection of workers' rights.
Finally, every year, **Acea Energia** monitors the **quality of the sales service provided by the door-to-door and/or telemarketing agencies** in the "domestic" and "micro-business" segments of the deregulated market, and in accordance with the Agency Mandate, **it trains those who work in the name and on the behalf of Acea so that they can convey adequate information to customers** (please also see the chapter on Customers). In particular, **in 2022** Acea Energia carried out a **training programme** for a total of **401 hours**, of which 212 hours were delivered to **336 door-to-door sellers**, for a total of 34 days, and 189 hours delivered to **91 telemarketing agency workers** (front end, back office and supervisors).

132 The frequency index of accidents is calculated using the following formula: [(number of accidents/total hours worked in the period) x 1,000,000] with accident meaning a work-related incident that prevents the employee of the contractor from returning to work during the day on which the accident occurred and/or on the following day/work shift scheduled.

# STAFF

## ACEA'S EMPLOYEES

**people** with a **permanent contract**: **99%**

**women** on the Acea **Board of Directors**: **44.4%**

**427 new hires in 2022**: **44%** are young people **under 30 years old**

In 2022, the company's **total staff**[133] numbered **6,763 people**.

**Table no. 41 – Evolution of employees by macro-area (2020-2022)**

| business area | 2020 (no. of employees) | 2021 (*) (no. of employees) | 2022 (*) (no. of employees) |
|---|---|---|---|
| Water | 3,303 | 3,353 | 3,425 |
| Networks (Energy Infrastructure) | 1,280 | 1,264 | 1,287 |
| Generation | 87 | 89 | 97 |
| Commercial | 392 | 397 | 420 |
| Environment | 338 | 362 | 506 |
| Engineering and Services | 274 | 298 | 305 |
| Corporate | 700 | 703 | 723 |
| **total** | **6,374** | **6,466** | **6,763** |

(*) the 2021 amounts do not include the workforces of the companies Berg and Demap, for a total of 33 people, and those relating to 2022 do not include the workforce of the company Berg, of 19 people.

The **Water Operations** segment recorded the **highest numbers and accounts with 51% of the total**, in line with the number of Companies included and the percentage of business on the Group's operations. The **Energy Infrastructures** segment followed, which **represents 19% of the total figures**.
The information and data set out below in the chapter include[134] Demap and Deco, the latter within the scope of reporting since 2022.

### COMPOSITION AND TURNOVER

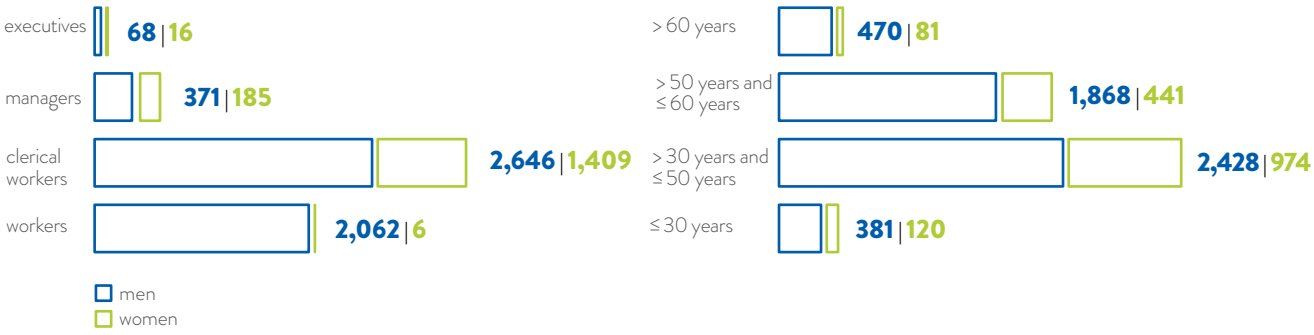
The Acea SpA **Human Resources Management Department** handles the **administration of the personnel** employed by the subsidiaries according to defined procedures. To this end, the Department uses computer systems (SAP HCM, SAP SuccessFactors) operating at the Group level for the management of employee records, salaries, merit plans, etc.

The staff composition confirms the **prevalence of men, accounting for 76% of the total staff**. This is caused by the fact that there are still more men than women with technical skills in Italy today. The **professional structure is stable** and is composed as follows: **60%** are **employees**, **31%** are **workers**, **8%** are **executives** and **1**% are **managers**. **7.4%** of the workforce less than **30 years old**, **50.3%** is **between 30 and 50 years old** and **42.3%** of people are **over 50 years old**.
With regard to the **level of education**, we confirm the **steady increase of university graduates**, **who have increased to 29% of the total** (27% in 2021) and the substantial **stability of diploma holders**, accounting for 48% of the total (for the above data, please see Chart no. 37 and Table no. 42).

133 The chapter illustrates the data relating to employees of the companies within the NFS scope (see Disclosing Sustainability: Methodological Note), i.e. staff who have an employment contract with them and whose duties are under their direct control, with the exception of the companies in the PV area which have no staff and Berg, which is not managed centrally and accounts for very little, as indicated in the text. The total workforce, for all the Companies within the consolidation, was 10,455 during the year (9,348 in 2021). For staff not employed by the companies but over which direct control is exercised, please refer to the paragraph Collaboration with Universities and Schools and the GRI Content Index: reporting principles, universal standards, specific standards and material disclosures.

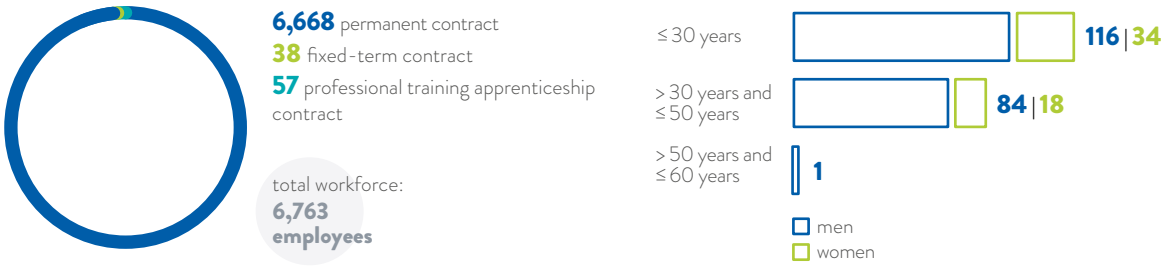
134 Berg, however, is excluded, as it was not possible to collect the information at the reporting date of the document. However, as these companies are small, the number of employees is not very significant and does not change the data illustrating the overall characteristics of the Group's workforce.

**Chart no. 37 – Composition of the staff: gender, age and category (2022)**




**99% of the workforce** are **employed** with a **permanent contract**, which has **increased slightly** compared to 2021 (+1%). The **length of the employment relationship** indicates the **stability of employment**: **40%** of the people who left during the year worked for the Group for **30 to 50 years** and **59% up to 30 years** (please see Chart no. 38 and Table nos. 42 and 44).

**Chart no. 38 – Contract types and length of the employment relationship (2022)**




**427 people joined the company in 2022** (300 men and 127 women), **80% of whom on the basis of open-ended contracts** divided into: 273 recruitments from the external labour market, 99 became permanent employees (including 37 young people who did internships or apprenticeships in the company), 23 were hired internally and 32 were granted apprenticeships (see chart no. 39 and table no. 44).
**44% of newly hired staff** during the year were **aged 30** or under.

**Chart no. 39 – Types of entries and age of the staff (2022)**

**There were 253 people who left the company in 2022** (201 men and 52 women): 90 subscriptions to the "isopension" (early retirement), 28 voluntary redundancy plans, with the agreed and incentivised termination of the employment contract, 23 retired, 90 resigned, 6 were dismissed, 6 left due to contract expired and 10 passed away (see Chart no. 40 and Tables 44 and 45). **64% of the outgoing staff** was **over 50 years of age**.

**Chart no. 40 – Types of exits and age of the staff (2022)**

The **rate of turnover** was **10.1%** (9.7% for men and 11.1% for women), the **incoming rate** was **6.3%** (5.8% for men and 7.9% for women) and the **outgoing rate** was **3.7%** (3.9% for men and 3.2% for women) (see Table no. 43).

## WOMEN IN ACEA

In 2022, Acea had **1,616** female workers (up 6% from 1,528 in 2021), representing **24% of the total workforce**.
**The proportion of female executives as a percentage of total executives** (16 out of 84) is equal to **19%**. **The percentage of women in managerial positions** is **33%** of the category (185 out of 556) (Chart no. 41, while **women accounted for 44%** (855 out of 1,928) of the **graduates** employed by the Group.

**Chart no. 41 – The distribution of the staff from a gender perspective (2022)**

A total of **68 women** participate in the **corporate governance** of the reporting companies (Boards of Directors and Boards of Statutory Auditors), representing **37.6% of the total members** (in 2021, women in the governance bodies totalled 53, equal to 37.1%).
In the **Parent Company**, **women** make up for **44.4% of the members sitting on the Board of Directors** (4 women out of 9 members) and **40% of the members of the Board of Auditors** (2 women out of 5 members, including 1 alternate), thus Acea has exceeded the quotas imposed by legislation (Law 120/2011). We also report that every internal board committee includes one or more women, and that the Chair of the Control and Risks, Appointments and Remuneration, Ethics and Sustainability Committees is assigned to a female Director (see also *Corporate Identity*, section *Corporate governance in Acea*).

**Chart no. 42 – Women in the corporate governance bodies (2020-2022)**

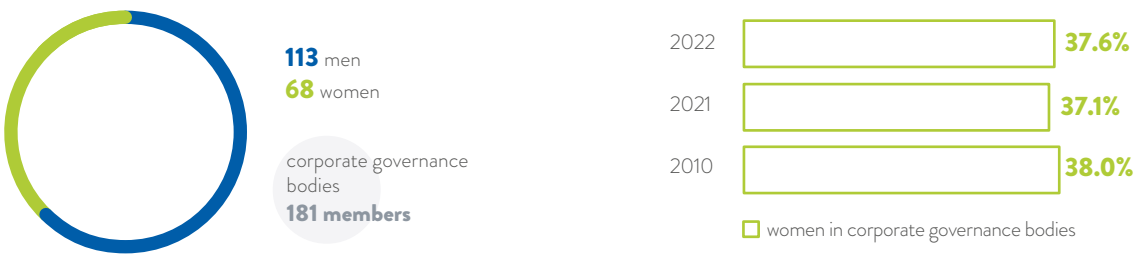


**Table no. 42 – General data on personnel (2020-2022)**

| u.m. | 2020 | | | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|---|---|---|
| | men | women | total | men | women | total | men | women | total |
| **COMPOSITION OF THE STAFF** | | | | | | | | | |
| **number** | | | | | | | | | |
| executives | 73 | 17 | **90** | 67 | 15 | **82** | 68 | 16 | **84** |
| managers | 341 | 150 | **491** | 350 | 169 | **519** | 371 | 185 | **556** |
| clerical workers | 2,517 | 1,295 | **3,812** | 2,552 | 1,338 | **3,890** | 2,646 | 1,409 | **4,055** |
| workers | 1,975 | 6 | **1,981** | 1,969 | 6 | **1,975** | 2,062 | 6 | **2,068** |
| **total** | **4,906** | **1,468** | **6,374** | **4,938** | **1,528** | **6,466** | **5,147** | **1,616** | **6,763** |
| **WOMEN IN ACEA** | | | | | | | | | |
| **%** | | | | | | | | | |
| women out of the total workforce | | | **23** | | | **24** | | | **24** |
| female executives out of total executives | | | **19** | | | **18** | | | **19** |
| female managers out of total managers | | | **31** | | | **33** | | | **33** |
| female graduates out of total graduates | | | **43** | | | **44** | | | **44** |
| **EDUCATION LEVEL OF THE PERSONNEL** | | | | | | | | | |
| **number** | | | | | | | | | |
| university graduates | 904 | 696 | **1,600** | 976 | 765 | **1,741** | 1,073 | 855 | **1,928** |
| high school graduates | 2,541 | 643 | **3,184** | 2,546 | 637 | **3,183** | 2,626 | 640 | **3,266** |
| other qualifications | 1018 | 55 | **1,073** | 999 | 57 | **1,056** | 1,048 | 54 | **1,102** |
| not defined | 443 | 74 | **517** | 417 | 69 | **486** | 400 | 67 | **467** |
| **total** | **4,906** | **1,468** | **6,374** | **4,938** | **1,528** | **6,466** | **5,147** | **1,616** | **6,763** |
| **AVERAGE STAFF AGE** | | | | | | | | | |
| **years** | | | | | | | | | |
| average company age | 48 | 45 | **47** | 48 | 45 | **47** | 49 | 41 | **45** |
| average age of executives | 53 | 51 | **53** | 53 | 52 | **53** | 51 | 53 | **52** |
| average age of managers | 51 | 49 | **50** | 51 | 49 | **50** | 54 | 49 | **52** |
| average age of clerical workers | 47 | 44 | **46** | 47 | 44 | **46** | 30 | 40 | **35** |
| average age of workers | 47 | 49 | **47** | 47 | 50 | **47** | 48 | 45 | **46** |
| **AVERAGE SENIORITY OF THE STAFF** | | | | | | | | | |
| **years** | | | | | | | | | |
| average corporate seniority | 16 | 14 | **16** | 16 | 14 | **16** | 12 | 10 | **11** |
| average seniority of executives | 17 | 16 | **17** | 17 | 17 | **17** | 16 | 18 | **17** |
| average seniority of managers | 19 | 18 | **19** | 19 | 17 | **19** | 13 | 13 | **13** |
| average seniority of clerical workers | 17 | 14 | **16** | 17 | 14 | **16** | 9 | 8 | **9** |
| average seniority of workers | 14 | 18 | **14** | 14 | 19 | **14** | 9 | 13 | **11** |
| **TYPE OF EMPLOYMENT CONTRACT** | | | | | | | | | |
| **number** | | | | | | | | | |
| staff with permanent contract | 4,783 | 1,435 | **6,218** | 4,859 | 1,501 | **6,360** | 5,088 | 1,580 | **6,668** |
| *(of which) part-time staff* | *23* | *102* | ***125*** | *20* | *81* | ***101*** | *17* | *82* | ***99*** |
| staff with fixed-term contract | 69 | 19 | **88** | 40 | 11 | **51** | 19 | 19 | **38** |
| staff under apprenticeship contracts | 54 | 14 | **68** | 39 | 16 | **55** | 40 | 17 | **57** |
| **total** | **4,906** | **1,468** | **6,374** | **4,938** | **1,528** | **6,466** | **5,147** | **1,616** | **6,763** |

**Table no. 43 – Movements of personnel (2020-2022)**

| u.m. | 2020 | | | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|---|---|---|
| | men | women | **total** | men | women | **total** | men | women | **total** |
| **INCOMING STAFF: CONTRACT TYPE** | | | | | | | | | |
| **number** | | | | | | | | | |
| permanent | 283 | 82 | **365** | 201 | 82 | **283** | 244 | 99 | **343** |
| fixed-term | 67 | 19 | **86** | 32 | 9 | **41** | 30 | 22 | **52** |
| professional apprenticeship contracts | 17 | 4 | **21** | 5 | 6 | **11** | 26 | 6 | **32** |
| **total** | **367** | **105** | **472** | **238** | **97** | **335** | **300** | **127** | **427** |
| **OUTGOING STAFF: REASONS** | | | | | | | | | |
| isopension (early retirement) | - | - | - | - | - | - | 73 | 17 | **90** |
| layoffs | 103 | 18 | **121** | 95 | 25 | **120** | 0 | 0 | **0** |
| early retirement | 35 | 5 | **40** | 41 | 2 | **43** | 28 | 0 | **28** |
| retirement | 10 | 0 | **10** | 10 | 0 | **10** | 20 | 3 | **23** |
| terminations | 8 | 0 | **8** | 8 | 0 | **8** | 6 | 0 | **6** |
| other reasons (*) | 47 | 9 | **56** | 65 | 16 | **81** | 74 | 32 | **106** |
| **total** | **203** | **32** | **235** | **219** | **43** | **262** | **201** | **52** | **253** |
| **TURNOVER RATES, INCOMING AND OUTGOING RATES PER AGE GROUP (**)** | | | | | | | | | |
| **%** | | | | | | | | | |
| turnover rate | 11.6 | 9.3 | **11.1** | 9.2 | 9.2 | **9.2** | 9.7 | 11.1 | **10.1** |
| incoming rate | 7.5 | 7.2 | **7.4** | 4.8 | 6.3 | **5.2** | 5.8 | 7.9 | **6.3** |
| ≤ 30 years | 2.7 | 2.7 | **2.7** | 1.8 | 2.6 | **2** | 2.6 | 3.5 | **2.8** |
| > 30 years and ≤ 50 years | 3.8 | 4.1 | **3.9** | 2.5 | 3.6 | **2.8** | 2.9 | 4.1 | **3.2** |
| > 50 years | 1 | 0.4 | **0.8** | 0.4 | 0.1 | **0.4** | 0.4 | 0.2 | **0.3** |
| outgoing rate | 4.1 | 2.2 | **3.7** | 4.4 | 2.8 | **4** | 3.9 | 3.2 | **3.7** |
| ≤ 30 years | 0.1 | 0.2 | **0.1** | 0.2 | 0.4 | **0.3** | 0.3 | 0.5 | **0.4** |
| > 30 years and ≤ 50 years | 0.4 | 0.4 | **0.4** | 0.5 | 0.5 | **0.5** | 0.9 | 1.4 | **1.0** |
| > 50 years | 3.6 | 1.6 | **3.2** | 3.7 | 1.9 | **3.3** | 2.7 | 1.4 | **2.4** |

(*) For 2022, the item includes: 10 deaths (not due to accidents at work), 90 resignations, and 6 contract expirations.
(**) The turnover rate is provided by the sum of hires and terminations of the year relative to the workforce at year end. The Companies to which the data refers are predominantly located in Lazio.

**Table no. 44 – Age groups, employment contract length (2020-2022)**

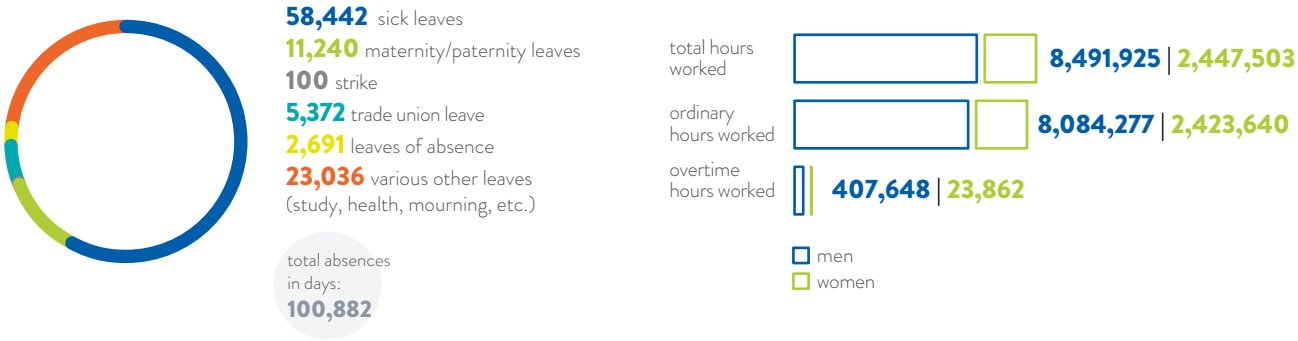
| u.m. | 2020 | | | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|---|---|---|
| | men | women | **total** | men | women | **total** | men | women | **total** |
| **STAFF AGE GROUPS** | | | | | | | | | |
| **number** | | | | | | | | | |
| ≥ 25 years and ≤ 30 years | 302 | 91 | **393** | 330 | 105 | **435** | 381 | 119 | **500** |
| > 30 years and ≤ 50 years | 2,384 | 900 | **3,284** | 2,368 | 929 | **3,297** | 2,428 | 975 | **3,403** |
| > 50 years and ≤ 60 years | 1,822 | 419 | **2,241** | 1,832 | 426 | **2,258** | 1,868 | 441 | **2,309** |
| > 60 years | 398 | 58 | **456** | 408 | 68 | **476** | 470 | 81 | **551** |
| **total** | **4,906** | **1,468** | **6,374** | **4,938** | **1,528** | **6,466** | **5,147** | **1,616** | **6,763** |
| **INCOMING STAFF: AGE GROUPS** | | | | | | | | | |
| ≤ 30 years | 132 | 39 | **171** | 91 | 40 | **131** | 132 | 57 | **189** |
| > 30 years and ≤ 50 years | 188 | 60 | **248** | 125 | 55 | **180** | 148 | 67 | **215** |
| > 50 years | 47 | 6 | **53** | 22 | 2 | **24** | 20 | 3 | **23** |
| **total** | **367** | **105** | **472** | **238** | **97** | **335** | **300** | **127** | **427** |
| **OUTGOING STAFF: AGE GROUPS** | | | | | | | | | |
| ≤ 30 years | 6 | 3 | **9** | 12 | 6 | **18** | 17 | 8 | **25** |
| > 30 years and ≤ 50 years | 18 | 6 | **24** | 25 | 8 | **33** | 44 | 22 | **66** |
| > 50 years | 179 | 23 | **202** | 182 | 29 | **211** | 140 | 22 | **162** |
| **total** | **203** | **32** | **235** | **219** | **43** | **262** | **201** | **52** | **253** |
| **DURATION OF THE EMPLOYMENT CONTRACT OF THE OUTGOING STAFF** | | | | | | | | | |
| ≤ 30 years | 94 | 14 | **108** | 121 | 17 | **138** | 116 | 34 | **150** |
| > 30 years and ≤ 50 years | 109 | 18 | **127** | 98 | 26 | **124** | 84 | 18 | **102** |
| > 50 years and ≤ 60 years | 0 | 0` | **0** | 0` | 0` | **0** | 1 | 0 | **1** |
| **total** | **203** | **32** | **235** | **219** | **43** | **262** | **201** | **52** | **253** |

# HOURS WORKED, SALARY AND PENSION FUNDS

## HOURS WORKED IN ACEA

**Acea works in compliance with labour legislation and in accordance with the National Collective Bargaining Agreements of reference**, with a particular focus on cases relating to working hours and the duration of work, minimum guaranteed wages, age categories and restrictions on the use of legal child labour, proper management of disadvantaged categories.
Again for 2022, the Group has maintained **remote working** as the main working method, mainly for staff with administrative profiles.
**Hours worked in the year**, **ordinary and overtime**, excluding managers, amounted to **10,939,428 hours** of which **78% by male staff** (8,491,925 hours), due to the higher proportion of men in the company's workforce (76% of the total).
Analysing the overtime **hours, the influence of gender** is even more evident: **94% of overtime is in fact attributable to men** and **only 6% to women** (please also see the sub-paragraph *Remuneration*).
**Days of absence totalled 100,882**, mainly due to **illness, various leave** (for reasons of study, health, etc.), **maternity/paternity** leave, and **trade union** reasons (see Chart no. 43 and Table no. 45).
The **absenteeism rate for the year was 3.6%** (3.7% for men and 3.1% for women), up from 2.7% in 2021.

**Chart no. 43 – Hours worked by the staff and absences (2022)**

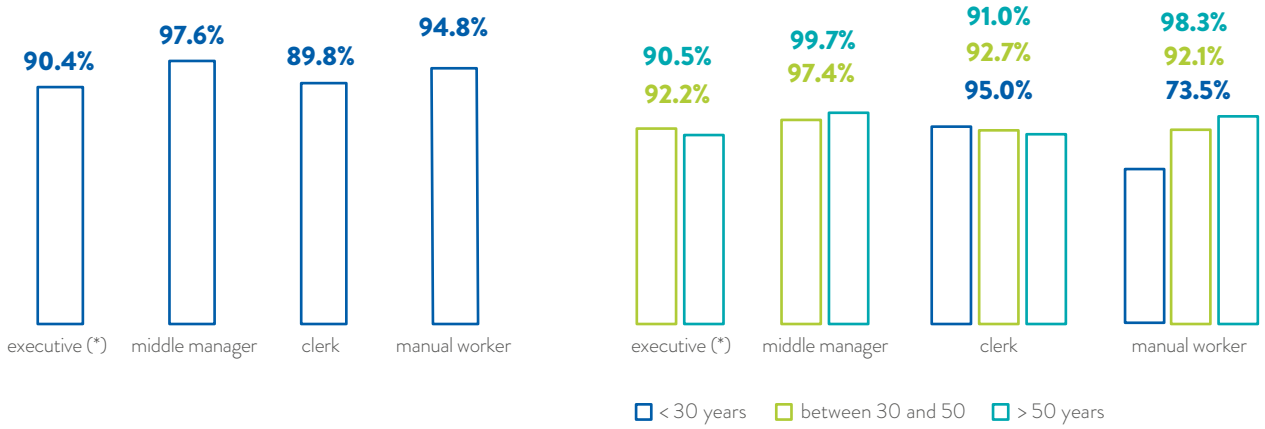



In addition to leave, staff can access reduced working hours, in accordance with the terms defined by the company: in 2022, **part-time** staff amounted to around **1.5% of total staff**.
For **managers** and **stage-three workers**, **independent scheduling is permitted**, which allows the "personalized" management of work schedules, in compliance with contractual provisions.
For **employees with a "fixed schedule"**, arrival and departure **flexibility** is permitted, according to established slots, and **a total number of monthly hours of leave** can be used during the times established.

## REMUNERATION

The **wages** that Acea pays its employees, excluding executives and top management, are determined by applying the **National Collective Bargaining Agreements** (CCNL) of reference, which ensure the minimum salary levels according to professional categories.
The company also applies a **remuneration policy that includes merit-based principles**, in line with the Performance Management and Leadership Models adopted, with effects on the fixed and variable components of the remuneration, determining remuneration that is above the minimum salaries set by the National Collective Bargaining Agreements (see also sub-paragraph *Incentive Systems and Staff Evaluation*).
The **percentage weight of gross average effective remuneration of women**, including fixed and variable components, **as compared to that of men** shows that for executives the pay gap is 9.6%, in favour of men; for middle managers, men's salaries are slightly higher than women's, the men receive 2.4% more remuneration than women; for clerks and manual workers, the pay gap is 10.2% and 5.2% respectively, again in favour of men, due to the fact that activities with higher additional remuneration (on-call, shifts, allowances, overtime, etc.) are mainly carried out by men who hold technical roles.
Breaking down the data further **by age group**: the pay gap narrows slightly for female managers over 50 and more substantially for those aged between 30 and 50; female middle managers over 50 receive pay that is substantially aligned with those of men in the same age bracket; finally, the pay gap narrows, in particular, for female clerks under the age of 30, demonstrating that the remuneration for the new jobs required by the company are more uniform from a gender perspective (see Chart no. 44 and Table no. 45).

**Chart no. 44 – Women's pay as a percentage of men's pay by qualification and age group (2022)**




(*) The item does not include senior managers benefiting from the *Long Term Incentive Plan (LTIP)*.

## PENSION FUNDS AND DEFINED CONTRIBUTION PLANS

**Supplementary pensions** are a form of **voluntary contribution** aimed at generating income that is supplementary to the pension, the amounts paid by workers being invested in the financial market by specialized operators.
The pension funds of reference for Acea staff are, mainly: **Previndai**, reserved for executives, and **Pegaso** (managed jointly by Utilitalia and Trade Union Organisations) for non-management staff, to whom the National Collective Bargaining Agreements of the electrical and gas-water segments apply.

The **Pegaso Fund** adopted a Strategic Plan that illustrates the **organisation's management guidelines, including instruments for measuring ESG factors** (environmental, social and governance).
There were **4,157 Pegaso members among the Acea employees** in 2022, of which **78% men** and **22% women** (see Table no. 45). The company paid about € 8.7 million in severance pay to the fund and € 3.4 million in supplementary contributions; for some years it has been possible to pay part or all of the performance bonus into the fund, benefiting from an additional share paid by the company.

**Table no. 45 – Hours worked, absences, remuneration and members of the supplemental pension fund (2020-2022)**

| u.m. | 2020 | | | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|---|---|---|
| | men | women | **total** | men | women | **total** | men | women | **total** |
| **HOURS WORKED BY THE STAFF** | | | | | | | | | |
| **hours** | | | | | | | | | |
| regular | 7,771,112 | 2,256,024 | **10,027,137** | 8,036,229 | 2,354,212 | **10,390,441** | 8,084,277 | 2,423,641 | **10,507,918** |
| overtime | 399,694 | 14,871 | **414,565** | 399,874 | 17,616 | **417,489** | 407,648 | 23,862 | **431,510** |
| **total hours worked** | **8,170,806** | **2,270,896** | **10,441,702** | **8,436,103** | **2,371,828** | **10,807,931** | **8,491,925** | **2,447,503** | **10,939,428** |
| **TYPE OF ABSENCES** | | | | | | | | | |
| **days** | | | | | | | | | |
| sick leave | 35,163 | 7,815 | **42,978** | 33,518 | 7,218 | **40,736** | 45,737 | 12,705 | **58,442** |
| maternity/paternity | 1,499 | 7,929 | **9,428** | 1,730 | 10,640 | **12,370** | 1,920 | 9,320 | **11,240** |
| strike | 0 | 0 | **0** | 1159 | 257 | **1416** | 83 | 17 | **100** |
| trade union leave | 3,756 | 377 | **4,133** | 3,996 | 399 | **4,395** | 4,934 | 437 | **5,372** |
| leave of absence | 2,015 | 734 | **2,749** | 1,617 | 813 | **2,430** | 2,123 | 569 | **2,691** |
| miscellaneous leave (study, health, bereavement and general reasons) | 18,402 | 5,378 | **23,780** | 16,157 | 4,750 | **20,907** | 17,192 | 5,844 | **23,036** |
| **total absences (not incl. holidays and accidents)** | **60,835** | **22,233** | **83,068** | **58,177** | **24,077** | **82,254** | **71,989** | **28,892** | **100,882** |

| AVERAGE GROSS FEMALE PAY AS A PERCENTAGE OF MALE PAY BY QUALIFICATION (*) | | | |
|---|---|---|---|
| % | | | |
| executives | 98.2 | 89.7 | **90.4** |
| managers | 98.2 | 99.6 | **97.6** |
| clerical workers | 87.8 | 91.2 | **89.8** |
| workers | 94.6 | 92.5 | **94.8** |

| AGE GROUPS AND GENDER OF THE EMPLOYEES ENROLLED IN THE PEGASO FUND | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **number** | | | | | | | | | |
| ≤ 25 years | 32 | 0 | **32** | 56 | 3 | **59** | 68 | 5 | **73** |
| > 25 years and ≤ 30 years | 92 | 25 | **117** | 103 | 29 | **132** | 130 | 39 | **169** |
| > 30 years and ≤ 35 years | 143 | 70 | **213** | 155 | 76 | **231** | 216 | 109 | **325** |
| > 35 years and ≤ 40 years | 202 | 103 | **305** | 224 | 90 | **314** | 330 | 112 | **442** |
| > 40 years and ≤ 45 years | 261 | 89 | **350** | 258 | 99 | **357** | 403 | 152 | **555** |
| > 45 years and ≤ 50 years | 293 | 101 | **394** | 293 | 96 | **389** | 469 | 128 | **597** |
| > 50 years and ≤ 55 years | 466 | 144 | **610** | 454 | 154 | **608** | 612 | 179 | **791** |
| > 55 years and ≤ 60 years | 440 | 112 | **552** | 434 | 102 | **536** | 623 | 123 | **746** |
| > 60 years | 276 | 60 | **336** | 276 | 71 | **347** | 377 | 82 | **459** |
| **total** | **2,205** | **704** | 2,909 | **2,253** | **720** | 2,973 | **3,228** | **929** | 4,157 |

(*) 2020 data do not include AdF and Gori.

## LABOUR-MANAGEMENT RELATIONS

**67%** of employees are **union members**

signed the agreement governing the implementing methods of the **Isopension Plan**

signed the **"New Normal" Remote Working Agreement**

Acea applies the **Single Contract for the electricity sector** and the **Single Contract for the gas-water sector**. **All the workers** are therefore **covered by national collective bargaining agreements**.
In 2022, **unionisation** was around **67%** and **258** employees held **management or trade union representation positions**, of which: **19**, appointed following an agreement, were **Workers' Representatives for Safety and the Environment** (RLSAs) and **7**, appointed following elections, were **Unitary Trade Union Representatives (RSUs)** for the company Acea Ato 5.

Within the Human Resources Function of the Parent Company, **the Industrial Relations Unit oversees the company's policies regarding trade union relations**, ensuring consistency with the Group's objectives. The discussions on the specific corporate requirements are conducted within the framework of national collective bargaining (CCNL) at the sector level, and between companies and internal employee representatives.
The **Labour-Management Relations Model** applied in Acea defines a **system of high-profile trade union relations** based on **bilateral agreements and participation**, combining **business objectives and social demands**.
The **Labour-Management Relations Protocol** structures the system of union participation and dialogue on **three levels** – Group, industrial segment and corporate – and provides for **several areas of comparison**: economic and financial performance, employment policies, selection, promotion, development and training of staff, occupational safety, corporate welfare, promotion of diversity and inclusion; industrial policy and investment plans; performance bonus, organisation of working hours, technical and specialized training and professional development.

Acea has a **consultation procedure for workers**, that can be applied directly or through their representatives. It covers issues such as **occupational safety, respect for the environment and sustainable development of production activities** and, in order to favour the **involvement of employees** in trade union relations activities, it has set up a dedicated **e-mail address**. There are also **Bilateral Commissions**, composed of company representatives and employees, who express their opinions on issues such as training, remote working, corporate welfare and occupational health and safety and participatory models, such as **Unitary Trade Unions** (RSU) and **Workers for Safety and the Environment** (RLSA).

In 2022, the main agreements signed by Acea with the trade unions concerned **welfare**, **organisation of work**, **training, and sustainability**. In particular, in January, an agreement on **corporate welfare** was reached, which defined a **new management model for supplementary healthcare** aimed at improving health coverage offered to employees, in line with changes in contractual and tax regulations. As a result of this agreement, a new healthcare policy has been active since June 2022, for employees and their dependent family members, which also provides coverage for certain dental services.
The measures of social importance carried out in the year include the **agreements** reached with the dual objective of **enhancing complementary insurance and rewarding the work of staff for the achievement of good company performance**, which, from 2022, provides employees who achieve positive results and in case the profitability indicator (EBITDA) outperforms, an **additional payment of € 200 to be allocated to the Pegaso contractual Complementary Social Security Fund**.
With reference to the **organisation of work**, the **"New Normal" Remote Working agreement** was reached, which guarantees employees access to remote working, on a voluntary basis, usually up to a maximum of 60% of the monthly working days and for a total period of 12 months.
Also of particular importance was **the agreement on the New Skills Fund**, which confirms, in line with the renewals of the national collective bargaining agreements applied, the central role of training in acquiring and refreshing the skills necessary for the transformation of working methods and technologies. Pursuant to this agreement, the Group companies have envisaged that part of the working hours be dedicated to a **training project** that includes courses on the **digital and ecological transition**.
Lastly, in 2022, in line with the provisions of the Agreement dated 30 July 2020, also with the purpose of managing generational turnover, **the agreement that governs the implementing methods of the Isopension Plan** was signed for employees who, between 1 August 2023 and 30 November 2027, meet the requirement for retirement or early retirement.

As regards the **information notice to the employees regarding possible organisational changes or corporate reorganisations that effect employment relations**, Acea takes different positions depending on the situations explained below:

1. **organisational changes**: in the event of establishment of new Units or changes in assignments or responsibilities, the Human Resources Department issues an Organisational Provision and sends a communication to the competent functions, which post it on the bulletin board and the company intranet. In the event of organisational changes that affect the staff, the trade union representatives are informed. If they concern a single employee (change in workplace, schedules, etc.), he receives communication by the Human Resources Unit of the person's Company;
2. **Corporate reorganisations**: in the event of reorganisation, as a result of significant organisational and production changes, with effects on working conditions and employment, the methods of informing the employees and the Trade Union Representatives, are regulated by the CCNL applied in the Group and by the Labour-Management Relations Protocols;
3. **corporate transformations** (such as alienations, mergers, acquisitions, transfers of company branches): in cases of corporate transformation, the notices to the employees are regulated by the legislation in force[135], which anticipates information obligations towards employees that allows them to verify the business reasons for the transactions, the correct methods of the process and the consequences on the employment relationship.

## DISPUTES WITH EMPLOYEES AND TRADE UNIONS

The labour disputes mainly concern **dismissals**, **classification changes**, **differences in remuneration**, **indemnities not received**, **demotions**, and **employment relationships**.
In 2022 there were **24 new labour disputes** (23 in 2021). A total of **86 labour disputes were pending** as at 31 December 2022 – including those initiated in previous years. There are no trade union disputes.

135 Article 2112 of the Italian Civil Code and Article 47 of Law 428/90 as subsequently amended and supplemented.

## OCCUPATIONAL HEALTH AND SAFETY

the **accident rates** were essentially stable: **FI 5.22 and SI 0.23**

over **109,979 hours of training** on occupational health and safety **provided to staff**

continued **training** to promote **healthy working environments**, to counter work-related stress

Acea is committed to a **widespread safety culture** both in Group Companies, through the direct involvement of employees, and along the supply chain (please see the *Suppliers* chapter).
Safety management is precisely structured at the organisational level. **All Group companies** for which the holding company considers certification important due to the size of the workforce and the type of activities carried out have implemented **Certified Management Systems**[136] (see also *Corporate Identity*, chapter *Corporate Governance and Management Systems*).
**The Occupational Safety Unit of the parent company is in charge of the coordination and direction in this area**, monitoring the Group companies on the application of legislation, guidelines and company policies.
Each company has **direct responsibility for the operational management of safety** and takes care of **training staff**, **monitoring accidents** and assessing the **risks to the workers**, preparing the **Risk Assessment Document** (RAD). Following these activities, the **Occupational Safety Unit prepares** a **centralised** annual **accident report** for Group Companies.
The analysis method of the accidents follows the **Guidelines for the classification of accidents**, prepared by Utilitalia and in compliance with the **standard UNI 7249:2007**, with reference to the INAIL measurement criteria and the instructions of ESAW (European Statistics of Accidents at Work).
In accordance with the law, Acea **identifies the dangers present in the company's activities** which may cause injury or illness through inspections carried out jointly in the workplace by the **Head of the Prevention and Protection Service** (RSPP), the Company Physician, the **Workers' Safety Representatives** (RLS) and the Unit Heads, who are involved from time to time. Then the company **assesses the risks** to workers' health and safety **in relation to the hazards detected** in the workplace, verifies the possibility of **eliminating them**, adopts **preventative and/or protection measures** to implement to keep the risks under control and draws up the **Risk Evaluation Document** (RAD). In the case of accidents, an investigation is launched to determine the causes of the event and identify appropriate corrective actions to prevent it recurring.
With a view to **constantly improving the operational management of occupational safety**, Acea has developed **Group Safety Guidelines** and a ***HSE (Health, Safety, Environmental) Dashboard*** to measure and monitor performance data, also in relation to sector benchmarks, and to implement improvement measures.
In 2022, following changes introduced by Decree Law no. 146/202 which imposed the obligation to **appoint a Safety Officer**, Acea defined a specific criterion to identify this role within the organisation. It also **implemented the Fire Prevention Management System** and **updated the risk assessment of work-related stress**.

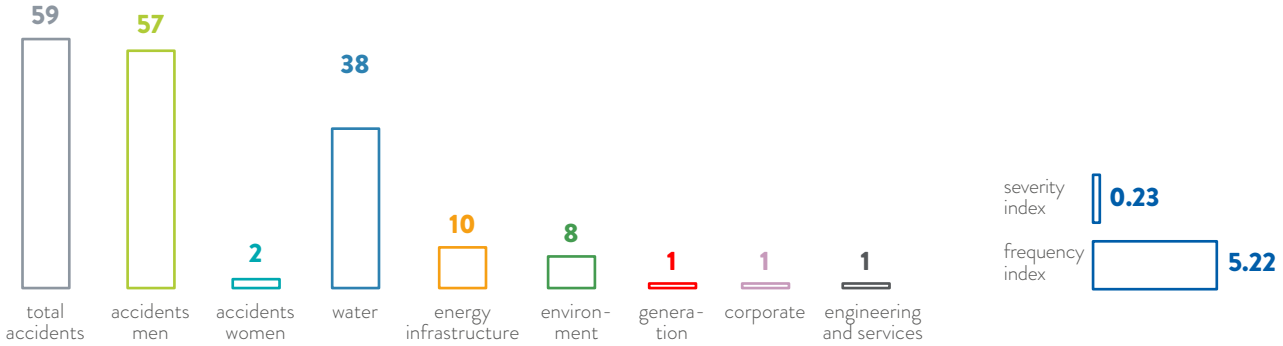
To **manage the pandemic** that continued partly in 2022, in accordance with regulatory provisions, Acea continued to share the prevention and protection initiatives against coronavirus with the Group **Workers' Safety Representatives** (RLS) and the Group **RSPP** (Prevention and Protection Service Manager) **Coordination Committee**.
**Acea SpA is certified** according to the **Biosafety Trust Certification** management system (see also *Corporate Identity* in chapter *Corporate Governance and Management Systems*) and, as required by the certification, has set up the **Committee for the prevention and management of Coronavirus and other infections**. This Committee is composed of the Competent Doctor and the main Acea Functions and its purpose is to coordinate infection prevention and management activities, monitor the epidemiological context, and take the necessary actions to counter the emergency. Areti, Acea Elabori and Acea Energia also achieved the same certification.
In addition, during the year Acea SpA and the other Group companies constantly updated their relevant risk assessment documents (RAD) in accordance with the provisions of the measures to combat the spread of the coronavirus.

In 2022 the **number of accidents increased slightly** compared to compared to last year: **59 accidents** (56 in 2021) **occurred in the course of work activity**, **none fatal**, and 17 of which in transit[137], namely while commuting from home-work (19 in 2021). The accident indices, calculated excluding accidents *during commutes*, are substantially stable: the **frequency index** is **5.22** and the **severity index** stands at **0.23** (see Chart no. 45 and Table no. 46). Accidents are subdivided into: **19 typically occupational** of which 1 serious (with initial prognosis greater than 40 days), **17 for work-related travel and 23 of another type**. The **main causes of injury** were: tripping, bumping, slipping and crushing.

136 Companies with seconded or no staff are therefore excluded.

137 Accidents *during commutes* relate to travel from home to work and from work to home, using private or company vehicles, which take place outside of working hours, as established by the relevant Federutility note. They are not included in the calculation of accident indices used herein.

**Chart no. 45 – Accidents and indices by gender and business area (2022)**




**NOTE**: Male frequency index **5.04** and female frequency index **0.17**; male severity index **0.22** and female severity index **0.01**. The graph shows only those business areas that reported accidents during the year.

Analysing the **breakdown of accidents by gender** (net of accidents occurring during commutes) shows that **57 accidents involved male personnel**, of which 53 were blue collar workers and 4 white collar workers, and **2 accidents occurred to female staff** with an administrative profile.
The companies with the highest number of accidents, not including those occurring during commutes, are: Gori (15 accidents), Acea Ato 2 (13 accidents) and Areti (10 accidents), which naturally have **greater exposure to the risk of accidents** in relation to the type of activity performed.

As mentioned, Acea also implemented and maintained multiple prevention and protection measures in view of limiting the spread of coronavirus in 2022. Specifically:

- it **kept up-to-date** the **Circulars**, **internal Guidelines** and **Health Protocols** drawn up by the Competent Doctors and the **Protocol for the Management of Covid-19 cases in the company**;
- **revised the Risk Assessment Document**, with the new assessment of the biological risk related to the Sars-Cov-2 virus, **and the emergency plans**;
- implemented **prevention and protection measures**;
- offered employees the **possibility to get vaccinated against Covid-19 at the Acea Vaccine Hub**;
- planned **information and training** courses **for all employees and set up dedicated communication channels**.

In order to make the working environment safe, Acea has **reorganised the way people access company premises** and consolidated the procedures for the **management of common spaces**, planning attendance through the ServiceNow platform, **intensifying the cleaning, sanitation and sterilisation shifts in the workplace, installing thermoscanners for measuring body temperature** at entrances and **sanitizing films that reduce the bacterial load** were placed on lift buttons and food and drink dispensers, bathroom handles and on staircase handrails, and **multi-layered antibacterial mats for shoe soles** were placed at the entrances.
Operational staff, who continued to provide services in the field and in contact with the public, were given specific **personal protective equipment (PPE)** and provided **with information sessions** on their correct use.
Lastly, with a view to providing staff with health prevention tools, the company implemented a **flu vaccination campaign** aimed at employees and the **family members who live with them**.

Lastly, in 2022 the **Vaccine Hub** activated by Acea at one of its company sites in 2021 remained operational, with 15 vaccine lines and medical and nursing staff. **Between May 2021 and December 2022, the Hub administered a total of over 171,000 doses of the Covid-19 vaccine**.

The Occupational Safety Unit is also tasked with promoting healthy working environments and **mitigating work-related stress**. In 2022, the project to promote individual and professional well-being of employees continued with the delivery of the ***I-Care Professional – Mirroring*** course: the initiative involved **295 employees** of Acea SpA (162 women and 133 men) for a total of **4,040** hours of training.
In 2022, a course was launched aimed at the prevention of joint and muscle disorders, which involved two pilot sessions of the course ***Everyday – Ergonomics and Self-massage***, during which **33** people (for a total of **825** hours of training) were taught theoretical concepts and physical exercises by experts.

**The Group companies train staff** and supervisors regarding **occupational health and safety** in compliance with current legislation (please also see the sub-paragraph below *Staff Training and Development*).
Below are some initiatives carried out:

- **Acea SpA** organised the course ***Gestione delle emergenze – Conoscenze e consapevolezza*** [Emergency Management – Knowledge and Awareness], according to a broad approach that, in addition to fire and earthquakes, also covered biological emergencies (in line with the provisions of the Biosafety certification), environmental emergencies and terrorist attacks, promoting conduct in line with the new vision of emergencies. The course involved **1,406** employees, delivering a total of **11,248 hours** of training to them, and also addressed the topic of ***emergencies and disabilities***, with the explanation, in case of evacuation, of the most effective assistance techniques for people with a disability (motor, sensory, cognitive), including temporary disabilities. In general, the training courses organised by Acea SpA during the year paid **special attention to disabled people**, for example, by providing sign language interpreters, using simplified methods and structuring inclusive work groups;
- In line with the initiative launched in 2021, **Acea Ato 2** adopted a second means of reinforcing the ***Camper della Sicurezza [Safety Camper]* project** and of promoting the culture of safety

and protection of health in the region, with mobile initiatives at offices, sites and other workplaces. It also carried out training courses **on the use of defibrillators** installed at the offices in Fregene, CoBis, Gianicolo, Tivoli, Ostia, and Frascati and completed **two training courses on *Accidents and Near Misses* and *Emergency Management***, which **involved 1,200 and 600 employees respectively**. Lastly, with reference to the management of the health emergency, Acea Ato 2 continued to monitor the evolution of the pandemic and to implement the envisaged prevention and protection measures;

- **Acea Ato 5** continued, through the activities of the internal Coronavirus Prevention Committee, the **information campaign aimed at staff on the evolution of the pandemic and on the expected correct behaviour**, through specific notices. In 2022, the ***Reset 2.0* project** was completed, which involved **all operating staff in individual meetings** intended to verify the skills acquired and capacity achieved, to detect any gaps to be bridged with targeted training interventions as well as to share the main topics pertaining to occupational health and safety. The company launched the ***Near Miss* project** in collaboration with the RLS, to raise awareness among staff of the importance of recognising and reporting "near accidents", and an **awareness campaign on the use of semi-automatic defibrillators (SAEDs)**, training **82 employees** for this purpose and **installing 6 devices** in the work places, sales branches and operating centres. Lastly, to guarantee continuous training and coaching, a **Training Centre** equipped with a **simulator for working in confined spaces** was built at the Operating Centre in Frosinone Monti Lepini. In 2022, Acea Ato 5 provided a total of **4,144 hours of education and training in the field of health and safety at work**, involving **305 workers**;
- **AdF** provided **safety education and training**, in particular, for operational staff who were trained in the use of new **recovery devices for interventions in confined environments**, required for cleaning and restoration of drinking water accumulations (25 people and 100 hours of training provided). Furthermore, during the year the ***Zero Accident Project (ZAP)*** was launched, intended to raise awareness among all staff (administrative, technical and operating) of adequate perception of risk and the opportunity of reporting "near misses";
- **Acea Ambiente** held training courses on first aid, defibrillators, fire fighting, confined spaces, heavy machinery, and physical risks, and training for executives and officers;
- **Areti** continued staff training at its **Training Camp**, a **space dedicated to training on workplace health and safety** (safe ascent/descent on medium and low voltage power line poles; safe access to confined underground areas; the use of work/safety tools, training for emergencies in a dangerous environment, etc.), involving, in 2022, **279 people**, to whom a total of **3,776 hours of training** were delivered;
- **Areti** continued staff training at its **Training Camp**, a **space dedicated to training on workplace health and safety** (safe ascent/descent on medium and low voltage power line poles; safe access to confined underground areas; the use of work/safety tools, training for emergencies in a dangerous environment, etc.), involving, in 2022, **279 people**, to whom a total of **3,776 hours of training** were delivered. As part of the **"Sicurezza è Vita"** [Safety is Life] initiative, the company also organised two training days on work-related stress management aimed at Managers of Operating Units and Regional Team Leaders, and **Safety Days**, monthly training days on safety in the work sites, which involved inspections by Unit Managers and management during the operational training;
- **Acea Energia** implemented the **Biosafety Trust Certification** System, continuing with the necessary checks and with the implementation and updating of the envisaged procedures, and carried out a training session dedicated to the **role of the Safety Officer** in light of legislative updates. The company **delivered a total of 1,030 hours of training** in the year on workplace safety, involving **116 employees**;
- **Acea Elabori** organised refresher courses on specific risks (chemical risk, biological risk, radiation protection, etc.), emergencies (ASA), first aid (APS), and training courses for Safety Officers;
- **Gesesa** conducted 15 training courses on occupational safety, and delivered a total of **1,240 hours of training**, involving **165 employees**. Furthermore, on World Day for Safety and Health at Work, it organised the ***Star bene lavorando*** [Well at Work] training course, aimed at the entire company population, divided into two modules, one dedicated to *Workstation Posture and Ergonomics; Combating Joint and Muscle Pain*, and the other to *Combating Smoking and Risks Related to Misuse of Alcohol while Driving and in the Workplace*.

**109,979 total hours of training were provided to Group personnel in the field of occupational safety** in 2022 (58,600 hours delivered in 2021).

**Table no. 46 – Health and safety (2020-2022)**

| number | 2020 | 2021 | 2022 |
|---|---|---|---|
| **ACCIDENT BREAKDOWN BY BUSINESS AREA** | | | |
| Water | 31 | 45 | 38 |
| Energy Infrastructure | 13 | 6 | 10 |
| Generation | 0 | 0 | 1 |
| Energy (commercial and trading) | 0 | 0 | 0 |
| Environment | 4 | 5 | 8 |
| Engineering and Services | 2 | 0 | 1 |
| Corporate (Acea SpA) | 1 | 0 | 1 |
| **total** | **51** | **56** | **59** |
| **fatal accidents** | **0** | **0** | **0** |
| **ACCIDENT INDICES** | | | |
| total days of absence | 2,044 | 2,195 | 2,582 |
| **Frequency Index (FI) (number of accidents per 1,000,000/working hours)** (*) (**) | **4.84** | **5.09** | **5.22** |
| **Severity Index (SI) (days of absence per 1,000/working hours)** (*) | **0.19** | **0.20** | **0.22** |

(*) the hours worked used to calculate the accident indices differ from the hours worked illustrated in the sub-section *Hours worked in Acea*; the two processes meet different operational requirements and specific calculation parameters are applied to each.
(**) accident means a work-related incident that prevents the employee from returning to service during the day on which the accident occurred and/or on the following day/work shift scheduled.
**NOTE**: The Water Operations area includes 5 companies, the Energy Infrastructure area 1, the Generation area 3, the Energy area 3, the Environment area 6, the Engineering and Services area 1 and the Corporate area 1. The data in the table does not include accidents *currently being assessed*.

### HEALTH MONITORING

**Health monitoring**, regulated by **a company procedure** that defines its **planning and management**, is carried out **in cooperation with external professionals** in compliance with current legislation (art. 41 of Legislative Decree no. 81/08).
Formally appointed **doctors conduct medical examinations prior to employment**, **in the event of a position change**, **periodically** according to health protocols, **at the worker's request** and **prior to resumption of work** following absence for health reasons lasting more than 60 continuous days.
Workers **exposed to specific risks** are included in a **targeted check-up programme**.
In collaboration with the employers and the relevant Protection and Prevention Service Managers (RSPPs), **the Competent Doctors define health protocols** according to the workers' exposure to the various risks.
At the headquarters, a **first aid office**, **available between 08.00 and 20.00**, provides staff and visitors with first aid in the event of illness.

In 2022, **4,126 examinations** were carried out on an equal number of employees of the Group companies for which the occupational medicine service is managed centrally by Acea SpA, for a total economic value of approximately € 400,000.
Health monitoring includes the **prevention of occupational diseases** that workers may contract due to **prolonged exposure to the risk factors** existing in the work environment. In the context of the work performed by the companies of the Group, for which Acea provides the health monitoring service, **there are no risk profiles likely to cause occupational diseases**. The competent doctor has the task of cooperating with the employer in order to define preventive measures and health protocols for the risk profiles associated with specific duties, and monitoring any damage to workers' health, issuing suitability assessments, and applying limitations and prescriptions, where necessary, in order to prevent possible occupational diseases.
In 2022, in Acea, **there were no reports of suspected occupational diseases**.

## HUMAN CAPITAL DEVELOPMENT AND COMMUNICATIONS

Upgraded the **recruiting network** with social channels

**Adopted and disseminated** the new **Leadership Model** for the success of the organisation

**Launched** the new **Development Centre** programme for the skills development of staff

Acea, thanks to the **digitalisation of business processes and the Teams digital workspace platform**, continued in 2022 to provide its people with **working methods and tools adequate for extensive use of remote working**, formalised in the *"New Normal" Remote Working* agreement (see paragraph *Industrial Relations*), with the aim of **preserving people's involvement in the Group's identity**, **developing skills** through remote training, and ensuring **organisational well-being** through targeted initiatives.

### PERSONNEL SELECTION

The **selection** process is governed by **a Group procedure**, updated in 2022 with the introduction of selection criteria consistent with the *diversity & inclusion principles* adopted.
Acea further **strengthened its recruiting network**, by developing and integrating **new distribution channels for job adverts** to intercept profiles of interest, like *Indeed*, the top job search portal in Italy, and by using **social channels**, in particular *Instagram* and *TikTok*, where the first recruiting trial campaigns have been launched.
In 2022, a total of **256 searches for personnel** took place, which identified **464 people**, and concerned **individual profiles** or **multiple candidates for open positions in the Group companies**, involving around **43,000 candidates**.

The selection process can include **several stages depending on the specifics of the search**: CV screening, online challenges using gamification (technical quizzes and business games to assess numerical reasoning, verbal ability, visual-spatial skills, logic), video interviews, assessment of soft skills, motivation and skills through collective tests and individual interviews.
To monitor the effectiveness of the selection process, more use was made of the specific indicators, including for *diversity*, considered in the processing of reports and included in the dedicated dashboard.
During the year the ***Green Engineering Talent Day*** took place to search for young people trained in the energy transition, sustainability and innovation, to join Acea Energia and Acea Innovation.
Acea also participates in **professional orientation events** promoted by university bodies, to meet new graduates and soon-to-be graduates to include in their selection processes. In 2022, Acea met around 3,500 candidates, participating in: ***Virtual JobMeeting Engineering, 42Roma Luiss, Luiss Career Day Roma, Math Career Day sede CNR, Sapienza Career Day, Inclusive Job Day, Digital Diversity Week, STEM Girl, and Virtual Job Meeting STEM Girl***.

## GROUP CULTURE AND STAFF ENGAGEMENT

In 2022, Acea revised its **Leadership Model**, which promotes a flexible organisational culture and guides people's careers and the realisation of Group objectives, inspired by values such as **performance excellence**, **teamwork** and **resilience**.
The model is applied to all processes associated with people management: **selection**, intended to hire talent in line with the Group's values; the **performance management** process, which measures individual contribution to the achievement of the corporate goals in accordance with the values adopted; **training and development** as well as **compensation policies and salaries**, which, also considering the results of the performance management system, are intended to help people grow and to reward their efforts.
For the **dissemination of the new Model**, a communication campaign was carried out, aimed at the entire company population, and specific training and information sessions were organised (see sub-paragraph *Staff Training and Development*).

The main **employee engagement** and **change management** activities carried out in 2022 included:

- the initiative, dedicated to the Production & Energy Service area, to increase the **sense of team**, with the use of coaching techniques, the sharing of new work methods and a vision capable of guiding people towards the achievement of common and individual goals;
- the ***Disegniamo il nostro Futuro*** **[Let's Design Our Future] project**, dedicated to the Risk & Compliance Function of the holding company, intended to build a common mission through the use of team building and team coaching techniques.

In 2022, the **HR Special Projects** Unit also designed internal and external initiatives intended to **empower people**, through the active engagement of employees, to contribute to the **improvement of the company climate** and the **promotion of well-being**, **the dissemination of the values of sustainability and inclusion**.
The main projects were:

- **Friday breakfasts**, meetings between the Chief Executive Officer and several Group employees, selected on the basis of gender, age, seniority in the company, educational qualification, position and professionalism, intended to share proposals and feedback about specific areas of interest, promoting different perspectives;
- **Ukraine emergency**, a project to **support the population affected by the war**, which had employees involved in **fundraising and collecting essential goods** to be sent to the Basilica di Santa Sofia (the Ukrainian church in Rome) and to the Community of Sant'Egidio. Deliveries were made to the Basilica di Santa Sofia thanks to the Acea *Solidarity Taxi*, in collaboration with the ACLI (Associations of Christian Italian Workers) in Rome and its volunteers (former Acea employees now retired). Furthermore, **cash donations** by employees were sent to the Community of Sant'Egidio, for the purchase of medicines to be sent to Ukrainian cities under siege and to welcome refugees to the region, and to the Community of Santa Sofia, for the creation of a space in Rome dedicated to child victims of the war;
- the second edition of ***Acea Talks – Conversazioni diversamente sostenibili*** [Differently Sustainable Conversations], produced with contributions from the internal and transversal work team and designed to **raise awareness among the Group's stakeholders**, through the creation and dissemination of **video interviews** held with **individuals from academia**, **culture**, **the arts**, **sport and the social sector**. The 2022 edition focused on topics of **diversity**, **equity and inclusion**, in relation to which the interviewees offered innovative interpretations and useful analyses to encourage reflection and raise awareness;
- ***Passaggio in Acea – Parole a ruota libera per conoscere i mestieri del nostro Gruppo*** *[Discussed by Acea – Informal chats about the trades of our Group]*, a project designed to promote greater knowledge of the various professional skills present in the company, encouraging employee engagement through interviews;
- **awards for Acea Group employees with at least 40 years of seniority in the company**, a tribute to the commitment and professionalism shown by employees during their many years of service and, at the same time, an opportunity for intergenerational exchange between senior employees and new hires;
- **Top Employers Italy**, the certification, obtained for the second year in a row, for positive HR management in terms of working conditions, career, training, professional growth and well-being;
- **the *Acea Group Equality Manifesto***, presented on World Day for Cultural Diversity for Dialogue and Development (see info box in the paragraph *Diversity, Inclusion and Welfare*).

## STAFF TRAINING AND DEVELOPMENT

**208,391 hours** of training delivered in **traditional**, **experiential** and **e-learning formats**

Digitalisation: over **2,000 people trained in 2022**

***GenerAzione Connessa***: **308 students** involved in courses on the **green revolution** and the **ecological transition**

Carried out the second edition of the course ***Sustainable Action for Difference***

The **development of professional skills** is essential for the evolution of the Group and the achievement of its industrial objectives. To facilitate this process, **in 2022 the *Acea Academy Business School* was created**, which ensures the acquisition of managerial, digital and technical/specialist skills as well as compulsory refreshers on respect for legislative compliance. The Acea Business School is characterised by a **diversified and inclusive training approach**, with multiple formats: from classroom training to the use of digital learning and short

training videos, it helps to equip the Group with **innovative and strategic skills**, in response to emerging professional requirements, and to spread the knowledge of value-based, behavioural and leadership models consistent with the company's vision and mission.
A **Group procedure** defines **roles**, **responsibilities and tasks in the management of training processes** for the development of expertise, knowledge and professional skills necessary to act in company positions. The process is divided into the following macro-activities:

- **identification of the training needs**, consistent with business objectives, centrally managed by the Holding Company, and **the definition of the guidelines and the budget** which orientate the training interventions of the year, taking into account **the specific training needs of each Group Company**;
- **definition of the Operating Companies' Training Plan**, based on the specific needs identified (for example, **operating-technical**) and **Group** needs ("transversal" training);
- **administrative management and provision of training**, by the Parent Company's and the Operating Companies' Training Units.

Acea **funds training through its membership in interprofessional bodies for continuous training** - Fonservizi, Fondirigenti and For.Te. which the main Group companies belong to.
As in the previous year, the 2022 training courses were designed to be carried out mainly remotely, by means of "synchronous" training (live webinars) alternating with "asynchronous" training (recorded videos and e-learning courses).
As mentioned, following the adoption of the new **Leadership Model**, a dedicated training programme was developed, aimed at the entire company population (see the info box).

## THE *ACEA GROUP LEADERSHIP* MODEL TRAINING COURSE

In order to create adequate dissemination of the new **Acea Leadership Model** and reach the **entire company population**, training on digital learning was carried out through the Pianetacea platform. To increase the effectiveness of the training, short videos were created in a diversified manner **for the different target audiences** (clerks, operators, etc.), so that each person could connect the values and behaviours illustrated to his/her daily work life. At the same time, the **interactive** approach guaranteed a more proactive and engaging experience, which was essential to promote conduct aimed at achieving the strategic objectives.
The training course and the related material were developed according to **standards for content accessibility**, with audio and subtitles in formats compatible with software for facilitated reading, with a view to a continuing focus on inclusivity.

With reference to **managerial training**, in 2022 training courses on Communication, Effectiveness, Leadership & Network took place.
In particular, the ***Basi di Leadership*** [Leadership Basics] course was held, dedicated to a target audience of talented young people for the development of leadership and managerial skills. It **involved 63 people** for a total of **1,169 hours of training** delivered. Thanks to the use of various technologies, the participants gained experience of **leadership skills development in complicated settings**, to encourage greater awareness of their own abilities.

**Digitisation** training continued during the year with accessible courses for the entire company population, for the dissemination of a new mindset and the growth of digital competencies and skills aimed at innovating company processes. To this end, the ***Digital Selfie*** **survey** was administered, which found **an overall increase in the Group's digital skills** (+13% compared to the previous measurement). **New training requirements were defined and met by targeted courses** including: ***Digital Path***, which involves courses structured over three levels of study and intended for a select target audience, and ***Vocational***, a format structured into courses set across a single level and open to all Group employees. The courses on digital topics carried out in the year included: *Data Driven, Data Analytics, New Clients, Customer Journey, Service Design, Industry 4.0, IoT Solutions & IoT Lab, Digital Self Empowerment, Digital Leadership, Agile Mindset, Collaboration in the Digital Age, Augmented Reality, Digital Sustainability and Blockchain*. The training initiative involved a total of over **2,000 people**, for a total of **610 hours of training delivered**.

In order to develop the internal competencies of employees and place these at the Group companies' disposal, the ***Formazione per formatori*** [Training for Trainers] course continued, intended to inform the **90 employees involved**, identified on the basis of the type of expertise held, about the main training and classroom management techniques.
With the support of SAFE (centre of excellence for studies and training on topics related to energy and the environment), the ***Transizione energetica e normativa ambientale*** **[Energy Transition and Environmental Legislation] training course** was also carried out (see info box).

## THE *ENERGY TRANSITION AND ENVIRONMENTAL LEGISLATION* TRAINING COURSE

Acea sought to offer a training course that could provide an overview of European and Italian **environmental legislation**, with direct testimonies from operators and institutions from the world of energy and the environment, and the **necessary expertise to understand the market and the organisational context** and transform the information acquired into **tangible and strategic actions**.
The course, entitled *Transizione energetica e normativa ambientale* [Energy Transition and Environmental Legislation], involved **94 employees** and was arranged into three modules that covered the European and Italian legislative and strategic framework, the European New Green Deal, Italy's National Integrated Plan for Energy and Climate 2030, Italy's National Recovery and Resilience Plan (NRRP), Industry 4.0, the evolution of environmental legislation, the Consolidated Environmental Law, Italian Legislative Decree no. 152/06, the Environmental Impact Assessment and the Strategic Environmental Assessment (EIA and SEA), the Integrated and Single Environmental Authorisations (*IEA* and *SEA*), the Life Cycle Assessment (LCA) and the effective communication strategies as a strategic driver of development.

In 2022, training continued for the "Sustainability Ambassadors" in the various Functions and Group companies, carried out thanks to the **second edition** of the ***Agire sostenibile per fare la differenza*** [Sustainable Action for Difference] course, organised alongside the Investor Relations & Sustainability Function of Acea SpA and with support from SCS Consulting (see the info box).

## SECOND EDITION OF THE *SUSTAINABLE ACTION FOR DIFFERENCE COURSE*

In 2022, Acea planned and carried out the second edition of the *Agire sostenibile per fare la differenza* [Sustainable Action for Difference] course with the aim of continuing to grow and disseminate the **culture of sustainability within the Group**. In particular, the training course sought to:

- provide targeted skills and tools **to strengthen the Acea Group's *Sustainability Community***;
- **develop projects with shared value** intended to integrate elements of sustainability into operating processes and promote the development of intercompany synergy and shared best practices;
- **monitor the effectiveness of the course and maintain a high level of participant engagement**, through assessments, checkpoints to verify the progress of projects and discuss any critical issues, and the use of Teams to provide transversal talking points and updates of interest.

A total of **42 people** were involved in this training course/workshop, with **12 projects** activated on the following macro-areas: *Sustainable Processes, Tools for Sustainability, Sustainable Innovation, Culture, Purpose and Territory*, held **3 check-point meetings** and **36 one-to-one meetings** aimed at monitoring the progress of the projects. **9 short training videos** were also created and shared with participants about the main topics of sustainability.

To **support the implementation of the management system for the prevention of corruption** (UNI ISO 37001:2016) (see also *Corporate Identity*), a **dedicated training course** was carried out which involved **55 people** (of which 28 men and 27 women, divided into 9 executives, 41 middle managers and 5 clerks), identified following a risk assessment, to whom **a total of 99 hours of classroom training was delivered**. The e-learning version of the course was also designed during the year, which will be given to all Group employees in 2023.

The e-learning training delivered via the Pianetacea platform also continued, aimed **at the entire company population**, regarding legislation pursuant to Italian Legislative Decree no. 231/01, pertaining to the Administrative Responsibility of Entities and on the new Organisation, Management and Control Model implemented by Acea, on the Code of Ethics, on the whistleblowing procedure, on Italian Legislative Decree no. 262/05 pertaining to the Internal Control System for Financial Reporting and the QASE Integrated Management System, with the aim of completing the training of all staff and new hires. Short training videos on the Privacy Governance Model adopted by the Group were also provided.

The Group companies carried out independent remote training, for example:

- **Acea Produzione** focused its training on topics related to *permitting activities* in the photovoltaic sector;
- **Acea Ambiente** organised the "**AMBIENTiamoci**" **training course**, **aimed at new hires**, which explained the business supply chains and the main ongoing projects, highlighting networking, teamwork, shared goals and challenges, and the agile mindset;
- **Aquaser**, to improve its performance in the field and hone in on the "zero accidents" objective, provided transport staff with **courses on the use of specific equipment** (mobile centrifuge, sewerage pump, etc.) handled as part of their main work activities. The company renewed its commitment to road safety by scheduling events intended to illustrate the main operating procedures and by promoting communication and interaction;
- **Deco** organised a **training course for the development of leadership**, intended to improve resource management and adopt an effective style of communication. It also held **on-site training on the control and management of the motor of the system for energy recovery from landfill gas**, aimed at electrical maintenance technicians. Lastly, it involved staff who hold a category C licence in a course aimed at the correct application of driving, breaks and rest times, as well as on the correct use of analogue and digital tachographs to increase safety levels while driving;
- **Acea Elabori** continued the **EPC Academy**, with accredited courses on **Foundations of Works Management**, **Site Environmental Management and other topics**, carried out through widespread internal training on the **ARIS platform**, **MEV warehouse accounts payable cycle**, **Antitrust and Legislative Decree no. 231/2001**. It also continued the **technical/specialist training** associated with the laboratory area, the drone pilot, design, and hydraulic modelling;
- **Acea Energia** organised the **GDPR Privacy course** on the latest developments in data processing (*data protection compliance, security of computer and network systems, profiling analysis models, big data, worker privacy, etc.*) and the course on the **Lean Presentation Design** method. Lastly, in the context of **digital marketing**, it organised specialist training courses on **SEO** with the aim of exploring topics in terms of *Search & Advertising*;
- **Areti** carried out various training projects to align skills with the **integration of the MV/LV/PL Network**. The company delivered training modules on administrative responsibility (Legislative Decree no. 231/2001) and continued the training project **HV Grid – Primary Substations and Protections**. Lastly, in the context of the ***Conosci Areti*** [Do You Know Areti] training plan, it trained new hires using onboarding processes dedicated to different professional forms;
- **Acea Ato 2** organised the course ***SAM – SAP Asset Manager*** with the aim of training **762 resources** belonging to operations on the use of the new application for final calculations from the field. It created the **Waste Management Environment** course and **Welcome Aboard**, a project designed to welcome and support **87 new hires**.
- **Acea Ato 5** oversaw training on the **Quality**, **Environment**, **Safety and Energy Integrated Management System**, continued the **Salesforce course** on the use of the new CRM and implemented a course for maintenance technicians dedicated to the use of SAM, the new system for final calculations from the field that replaced SAP WFM. It carried out a **training course aimed at managers** to develop a *new mindset and new skillsets* to interact effectively with their team and external stakeholders, through proper management of stressful situations;
- **AdF** continued the **process to consolidate the agile culture** within the company, accompanied by the dissemination of the **reverse coaching culture**, introduced through experiential training aimed at senior managers, middle managers and high-potential junior managers. In the technical and operational context, AdF launched **specific training courses on digitalisation and innovation**, with particular reference to data analysis and interpretation and management systems;
- **Gori** organised the ***Parole ostili*** [Hostile Words] project, created after signing the "Manifesto for non-hostile communication", aimed at employees with the objective of **countering all forms**

**of violence**, **marginalisation and discrimination** and to teach new language skills and the ability to listen. The training course was built using preferences expressed by employees through surveys. Two training courses were also launched on Industrial Relations and Internal Auditing.

**The traditional** and **experiential training activities** and those on the **e-learning platform** totalled **1,347 courses** (**886** in 2021). Traditional and experiential training was attended by **5,249 people**, of which 21% women. Courses delivered digitally were attended by **3,264 people**, of which 30% women.

**In 2022, a total of 208,391 hours** of traditional, experiential and e-learning **training** was provided, an increase compared to the 169,522 hours in 2021 (see Table no. 47).
In 2022, the total hours of **training per capita**[138] was **31** (26 in 2021). When analysing the data from a gender perspective, men recorded 31 hours of training per capita and women 29 hours. The breakdown by qualification is: 15 hours of training per capita for managers, 31 for executives, 30 for employees and 33 for other workers.
The **overall costs incurred** for the provision of the courses, net of scheduling for training and the preparation of the spaces allocated to it, were equal, in 2022, to **€ 2,607,445**.

**Table no. 47 – Training (2021-2022)**

**TRADITIONAL AND EXPERIENCE-BASED TRAINING COURSES**

| course type | courses (no.) | | training (hours) | |
|---|---|---|---|---|
| | 2021 | 2022 | 2021 | 2022 |
| managerial | 21 | 41 | 14,749 | 7,708 |
| safety | 250 | 629 | 58,164 | 107,612 |
| governance model (*) | 34 | 72 | 4,260 | 5,148 |
| operating-technical | 571 | 551 | 53,575 | 67,073 |
| **total** | **876** | **1,293** | **130,748** | **187,541** |

**TRAINING COURSES PROVIDED THROUGH THE PIANETACEA E-LEARNING PLATFORM**

| | | | | |
|---|---|---|---|---|
| whistleblowing | 1 | 1 | 2,762 | 504 |
| Sustainability and Agenda 2030 | 1 | 1 | 16,836 | 3,991 |
| Leadership Model | 0 | 1 | 0 | 1,429 |
| technical training | 0 | 25 | 0 | 3,401 |
| Code of Ethics | 1 | 1 | 590 | 966 |
| antitrust law | 1 | 4 | 8,643 | 3,942 |
| GDPR – new European privacy regulation | 0 | 7 | 0 | 81 |
| administrative liability of entities (Legislative Decree no. 231/01) | 1 | 6 | 590 | 2,796 |
| safety | 2 | 6 | 464 | 2,367 |
| QASE management systems | 1 | 1 | 358 | 677 |
| Legislative Decree no. 262/05 | 1 | 1 | 475 | 696 |
| **total** | **10** | **54** | **38,774** | **20,850** |

**BREAKDOWN OF TRAINING HOURS BY QUALIFICATION AND GENDER**

| title | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|
| | men | women | total | men | women | total |
| executives | 724 | 149 | **873** | 1,013 | 255 | **1,268** |
| managers | 13,062 | 6,277 | **19,339** | 11,317 | 5,994 | **17,311** |
| clerical workers | 63,614 | 32,609 | **96,223** | 80,061 | 40,725 | **120,786** |
| workers | 52,952 | 135 | **53,087** | 68,820 | 206 | **69,026** |
| **total** | **130,352** | **39,170** | **169,522** | **161,211** | **47,180** | **208,391** |

**NOTE**: Training hours do not include training provided to staff who left the company during the year.
(*) the governance training includes anti-corruption.

138 The indicator was calculated by comparing the number of hours attended with the total number of employees.

In order to develop people's skills and professionalism, the individual performance assessment system is in place. Performance is assessed periodically by line managers on the basis of the level of achievement of the objectives assigned to colleagues, in line with the Group's industrial and sustainability objectives, and with reference to the corporate values outlined in the Leadership Model.
In 2022, to better monitor and guide the succession processes for the benefit of a stable organisational model, the **new Development Centre programme** was launched, involving over 200 people. It involves **the creation of individual projects for skills growth**, which contributes to personal success and the success of the organisation (see info box).
The activities related to people development are monitored on the *SuccessFactors* platform and with the help of an *internal dashboard* that can process reports.

## INDIVIDUAL DEVELOPMENT PLANS

The individual development plans are defined on the basis of a detailed Catalogue, in light of the skills to be developed and with a view to innovation and continuous improvement, including tools and areas of intervention. The Catalogue contains **19 types of development measures and tools**, grouped into **9 types of training courses**, **7 types of focus team coaching** (on employee management, strategic thinking, decision-making, effective communication, peer relations and change management, managing emotions), **individual coaching courses**, **mentoring** for both mentors and mentees, supported by specific training on methodology and process and, finally, **high-level training**.
**In 2022**, **215 assessments** were carried out and **development plans** were designed for **56 people in the Group**.

Professional development of staff through **promotions** in the year concerned **951 people** of which 243 were women, i.e. 26%.

### COLLABORATION WITH UNIVERSITIES AND SCHOOLS

Acea develops **partnerships and cooperation with universities**, participates in studies and research, meetings between companies and students and stipulates agreements to promote *internships* and apprenticeships. Acea consolidated relations with the Tor Vergata, La Sapienza, LUISS Guido Carli, Studi Europei di Roma, Federico II di Napoli, Lumsa, Scuola Superiore Sant'Anna di Pisa, Università degli studi della Tuscia, Cassino universities and Polytechnic University of Milan via the **conclusion of agreements** aimed at encouraging the transition of graduates into the working world. In 2022, despite the ongoing difficulties associated with the pandemic, Acea **renewed the curricular agreements**, intended to promote exchange between new graduates and the working world, **for curricular and extra-curricular internships** with the Universities of Roma Tre, Tor Vergata, La Sapienza, LUISS Guido Carli, Uni Marconi, Bocconi, Università degli Studi Internazionali di Roma – UNINT and Università degli Studi di Cassino e del Lazio Meridionale – UNICAS. In 2022, **Deco activated a framework agreement with the Università Gabriele D'Annunzio di Chieti-Pescara**, thanks to which it was able to host interns.
Acea defined partnerships and agreements for the Maris Master, in "Reporting, Innovation and Sustainability" and for the EMBA Master, both held at Tor Vergata University.
It maintained **contacts and relations with the placement departments** of the Alma Mater Studiorum University of Bologna, the Polytechnic University of Turin, the Aldo Moro University of Bari, the University of Camerino, the Parthenope University of Naples, the University of Pisa, those of Palermo, Catania and Messina, and the University of Naples Federico II.
In 2022, **AdF** signed agreements with the **University of Siena** for the development of new technologies based on artificial cells for the treatment of wastewater, and with the **University of Pisa** to develop high-level training and research activities on topics of cybersecurity, robotics, Internet of Things and data analysis, in both cases in collaboration with *Agile Academy*. Thanks to these interactions, in 2022 Acea established **41 training internships** and **36 curricular internships**. It hired **34 young graduates** and stabilized the positions of **37 young people** previously holding internship positions.

The Group also utilises the **professional skills** of its staff in university master's degrees and courses and for **technical projects**. In 2022, qualified **company staff** worked as teachers or provided corporate testimonies for **university master's degrees**, covering issues related to **energy**, the **environment**, **sustainability** and **innovation**. In particular, **Acea** collaborated with **SAFE**, a centre of excellence for studies and training on issues related to energy and the environment, and with the LUISS School of Technological Innovation.

Acea also concludes agreements **with high schools for school-to-work projects** and with local high schools and commercial schools in the country. ***GenerAzione Connessa*** [Connected Generation] (see dedicated box) was an important project implemented in 2022, in **collaboration** with schools and thanks to the contribution of Group companies.

## THE *GENERAZIONE CONNESSA* PROJECT

The ***GenerAzione Connessa*** [Connected Generation] project involved around **308 students** from **15 high schools** (colleges and technical colleges) in Lazio, Umbria, Tuscany and Campania, with the aim of raising awareness among the younger generations of environmental sustainability, diversity and inclusion and encouraging them to develop innovative thinking, by nurturing virtuous exchange between school and the working world.
The format focused on the ***green revolution and the ecological transition*** and saw the creation of "**Acea Workshops**", during which students, supported by facilitators from the ELIS team and the **Sustainability Ambassadors** of the Group companies, digitally developed innovative ideas and creative solutions.
The 2 winning project ideas were developed by:

- the team **Smart Under Water** with the project ***MicRobot***, a device that identifies microplastics present in the water;
- the team **Smart Lux**, with the project ***Illuminazione pubblica intelligente*** [Smart Public Lighting] based on sensors.

## INCENTIVE SYSTEMS AND STAFF EVALUATION

In 2022, a new Performance Management Model was applied to **the entire company population**, connected to the evolution of the Leadership Model and structured into two different kinds: one for **executives and middle managers**, the other for **clerks and manual workers**. Devised for the assessment of performance and skills, the model represents a driver for the achievement of the Group's growth objectives and guides policies for people development, enhancing the connection with compensation policies and salary reviews.
The **remuneration policy** adopted envisages short-term and long-term fixed and variable remuneration measures (MbO, LTIP).
Regarding long-term incentives, the **Long-Term Incentive Plan (LTIP)** is in place, reserved for **Executives with Strategies Responsibilities and other Executives holding key positions in the Group**. The Plan is divided into three cycles, **each lasting three years**, at the end of which a monetary bonus will be paid, if the objectives are achieved. This method is aimed at guaranteeing the continuity of the company's performance, steering the management towards results with a **medium and long-term outlook**. The **calculation system is subject to the degree of achievement of objectives**, as determined by the Board of Directors after consulting the Appointments and Remuneration Committee, **of an economic-financial nature** (NFP/EBITDA and NFP/NP), tied to the **profitability of the share** (EPS) **and associated with the Group's sustainable success**, through a composite sustainability indicator given a percentage weighting of 10%, which includes objectives in line with the Group's industrial and sustainability planning.
The **short-term incentive system** (annual), **Management by Objectives (MBO)**, is applied to **senior and middle management** and entitles them to receive a monetary bonus based on the achievement of objectives established for the year. The system is divided into **Group objectives** which are the same for all involved parties, **Area objectives** (applicable across the relevant Area) and **individual objectives**.
The **Group objectives** that are applied to 100% of the recipients of the MBO incentive scheme, are based on **four indicators (KPIs)**: three **of an economic-financial nature** (EBITDA, net profit, net financial position) and one **composite sustainability** indicator given a weighting of 10%. Managers can choose their **Area objectives** from among those included in the **Dedicated catalogue**, with a direct link to the company's strategy and operational management.
With the introduction of sustainability objectives in the incentive systems for the MbO population and for top management (LTIP), Acea has confirmed the **integration of sustainability** into business activities, strengthening the **link between remuneration mechanisms and the achievement of social and environmental objectives.**

**Employees who are middle managers, clerical and manual workers** – including those with part-time, fixed-term (including temporary) and apprenticeship contracts – **are eligible for the performance bonus every year**. This is a variable payment, linked to qualitative and quantitative results achieved in the realisation of business objectives, in line with the industrial and sustainability planning, which aims to have workers **participate in company processes and projects** to increase profitability and improve competitiveness, productivity, quality and efficiency. Furthermore, payment of an **additional amount** was made by the company in favour of those who allocate the performance bonus to **supplementary pension schemes**.

There are also **benefits** for employees, including those with part-time, fixed-term contracts and apprenticeship contracts, such as **meal vouchers**, a discounts on electricity tariffs (for staff hired before 9 July 1996), the subsidies provided through the Company Recreational Club (CRC) and a **supplementary health insurance policy**. Other forms of benefits are provided to staff to support their **well-being**. These include: contributions for medical expenses, health check-ups, contributions for the use of emotional and physical well-being services, work-life balance and related to family. Furthermore, specific benefits are offered to executives, such as the use of a company car and the reimbursement of fuel costs. **Two insurance policies** are available for all staff, which, in the event of death or accident, guarantee the beneficiaries the payment of monetary compensation.

## INTERNAL COMMUNICATIONS

The Internal Media Relations and Communications Unit of the holding company **oversees communication to employees** and contributes to **promoting the Group's principles, values and strategic objectives** and developing a **shared company culture**.
In 2022, the digital platforms again continued to play a central role in communication between the company and people, in particular **My Intranet**, a digital environment dedicated to employees which, by facilitating the sharing of information, initiatives and events organised by the Group companies, strengthens people's engagement and sense of belonging to the Group.
During the year, the portal was upgraded with the **new Equality & Care section**, launched with an internal communication campaign and carried out with the aim of promoting inclusion, appreciation of diversity and the full expression of individuals in the Group. The section highlights the ***Diversity, Equality & Inclusion Policy*** adopted by Acea and the **UNI/PdR 125:2022 certification** on **Gender Equality** achieved in the year.

Another digital interaction channel between Acea and employees is the ***Acea Ti Premia*** [Acea Rewards You] portal, the innovative space for aggregation which makes it possible to share projects, events and company gadgets and **promote engagement**.
For the first time, in 2022, *Acea Ti Premia* hosted the second edition of the **Acea Green Cup 2022**, with a page dedicated to the contest's candidate projects, various multimedia content and a voting mechanism for the projects (see also info box in chapter *Customers*, paragraph *Communication, Events and Solidarity*).

In 2022, the internal communication initiatives remained in line with the pillars of strategic planning: **ecological transition**, **sustainability**, **diversity and inclusion**, **welfare**, **safety**, **engagement**, **solidarity**, **and innovation**.
The dedicated team, in collaboration with the **Human Resources Function**, provided support for **corporate welfare** initiatives, designed to promote the emotional and physical well-being of staff and their family members, including: **Acea Camp**, the summer camp dedicated to children of employees; **Orientiamoci**, the webinar aimed at employees and their children to help them make decisions about their professional future; **Out of Office**, the first *street gym event* organised by Acea, and **Sostegno Donna**, the support channel aimed at female workers in situations of hardship (see also the paragraph *Diversity, Inclusion and Welfare*).
In 2022, the ***Connessi con Acea*** [Connected with Acea] project also took place, designed by the Communication Function. Its three events (see also the paragraph *Diversity, Inclusion and Welfare*) were entirely translated simultaneously into sign language:

- ***Female Empowerment, In Conversation with Giulia Baccarin***, held on **International Women's Day**;
- ***Diverso da chi?*** [Different from who?] a webinar organised on **World Day for Cultural Diversity for Dialogue and Develop-**

**ment**, which hosted the Director of the Fondazione Giangiacomo Feltrinelli and covered topics of diversity and inclusion in work and private life;
- ***Generazioni a confronto*** [Comparing Generations], a webinar activated as part of the **Corporate Family Responsibility** programme, attended by the National President of the Forum of Family Associations to explore the importance of **generational exchange**.

To **promote the culture of well-being**, the Internal Communication team, in collaboration with the Human Resources Function, supported the ***Previeni con Acea*** [Prevent with Acea] communication campaign, intended to raise employee awareness about health, prevention and healthy lifestyles. In 2022, the ***Acea Solidarity Mondays*** were promoted, the initiative that involves employees in supporting charitable activities (AISM, Antea, UNHCR, Alfa Odv, La lega del filo d'oro, Un...Due...Tre Alessio), and a **collection was organised for food and essential items** in favour of families in most need, in collaboration with the Welfare Unit and the ACLI at Acea, delivered thanks to the *Solidarity Taxi* (see also the paragraph *Diversity, Inclusion and Welfare*).
In continuity with previous years, Christmas gift-giving took place in collaboration with **Banco Alimentare**, with the purchase of **6,475 gifts** for Acea Group employees, and a portion was donated to the Community of Sant'Egidio, for the organisation, **in collaboration with Acea's Company Recreational Club (CRC)**, of a Christmas lunch for people in financial hardship.
Lastly, during the **Christmas celebrations**, in collaboration with the Events Management Unit, the Chief Executive Officer spoke to staff at the headquarters.

## DIVERSITY, INCLUSION AND WELFARE

Adopted the ***Equality Diversity & Inclusion*** Policy and established a dedicated internal committee

Acea further improves its score in the Bloomberg Gender Equality Index: **81.58/100**

Acea SpA is the first Italian multiutility to achieve certification for **gender equality** (UNI/PdR 125:2022)

The ***Solidarity Taxi*** initiative continues for the delivery of food and essential goods to families in most need

**Inclusion**, **protection of diversity** (gender, age, disability, religion, race, etc.), **combating sexual harassment and bullying are issues monitored at the governance level**. Indeed, Acea has a *Code of Ethics*, updated at the end of 2022 (see *Corporate Identity*) and an active **Ethics and Sustainability Committee**, which, among other things, has the **responsibility of assisting the Board of Directors in matters of diversity**, with the task of promoting the culture of valuing diversity and combating all forms of discrimination.
Acea is one the signatories of the "***Utilitalia Pact – Diversity makes the Difference***", drafted by the Commission for the Management and Promotion of Utilitalia's Diversity, and has adopted a Group procedure on the "***Protection, inclusion, promotion of the diversity and well-being of workers***" and signed the ***CEO Guide to Human Rights*** by the World Business Council for Sustainable Development (WBCSD).

The company promotes the application of principles of inclusion and appreciation of diversity in all HR management processes (selection, training, development, corporate welfare, etc.), including via dedicated procedures.
To this end, in 2022, the **Equality & Care Annual Plan** was adopted at Group level, which includes **D&I and corporate welfare objectives and projects**, shared with the Ethics and Sustainability Committee, and showcased on the corporate intranet in a dedicated section (see the sub-paragraph *Internal Communication*).
With specific reference to D&I, the Plan **is essential for defining a programme of activities aimed both at Group employees**, with specific initiatives, **as well as external stakeholders**, with projects that generate a positive impact for customers, communities and institutions. Each objective is structured into specific actions which are monitored using quantitative and qualitative indicators.
With the aim of implementing the initiatives defined in the Plan, Acea has adopted an **Equality, Diversity & Inclusion Policy**, which formalises the Group's commitment to D&I, has appointed an **Equality, Diversity & Inclusion Manager**, and has established the **Equality, Diversity & Inclusion Committee** (see info box).

### ESTABLISHED THE EQUALITY, DIVERSITY & INCLUSION COMMITTEE

In 2022, Acea established the **Equality, Diversity & Inclusion Committee**, a technical and consulting body formed of the Chief Executive Officer and several Group managers. The committee strives to guide a corporate culture based on **promotion of diversity and fair treatment** of people, defining the actions necessary to create an inclusive and diverse environment, with the support and coordination of the **Equality, Diversity & Inclusion Manager**.

In December, Acea SpA was the first listed Italian multiutility to achieve **certification on gender equality** (UNI/PdR 125:2022) and the figure responsible for the gender equality management system was appointed to manage said system.
To disseminate the culture of inclusion and value of diversity, in 2022 Acea informed and raised awareness among employees with initiatives open to the entire company population, including:

- the **Acea Group Equality Manifesto**, created thanks to contribution from employees and presented on World Day for Cultural Diversity for Dialogue and Development;
- the webinar ***Female Empowerment – In Conversation with Giulia Baccarin***, on 8 March, during which discussions were held on how technology and artificial intelligence could help us understand the phenomena and promote **appreciation of diversity**, as well as the importance of supporting the entrepreneurial spirit of young talent in STEM, with a focus on women;
- the webinar ***Diverso da chi? La diversità e l'inclusione del Gruppo Acea*** [Different from who? Diversity and Inclusion of the Acea Group], held on World Day for Cultural Diversity for Dialogue and Development, intended to explore the value of equality and inclusion in personal and professional settings;
- the webinar ***Generazioni a confronto: come gestire e crescere dal confronto generazionale in casa ed in azienda*** [Comparing Generations: How to Manage and Growth from Generational Exchange at Home and at Work], which offered useful insights, solutions and strategies to find opportunities for growth from intergenerational exchange and successfully assist younger generations in a complicated and continuously changing context;
- **the opening of a direct communication channel dedicated to Diversity & Inclusion** to make space for the voices of each individual, to disseminate initiatives and information and collect requests and proposals on these issues.

During the year, Acea obtained various recognitions that **attest to its commitment to diversity**, **inclusivity and female empowerment**. In particular, the company:

- was included by the Financial Times and Statista in the **special ranking of Europe's Diversity Leaders 2023** (using 2022 figures), which selects 850 European companies that demonstrate leadership in terms of diversity and inclusion;
- was included among the 2,000 businesses assessed in the study **Italy's Best Employers for Women 2023** (using 2022 figures), conducted by the Istituto Tedesco Qualità e Finanza, which, on the basis of online references, awarded the 360 best employers for women in Italy.

Lastly, Acea was also assessed as part of the **Bloomberg Gender Equality Index (GEI)** in 2022, for the third year in a row. This index measures gender equality in terms of five areas: *female leadership and talent pipeline, wage parity and equality between the sexes, inclusive culture, sexual harassment policies and promotion activities aimed at women*. The assessment **was 81.58** (on a scale of 0-100), **an improvement on the previous assessment (80.67) and above the averages for the sector (73.75) and the sample analysed (72.94)** (see also chapter *Shareholders and Investors*).

In the context of corporate welfare, Acea adopts reconciliation measures to support parenthood, strengthened thanks to the Diversity and Inclusion Protocol mentioned above, such as **extended parental leave** for family reasons for working mothers or working fathers, **extended paternity leave**, with the addition of two extra days of paid leave, on top of those required by law, to be taken within two months of the birth, adoption or fostering of a child; the **hourly permits for the enrolment of children at nursery school, kindergarten and the first day of primary school**.
Furthermore, **an extension is envisaged to the number of days of remote working**, according to the current provisions of the law, for **pregnant working mothers with children up to the age of 3** and **working fathers with children up to the age of 3**, in the absence of another parent or with another working parent who does not have access to remote working, and for staff who are family caregivers.
With a view to reducing the gender gap in terms of opportunities for growth, Acea took part in the **"Riparto" open notice**, issued by the Department for Family Policy – Presidency of the Council of Ministers, which promotes female empowerment.

Again in 2022, the company participated in the ***Sistema Scuola Impresa* [Business School System"] project**, coordinated by the Elis consortium, helping to create the ***"Inspirational Talks Role Model"*** initiative: a programme for the promotion of **STEM (Science, Technology, Engineering and Mathematics) training programmes among female middle and secondary school students**. The project, in continuity with 2021, involved **15 female Acea Group professionals** who, as role models, recounted their experiences of professional success in male-dominated sectors and sent a message of encouragement to the younger generation about the possibility of realising their professional aspirations.

Acea actively promotes corporate well-being, starting with the **needs of its staff**, which are determined over time through surveys. The **Group Welfare Plan was enhanced** in 2022, identifying six fundamental pillars relating to: **health**, **work-life balance**, **emotional and physical well-being**, **supplementary pensions**, **economic assistance**, and **family**.
The income support measures include the option to **convert the performance bonus into welfare services** (*flexible benefits*) through the **My Welfare platform**, enriched with **personal and family services** (family services, travel, transport, health and health insurance, supplementary pensions, sport and leisure, etc.), as well as the implementation of the category of *fringe benefits*, according to the provisions of current legislation. Furthermore, employees can use the ***Corporate Benefits* exclusive platform**, which contains a wide range of products offered at a discount.
Acea **has reused part of the tax relief**, enjoyed thanks to the Welfare Plan, **for the benefit of all employees** through the payment of an **additional amount** for those who allocate their performance bonus to **supplementary pension schemes** (see also the paragraph *Industrial Relations*) and by offering **preventive health services and check-ups**, carrying out campaigns to promote **primary and secondary prevention and healthy lifestyles** as well as making an economic contribution to the **provision of services for the emotional and physical well-being of employees and their families**.
To promote the initiatives of the Welfare Plan, in 2022 a significant **communication campaign** was carried out with **information videos** about the measures implemented by the company in favour of employees, the administration of a **survey** to map emerging requirements as well as the organisation of multiple **information events**.

During the year, Acea:

- organised the prevention campaign ***Previeni con Acea*** [Prevent with Acea] as part of which it activated the ***Bimbi Sicuri*** [Safe Children] course aimed at employees and dedicated to **paediatric prevention** in emergencies and organised, in collaboration with Susan G. Komen Italy, **four days dedicated to cancer prevention** for employees, during which **520 breast**, **dermatological and**

**endocrinological screenings were carried out free of charge**;
- participated, with a team formed of 100 colleagues, in the ***Race for the Cure***, the largest event dedicated to women who are facing or have faced breast cancer;
- on International Day for the Elimination of Violence against Women, deployed the ***Sostegno Donna*** **[Support for Women] channel of assistance** to those who need to talk to selected professionals, also offering the possibility of undertaking specific counselling, psychological, psychotherapeutic, pedagogical and parenting support courses;
- developed ***Mi prendo cura di te*** [I take care of you], a caregiver service, totally free of charge, aimed at providing personalised advice from a professional able to support people in the management of educational and/or social care needs (support services for the elderly and people with disabilities, for children, specialised services with the availability of psychologists, nurses, physiotherapists, etc.);
- strengthened the **wellness programme in collaboration with Fitprime**, intended to promote physical well-being and fuel and encourage the adoption of a healthy lifestyle with sports, diet personalised by a nutritionist and street gym events, which took place during the year in the streets of the historic centre;
- introduced a ***bike sharing service*** intended to facilitate sustainability mobility for work-related travel;
- **actions in support of parents** to encourage a better balance between work and childcare, such as the **summer camp** for boys and girls aged 6 to 14, which aims to promote the values of sport among the younger generations, the **course on career guidance**, aimed at parents and children aged 16 to 19, to promote better awareness of their soft skills, and an **information campaign about the company's crèche** (see the paragraph *Community Life at Acea*);
- deployed a **permanent advice channel** aimed at working mothers and fathers, through which the company interacts with them and collects information about their needs with a view to reducing the gender gap;
- activated an **agreement with the "Unitelma Sapienza" online university**, providing discounts for employees and their family members for bachelor's and 1st and 2nd level master's degrees;
- participated, alongside the Innovation Unit of Acea SpA and the association "La Carica delle 101", in the launch of the **3Ws call 4 start-ups – Women, Welfare and Work-Life Balance**, aimed at scouting innovative corporate welfare services (see also chapter *Institutions and the Company*).

Finally, the solidarity and food support project ***Solidarity Taxi*** continued in 2022. It was promoted in the Rome area in collaboration with the **ACLI of Rome** with the aim of providing **concrete help to the families in most need** and those most affected by the pandemic. The project involved the **donations of parcels containing food and medicine by employees**, and **former employees contributed by driving** a van, loaned free of charge by Acea, to deliver the solidarity parcels in the municipality of Rome.

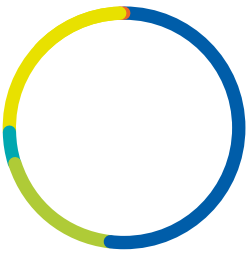
Acea has **employees belonging to protected categories** (disabled people, orphans, etc.) who, in compliance with the law[139], are guaranteed support services, assistance and technical support tools to facilitate the performance of the tasks entrusted to them. In 2022, **200 employees** (117 men and 83 women) belonged to protected categories.
In the year under review, there were no cases of discrimination against Group employees.

## COMMUNITY LIFE AT ACEA

Some structures perform work of a social nature, directly involving employees: the Company Recreational Club (CRC), the Gold Medal Association and the Association of Christian Italian Workers (ACIW). **4,448 members** were enrolled in the Company Recreational Club in 2022.
**The CRC** was responsible for **managing the company's crèche**, open to children of employees and children of residents of Municipality I, and accommodating 34 children in the first half of 2022 and 35 in the second half.
The Club **offers cultural**, **sport**, **tourism**, **economic**, and **commercial initiatives and personal services**, and its aim is to enhance the free time of its members, without losing sight of aspects of social interest. An important solidarity tool among employees is the **Emergency Fund**: an initiative **in support of the relatives of deceased**, in-service or retired employees. All employees can join by signing a form, which they must send to the Human Resources Function or to the CRC, in which they authorise the deduction from the payroll of a small contribution that is allocated to the Fund.
The Company Recreational Club enters into **agreements** for employees and their families with institutions that offer health services, dental services, legal advice, etc. and active commercial agreements, sports ticket sales, theatre and music events, which can be viewed on a dedicated portal with constantly updated contents and accessible on the Intranet (www.cra-acea.it). It is also responsible for informing employees, by sending newsletters.

The Association of Christian Italian Workers (*ACLI*) at Acea **promotes social initiatives**, **solidarity and support**. Examples of that support are the presence of the Chaplain from whom employees can seek guidance, and the organisation of meetings for families, also with the intention of creating a **support network** for employees. The association is also involved in **providing services** such as **mortgage and loan advice**, **school assistance** for children of employees attending lower and upper-secondary schools, and various other initiatives benefiting employees, such as the organisation of language courses and cultural and sports activities. The *ACLI* once more supported **initiatives of social value in the local area** in 2022 (Banco Alimentare, Caritas, etc.).

**Chart no. 46 – Members that have used CRC services (2022)**



**2,022** members utilized tourism services
**1,145** members interested in insurance instalments
**26** members interested in purchase instalments
**936** members utilized the so-called "dono della Befana" bonus benefits
**20** members utilized scholarships

139 Italian law no. 68/99.

# SHAREHOLDERS AND INVESTORS

Through the **Investor Relations & Sustainability Function** and in cooperation with the competent corporate structures, as a listed issuer, Acea **provides the financial community** with a flow of continuous, timely and **useful information for a correct assessment of the Group's current and prospective situation**, with adequate emphasis on **ESG elements** (*Environmental, Social and Governance*) that are increasingly integrated with financial aspects. The information is conveyed through current and potential **direct relationships** with analysts and investors, and through **specific communications** (price-sensitive press releases, company presentations) that are made available on the institutional website (www.gruppo.acea.it), respecting the principles of **propriety, clarity and equal access**.
Additionally, working with the competent structures, the **Corporate Affairs** Function is responsible for the management of information flows with the **Supervisory Authorities** (Consob and Borsa Italiana) and the corporate obligations required by law for listed companies.

## ECONOMIC FLOW TO SHAREHOLDERS AND INVESTORS

For shareholders, at the Shareholders' Meeting, the Board of Directors proposed the distribution of a dividend of € 0.85 per share, in line with 2021, equivalent to € 180.6 million, which correspond to a payout of 65% on net income, after allocations to third parties.

In 2022, **Acea** suffered a decrease of **31.1%** on the stock exchange, a trend substantially in line with the performance of Italian local utilities. The closing price at 30 December 2022 (final trading day of the year) was € 12.92, corresponding to a market capitalisation of € 2,752 million.
The maximum value of € 18.84 was reached on 3 January, while the minimum value of € 10.70 was reached on 12 October. During 2022, the **daily average volumes** traded were above 131,000 shares (compared to 120,000 in 2021).

**Table no. 48 – Performance of stock exchange indexes and Acea shares (2022)**

| | **change % 31.12.2022** (compared to 31.12/2021) |
|---|---|
| **Acea** | **-31.1%** |
| FTSE Italia All Share | -14.1% |
| FTSE MIB | -13.3% |
| FTSE Italia Mid Cap | -21.0% |
| MIB ESG | -14.4% |

### ACEA IN THE MIB ESG AND IN THE SE MID ITALIAN INDEX

In 2022, Acea was included in two **sustainability indices** of reference for companies listed on the Italian stock exchange: MIB ESG and SE Mid Italian Index.
**MIB ESG** includes 40 companies, selected from the basket of the 60 companies with higher liquidity, on the basis of the best social sustainability, environmental and governance performances assessed by Moody's ESG Solution as well as exclusion from controversial sectors (e.g. tobacco and arms) or disputes concerning lack of compliance with the principles of the United Nations Global Compact.
**SE Mid Italian Index** includes 20 medium-sized companies, selected on the basis of capitalisation and free float values, on a benchmark of 30 stocks, and their weighting in the index derives from the score assigned to them by Standard Ethics Rating (SER), requested or not.

**€ 111.7 million** are allocated to **financing** stakeholders (€ 97.4 million in 2021). The average overall all-in cost of the Acea Group's debt on 31/12/2022 was 1.44%.

Regarding the **composition of medium/long-term debt** consolidated as at 31 December 2022, approximately 82% of the total amount derived from transactions on the capital market (corporate bonds). Regarding the banking sector, the Group mainly deals with entities whose mission is to **finance strategic infrastructure**, such as the European Investment Bank (EIB, around 10% of the consolidated debt) and the Cassa Depositi e Prestiti (CDP, around 3% of the consolidated debt). These Institutions ensure loans, to entities with creditworthiness such as Acea, with a maturity of more than 10 years, in line with the duration of the concessions (water and electricity) owned by Companies of the Group called to make the relevant investments.

### THE FIRST SUSTAINABILITY RATING-LINKED LOAN BY ACEA

In August 2022 Acea signed an initial **revolving "Sustainability Rating Linked" credit line** of € 200 million with a duration of 3 years with **Cassa Depositi e Prestiti**, connected to two sustainability rating targets. The pricing of the new credit line is linked to the level assigned to Acea by the ratings of **Standard Ethics** and the **Integrated Governance Index** of ETicaNews and their related performance. As for the current situation, in case of improvement in the two ratings in a given period in 18 months and until the end of the three years, the applicable spread would shrink; in case of improvement of just one rating and confirmation of the other, the reduction of the spread would be lower; if, however, the opinion worsens, the spread would increase.
During the year, Standard Ethics confirmed the Group's corporate rating at "*EE*" (*investment grade*) and increased Acea's outlook from "*stable*" to "*positive*", while *ETicaNews* assigned Acea the Integrated Governance Index (IGI) rating of 60.45 (scale 0-100), following which the company was ranked 16th out of the 86 total candidates, entering the category "ESG Identity Leader".

## AGENCY RATINGS

**Table no. 49 – 2022 rating**

| Agency | Long-term rating | Outlook |
|---|---|---|
| Moody's | Baa2 | negative |
| Fitch | BBB+ | stable |

Following the rating assigned to Italian sovereign debt, **Moody's** changed Acea's outlook from "*stable*" to "*negative*", at the same time confirming the long-term issuer rating and the senior unsecured rating at "*Baa2*", the Baseline Credit Assessment at "*Baa2*", and the "*(P)Baa2*" level assigned to the EMTN programme. Acea's ratings remain a notch above those of the Italian government, by virtue of the quality of the diversified business portfolio and the Group's strategic focus on regulated activities.
**Fitch** entirely confirmed its rating previously assigned to Acea of "BBB+" and a "stable" outlook. The rating reflects Acea's strategic focus in regulated activities, along with prudent management of energy hedges and the solid level of available liquidity.

## FINANCIAL DISCLOSURE

In compliance with the *Policy for the Management of Relations with Institutional Investors, Shareholders and Bondholders* (*Engagement Policy*), Acea had around 400 interactions during the year with institutional investors, analysts and bondholders, through participation in events also held digitally: "one-on-one" meetings and wider presentations, investor conferences, roadshows and reverse roadshows. Furthermore, conference calls and webcasts were held during the approval of the annual and interim results and numerous contact was made with analysts/investors including through email exchanges.
In 2022 **over 110 studies/notes on the Acea stock** were published. Five **business banks** analyse Acea shares with a high level of continuity: four brokers gave the Acea share a "positive" rating and one a "neutral" rating at 31 December 2022.

### ESG ANALYSTS EVALUATE ACEA

In the current macroeconomic context – characterised by global recession, inflationary pressures, increased interest rates, and the conflict in Ukraine – sustainable funds are showing resilience in line with "traditional" ones.
The increasing attention **ESG investors** place on Acea is confirmed by their growing participation in the company's equity. Based on an analysis carried out in November 2022, these Shareholders **represent 6.4% of Acea's share capital** (5.5% in the previous year) **and about 51% of the total number of institutional investors** (compared to 40% in 2021). They consist mostly of European funds, followed by investors from North America.

Acea's position in assessments by analysts, ratings and benchmarks is shown below.

Acea was included in the "Management" category with **level B** by **CDP (formerly the Carbon Disclosure Project)**, a slight decrease on the level previously assigned (**A-**) because, despite scores higher than the sector average in nearly every area of analysis, the lack of definition of **Group science-based climate targets** impacted negatively on the rating.
CDP is the international organisation of reference, supported by over 680 institutional investors, with over 130 trillion in assets under management, which promotes attention on the global management of the risks and impacts of climate change, inviting companies to provide structured and precise information on the subject. Each year the CDP publishes a ranking of its assessments for each organisation. In 2022, over 18,700 businesses, of which 5,800 in Europe, disclosed their information through the CDP questionnaire.

Acea saw its **sustainability solicited rating** confirmed by the independent agency **Standard Ethics (SE)**, with a rating of **EE** (*investment grade*, F/EEE scale), as well as its positive outlook and long-term expected rating (EE+). In 2022, Acea entered the **SE Mid Italian Index** formed of 20 companies listed on the Italian Stock Exchange selected from a list of 30 companies, whose composition is based on capitalisation and free float values and in consideration of the industrial sector and the rating assigned. **Acea has been included** among the 15 largest EU-listed multiutilities of the **SE European Multi-Utilities Index** since 2020. This index strives to provide an overview of the level of sustainability progressively achieved by companies operating in the field of essential public services.

Acea **further improved its performance** in the assessment of the French ESG agency **GAIA Rating** (**EthiFinance** Group), achieving a score of **62/100** (38/100 in the previous year, recalculated using the new methodology in force from 2022), ranking 9 points higher than the sector average. The agency assesses companies in 4 areas of analysis: environment, social, governance, and stakeholder relations. In particular, Acea achieved the following scores in 2022: *Governance* 70, *Social* 81, *Environment* 83, *External Stakeholders* 80, all above the average score for companies in the sector. The assessment process is based both on public evidence provided by the companies and on direct comparison with them; at both stages the agency carries out checks on the reliability and robustness of the data.

Acea's presence in the **Bloomberg Gender Equality Index** has been confirmed for the third consecutive year, with a **further improvement in the score received**, which is 81.58 for 2022. This index includes 485 companies, from 45 countries, which best value **gender equality** in their disclosure and corporate practices (for more details see the paragraph *Diversity, Inclusion and Welfare* in the chapter *Staff*).

During the year Acea also received ESG ratings from other major players: **Sustainalytics**, which assigned the company a medium level of risk (just above the threshold with a score of 20.1), demonstrating its optimal oversight of management; **MSCI ESG Rating** which, by assessing the proactive management of the ESG risks to which Acea is exposed, confirmed the "A" rating (scale from AAA (leader) to CCC). During the year there were also interactions with **Corporate Knights** for the agency's ESG assessment initiatives, and with **ISS ESG** which confirmed the rating already issued (C+).

# INSTITUTIONS AND THE COMPANY

Acea receives the **SMAU 2022** Innovation Award

third edition of **Acea Innovation Day** a tour of "People, Territories and Experiences through the Ecological and Digital Transition"

Foundation of **Acea Innovation Antenna**: the first international collaboration programme for scouting start-ups and innovative solutions active in Silicon Valley

Collaboration continues with **House of Emerging Technologies** in Rome: **smart city of the future**

Acea interacts with institutional actors and stakeholders of reference according to a participatory logic in order to generate shared value for the benefit of all stakeholders, primarily the community and the regions it operates in.

## RELATIONS WITH INSTITUTIONS

Relations with the institutions are focused on the economic dimension (taxes and fees) and the social dimension (relations with local institutions, sector authorities, consumer associations and other civil representatives etc.), in line with current legislation and the *Group's* Code of Ethics, updated in 2022.
The economic value distributed in the year to **public authorities** in the form of taxes was **€ 186.8 million** (approximately € 150.7 million in 2021). The tax rate for the year is equal to 37.6% (it was 30% in 2021).

The **Tax Management Unit** in the Parent Company's Administration, Finance and Control Department, develops **tax policy** at Group level, monitors legislative changes, ensures periodic compliance and provides assistance and advice to the Acea SpA structures and the Group companies for the application of tax regulations. The Unit also prepares, where appropriate, specific information on the subject for the Control and Risk Committee. Acea interacts with the Authorities appointed in a collaborative and transparent manner and annually reports on updates to the main legal tax disputes in the *Consolidated Financial Statement*, to which reference should be made. In compliance with the relevant legislation, Acea produces a Country by Country Report[140], which lists the information on taxes paid in each jurisdiction in which the Company operates. **According to the latest Country By County Report** filed by Acea in 2022 with the Italian Revenue Agency **covering 2021 data**, **97% of the total amount** is paid **in Italy**[141] while the remaining 3% is paid in the Dominican Republic, Honduras and Peru, where the Company operates in the water sector to improve the service, with reference to certain technical and management aspects (see the chapter *Water companies data sheets and overseas activities*). Overseas activities refer to locally managed businesses **and are not connected to delocalisations carried out to draw fiscal benefits from favourable jurisdictions**. In fact, Acea has not defined a tax strategy and does not intend to establish any aggressive tax planning to gain a competitively advantageous position.
Acea regularly pays contributions and registration fees owed to public and private bodies, such as chambers of commerce, independent administrative authorities, industry associations and representative bodies. In 2022, the total amount of this item was approximately € 3.25 million (€ 2.91 million in 2021).

Partnerships with **public institutions** are aimed at carrying out **initiatives with positive effects in the local region and the public's quality of life** (see the chapters *Customers and the community*, *Personnel* and Relations *with the environment*).
The new edition of the Group's ***Code of Ethics***, approved in late 2022, devotes a section to **Relations with Institutions, Public Administration, Political Parties, Trade Unions and Associations**, establishing that: "*Acea actively and fully cooperates with independent Authorities, establishes relationships with the Public Administration in compliance with the reference regulatory provisions, as well as with the*

140 The obligation arises for the Parent Company due to its control of Acea International, the vehicle company through which shares in the overseas companies are held. The data produced in the Country by Country Report are merged into the audited *Consolidated Financial Statements*.

141 The low amount of revenue, and consequently the taxes paid, in relation to the Group's activities in foreign countries has led to the overseas companies being reported as non-material from an economic/financial point of view; in addition, the potential evolution of the sector and other strategic and representative criteria regarding the Group's development and main impacts, have resulted in them not being included within the scope of the *Consolidated Non-Financial Statement*. The main data and information referring to these companies are however included in the *Sustainability Report* (see the chapter *Water companies data sheets and overseas activities*). Although the issue of GRI 207 – Tax was not included among the material issues identified with the involvement of stakeholders and therefore does not appear in the *GRI Content Index*, it is nevertheless mentioned here as testament to transparency and good accounting practice.

*internal procedures, so as not to compromise its reputation and integrity, always operating with* ***fairness****,* ***equity, transparency and traceability****, avoiding* ***collusive*** *and* ***corruptive*** *attitudes and actions of improper influence. Acea* ***does not contribute in any way to the financing of parties and trade unions or other organisations related to them****, or of their representatives and candidates. Acea does not make contributions to organisations with which a conflict of interest may arise, such as trade unions, environmental or consumer protection associations*».
In 2022, Acea did not contribute in any way to the financing of parties or other political organisations, trade unions, including with legal form as an association or foundation instrumental to them, nor of their representatives and candidates.

The supervision of relations with institutional entities is defined by **an organisational model** that attributes **competences and responsibilities** to the corporate structures of reference. In particular, the **Institutional Relations Function** protects corporate interests and represents the Group's positions in dialogue with Industry associations, Research centres, Standard-setting bodies and local, national and international public and private institutions and bodies. The **Legal Affairs Function** supports the Group Companies for **legal aspects** related to the activities, the **Corporate Affairs Function** handles communications with the Supervisory Authorities Borsa [Italian stock exchange] and Consob [National Commission for Companies and the Stock Exchange] and the **Regulatory Function**, in coordination with the relevant divisions established within the Group Companies, handles relations with the **regulatory bodies** in the relevant sectors, also to minimize exposure to regulatory risk.
The **Group's operating companies**, jointly with the Parent Company, manage the **"technical and specialist" aspects** of the managed services – water and electricity supply, public lighting and the environmental sector – **including through interaction** with administrative, regulatory and control bodies.

## INTERVENTIONS BY SECTOR AUTHORITIES WITH RESPECT TO ACEA: REVIEWS, BONUSES AND PENALTIES

**Regulatory Authority For Energy, Networks and Environment (ARERA)**
In the regulated sectors, the Regulatory Authority for Energy, Networks and Environment (ARERA) has established bonus and penalty mechanisms to encourage the improvement of the performance of service operators.
In the distribution of electricity, the regulatory experiment on service continuity for LV users, approved by the Authority, envisages a final balance at the end of the first four-year period 2020-2023, therefore **Areti** paid no penalty in 2022.
However, during the year Areti paid around € 9,000 to the **Cassa per i Servizi Energetici e Ambientali** (CSEA) for exceeding the standards set for MV users and around € 615,000 to MV and LV end customers for prolonged and extended outages. By January 2023, the company will receive around € 8.5 million as a bonus for interventions aimed at increasing the resilience of the distribution service in relation to 2021.
In the water sector, with resolution 183/2022/R/idr, ARERA defined the **first application of the incentive mechanism for the regulation of the technical quality of the integrated water system** (RQTI) for the years 2018-2019, which provides for bonuses and penalties, on the basis of which: Acea Ato 2 received a bonus of € 23,644,920; Acea Ato 5 a penalty of € 168,817 and a bonus of € 731,691; Gori € 208,184 penalty and € 1,846,066 bonus; AdF € 79,746 penalty and € 271,277 bonus, for a total of € 456,747 in penalties and € 26,493,953 in bonuses.
Furthermore, the water companies in 2022 accrued **automatic compensation** to customers (Acea Ato 2 for around € 220,000, Acea Ato 5 for € 11,000, AdF for € 16,000, Gori for € 127,000, and Gesesa for € 26,000), relating to contractual quality performance.

**Antitrust Authority (AGCM)**
On 13 December 2022, the Authority informed **Acea Energia** of the start of an investigation proceeding, adopting at the same time, a precautionary proceeding against the company, through which it disputed a possible violation of art. 3 of the **Aiuti-bis Decree**. The company appealed against the legitimacy of the precautionary proceeding before the Lazio Regional Administrative Court. On 30 December 2022, the AGCM, following the order adopted by the **Council of State** on 22 December 2022 in relation to another market operator, and taking into account the changes made to art. 3 of the Aiuti-bis Decree by the so-called "Milleproroghe" [Thousand Delays] Decree, amended the precautionary proceeding previously adopted in relation to Acea Energia, suspending only the effectiveness of unilateral change and/or renewal/update/variation communications of the economic conditions of tender for permanent contracts with no clear, effective and predetermined or predeterminable expiry. In consideration of the proceeding, the company proposed additional justifications for the appeal as part of the case already pending with the Lazio Regional Administrative Court, with the aim of obtaining its annulment.

**Judicial Authorities**
On 5 July 2022 the Court of Frosinone, receiving the request filed by the Public Prosecutor's Office, ordered against **Acea Ato 5** the preventive seizure of the Imhoff treatment plant named La Valle Centro Strada, located in the Municipality of Fontechiari. The decree was issued following the exceeding of limit values for wastewater discharged by the treatment plant and due to the absence of the required authorisation for the discharge of wastewater into the soil. This initiative is part of the criminal proceeding filed under no. 670/2022 R.G.N.R. involving two managers of the Company. On 8 November 2022 the Public Prosecutor's Office issued the decree for seizure of the plant following the communication of decommissioning by Acea Ato 5 of the Imhoff tank subject to seizure.
With reference to **Demap**, following a fire that occurred in December 2021, an order was issued to seize the burnt waste and the related warehouse owned by it. To date, the criminal proceeding is against persons unknown in relation to the offences set out by art. 256, Legislative Decree no. 152/2006 (unauthorised waste management activities) and art. 449 of the Penal Code (negligent crime).

## EMERGENCY MANAGEMENT PLANS

In synergy with public institutions, private entities and research bodies, Acea carries out **environmental and social initiatives and projects aimed at protecting common heritage**; these projects are referred to and illustrated herein (see, for example, *Relations with the Environment* or the chapter *Customers*).
Acea is active in the **prevention** and **management of critical events**, and in the **event of an emergency** it provides support to the **authorities responsible for public health, civil protection and public safety**.
In particular, the Group companies ensure the **highest levels of safety and continuity in the provision of managed services**, in collaboration with public institutions.
To this end, they have established **procedures and tools** that, in critical events (unavailability of central systems, breakdowns, adverse weather conditions, peak demand and network stress, etc.), are able to **restore operating conditions of networks**, **plants and systems in a timely manner** (see also the chapter on *Protection of assets and management of internal risks* in the section on *The company as a stakeholder*).
Each operating company has **Plans for managing emergencies** and **intervention procedures** and, through the **control centres**, **constantly monitors the status of networks and equipment** – water and sewage, electricity and public lighting – in partnership with the **Municipal and National Civil Protection** and **local authorities**.
Whenever an event affects the managed services (damage to plants and/or networks, water/energy crisis, etc.), the companies of the Group notify the competent bodies to facilitate the coordination of interventions.
**Acea SpA** has a **procedure for managing health and environmental emergencies** with an impact on the population, for which it **defines the level of risk** (low, medium and high) and provides for the organisation of intervention teams. The company also holds Biosafety Trust certification for actions to prevent and control viral infections, including coronavirus.
The **emergency management Plan** of **Areti**, which manages the distribution of electricity, **deals with widespread breakdowns and unavailability of the grid**. It defines the different **states of activation** (ordinary, alert, alarm and emergency), according to the operational and environmental conditions, the procedures for the activation (and subsequent reset) of the same states, the **units involved** and the respective roles, and the **resource materials** necessary for maintaining or restoring equipment. It also provides for the appointment of a **Head of Emergency Management** and an employee dedicated to the **management of safety**, in specific cases. The **detailed Operating Plans** indicate methods for quickly managing the types of disruption (such as flooding, fires, disruptions to the remote-control network, etc.) and procedures to be followed, for example, **for restarting the electrical system in the event of a blackout** of the National Transmission Grid (NTG) or **re-establishing power for strategic users** (such as parliament, the government, the State of Vatican City, etc.), **the materials**, **equipment and resources to be involved** depending on the case. The master plan and detailed operating plans are **updated on a yearly basis** and periodically improved on the basis of analyses of real cases. The effectiveness of procedures and the functionality of equipment are tested by means of drills. In addition, with a view to improving processes, the Company created a platform for the real-time **acquisition and monitoring** of **weather events**, in order to prevent potential risks from changes to the operating conditions of the electric grid.

**Plans for the management of emergencies** of the **water companies** define conditions that compromise the **continuity and quality of the integrated water service**, **classify the emergency levels**, describe the **preventive and remedial measures** for the types of unforeseen events (damage to the networks, pollution, water crisis and emergencies related to the sewerage and treatment service) and provide for the division of tasks among the areas involved (technical area and communications). These are shared with local institutions (such as Governmental Territorial Offices, Local Health Authorities, Area Management Agencies). In particular, the **Acea Ato 2 Plan** is updated in line with the Water Safety Plan guidelines and takes **25 critical scenarios** into consideration, specifying the consequences, manoeuvres to be carried out on infrastructure, and the mitigation actions required for each of them. The **Emergency Standing Committee** is also operational, which meets periodically, proposes training activities, and establishes interventions in serious emergencies.
**AdF** collaborated with **the Tuscan Water Authority** on the updating of the **Emergency Operating Plan for the drinking water crisis (EOP)**, aimed at monitoring and preventing water emergencies through the periodic reporting of critical issues found within the region, and providing support for operational decisions when an emergency arises. In the context of the critical issues outlines in the Plan, AdF has in place a **Water Crisis Emergency Management Operating Procedure** which, establishes the sequence of activities to be carried out, detailing all of the entities involved, measures to be taken, documents/databases to be consulted/updated/produced, and correspondence to be sent, for every expected level of severity. For an organised and prompt approach to the emergencies that could occur on backbone pipelines and plants, **AdF** has prepared specific **Disaster Recovery** operating manuals, which act as guidelines in the event of damage and contain precise instructions on the manoeuvres to be carried out. For breakdowns on the main backbones that serve the majority of the region, the manuals indicate the time frames, the instrument references, offsetting measures to alleviate the disruption and the operations for reopening the flow, also allowing non-expert staff to manage the main steps in an emergency.
The **companies of the Group that manage waste treatment plants** ensure the execution of a detailed **routine maintenance plan** to **reduce plant downtime caused by faults or unexpected events** and minimize unplanned non-routine maintenance work. Each site is also equipped with **Emergency Plans** that take into account the **scenarios identified for endogenous and exogenous emergencies**. These Plans examine aspects related to the **safety of workers**, ensuring their safety with specific behavioural and evacuation procedures, checked on a yearly basis, and aspects related to the **protection of the environment**, identifying the interventions aimed at limiting contamination of environmental media (air, water and soil). Permits by virtue of which the plants are managed also include communication requirements and methods for **non-routine or emergency events to the competent bodies**, in order to guarantee the **maximum dissemination of information** and, where appropriate, the coordination of the intervention.
In 2022, Acea Elabori further revised the Emergency Plans of the Grottarossa and EUR2 Centres, previously updated in 2021 **with the inclusion of the measures to counter the spread of Covid-19**, and implemented the management system for the prevention and control of infections by **Biosafety Trust Certification (RINA)**.
Finally, it should be noted that during the year, **a specific training course** was dedicated to "emergency management" and aimed at employees of the Group companies (see paragraph *Occupational health and safety*).

## PROJECTS FOR THE INNOVATIVE AND SUSTAINABLE DEVELOPMENT OF THE AREA

In the **water segment, Acea has adopted the Smart Water Company model** which is characterised by responsible and sustainable management of water resources, thanks to the increasing **digitalisation of the network**.
During the year, some water companies, in agreement with local administrators, started or continued a programme of **installation of Water Kiosks** in the areas managed (see the chapter *Customers*, paragraph *Quality Delivered in the Water Segment)*.
Furthermore, **AdF** created and inaugurated the **Museum of Water** in the Municipality of Castiglione d'Orcia (SI), a space intended to **enhance the connection between community and water resources**, and to raise awareness among citizens of environmental issues. AdF also activated a course dedicated to Renewable Energy Communities, with the objective of promoting the territory's energy transition, including through several conferences and public events, for example with the Union of Municipalities of the Val di Merse (SI) and with the Municipality of Abbadia San Salvatore (SI).
In 2022, in collaboration with the Campania Region and the Campania Water Authority, **Gori** continued with its plan to remove pollution from the hydrographic basin of the Sarno river, thanks to the ***Energie per il Sarno*** [Energy for the Sarno] project. In particular, **energieperilsarno.it** was launched during the year to engage with citizens. The website describes, in real time, the progress of the investment programme. Furthermore, in synergy with those same institutions, **Gori launched the *Azioni per l'acqua* [Actions for Water] project**, financed with NRRP funds and intended to protect the water resource and reduce leaks in the distribution networks.
The Acea Group collaborates with ENEA, the Istituto Superiore di Sanità (ISS), the CNR and other organisations of scientific importance, with the objective of developing **innovative solutions to industrial processes**, in particular on the sustainable management of the **waste cycle** and the **water resource** and on the **recovery of materials** of value from residues of the combustion of waste.
Lastly, in 2022, **Acea Ambiente** signed a memorandum of understanding with the Metropolitan City of Turin to verify the feasibility of **reusing recycled polymers to create road surfaces**, in line with the principles of circular economy and environmental sustainability.

In order to promote the innovative and sustainable development of the sectors of reference, the Group activates **collaborations and partnerships with complementary companies** or organisations operating in **sectors similar to the businesses it manages** and with **innovative players**.
In 2022, Acea was a partner in the "**Re-SHApCeA**" call, promoted alongside EY, to identify innovative ideas in three areas: *A new model for smart cities; infrastructure, buildings and networks, and a new workplace and workforce model*. The call saw the involvement of 10 Acea mentors, who supported the start-ups in the presentation of their ideas, and led to the selection of 5 interesting start-ups.
Furthermore, Acea launched the "***Green Hydrogen Tech Accelerator***" initiative during the year, in collaboration with Open Innovation and Deloitte Officine Innovazione, to **create a technological accelerator**, aimed at Italian and international start-ups, and to **identify innovative solutions for hydrogen-based technologies**: from production and transportation, to storage and energy consumption. In this area, **more than 260 start-ups were assessed** and 5 were selected for in-depth technological meetings. Lastly, in collaboration with Open Innovation and ELIS, scouting events were launched for **new technological solutions** to be applied to **waste-to-energy**, **treatment and bio-refineries**.

Participation continued in the project **Casa delle Tecnologie Emergenti [House of Emerging Technologies] in Rome**, sponsored by the Department of Economic Development, Tourism and Employment, for the development of the *smart city of the future*. With reference to this initiative, in 2022, the following were launched: a **call for the selection of start-ups with innovative design solutions**, **related to emerging technologies or 5G networks**, to be developed in the sector of mobility or tourism, and **the public notice for the selection of micro-businesses**, **small and medium enterprises to be admitted to the technological transfer**.
During the year, Acea Elabori entered into **new agreements** with **businesses active in the sectors of the circular economy**, **advanced plant and emissions abatement**, including those with: ***NATURE 4.0***, a project on the technological development and validation of environmental sensors; *Smart Urban Cities* and *Smart Comp*, which also involved the installation of a sensor calibration laboratory in Grottarossa; ***SRA and FKV***, for the development of new analytical solutions in the field of measurements of volatile substances exhaled when breathing and for the determination of the content of "organic fluoride" in various environmental media, and ***FLIMSlab***, for the development of a sensor platform used to determine microplastics in water.
Acea Innovation and Agile Academy (another Group company) signed a **memorandum of understanding with the Consortium for the Protection of Morellino di Scansano**, for the development of Renewable Energy Communities, the realisation of interventions in the field of electric mobility and economic/social studies and research on new technologies, environmental sustainability and the circular economy.
AdF took part, as a partner, in the network that presented the European project ***LIFE Turbines*** for the decarbonisation of urban water networks.

Finally, with the aim of bringing together the protagonists of innovation to study new models of urban development, Acea organised the **third edition of Innovation Day** (see info box).

### ACEA INNOVATION DAY 2022: A TOUR OF "*PEOPLE, TERRITORIES AND EXPERIENCES THROUGH THE ECOLOGICAL AND DIGITAL TRANSITION*"

The Acea Innovation Day, an event now in its third edition, expresses the Acea Group's desire and need to combine tradition with the challenges of the future, focusing on two fundamental topics: sustainability and innovation.
The 2022 edition of Acea Innovation Day was centred around "*Persone, territori, esperienze. Per raccontare la transizione ecologica e digitale*" [People, Territories and Experiences. Narrating the Ecological and Digital Transition]. The initiative, which made space for exchange between several protagonists in the institutional and industrial sectors involved in Italy's digital and ecological transformation, **took place over three stops** in regions where the Group operates – Umbria, Campania and Lazio – each focused on a specific topic. The first stop, in Terni, Umbria, explored the topic of the **Smart City**, highlighting Acea's aim to support the digital transformation of cities, delivering

better services and developing technological solutions that catapult them into the future. Not by chance, Terni is a city where Acea has created and implemented innovative solutions related to sustainable mobility and has a lively ecosystem of young people and start-ups aimed at building a green and sustainable future. The event also involved awards, in the virtual setting of the metaverse, for 3 start-ups that participated in the **Re-SHApCeA** call.
The second stop was in Naples, Campania within the *Green Med Symposium* exhibition and focused on the challenges of **Open Innovation** in the technological and digital transition, also involving the region's local Group companies, including Gori and Gesesa, which described their experiences of innovation. In particular, the event presented the model for innovation of the Campania Region and Acea and launched an *open call by Acea and OTAs*, to respond to the challenges of the ecological transition. The latest upgrade to the *Waidy Wow application* was also introduced, carried out with the start-up UP2YOU, and focused on decarbonisation.
The final stop in Rome explored the topic of a digital transformation capable of accompanying the evolution of our cities and country, as a prerequisite of an ecological transition, also analysing the European Programme and Framework 2022, which looks at the centrality of investments in start-up innovation and in particular women-led start-ups. During the event the *Digital Innovation Antenna* was presented, inaugurated by Acea at the *Mind the Bridge Innovation Center* in San Francisco, and the *3Ws Call 4 Start-ups – Women, Welfare and Work/Life Balance* was launched, organised alongside the Welfare Unit of Acea SpA and the association La Carica delle 101, intended to innovate the corporate welfare services (see also box Awards in the field of innovation and chapter *Staff*).
The media partner of the initiative was Il Messaggero, with 5,000 users connected via live stream and 200,000 views on online and offline media.

**Collaborations with Universities and Research institutes** are carried out within the framework of **conventions and agreements**.
To assess **changes in the availability of water resources in the short and long term**, in 2022 **Acea Ato 2** continued its collaboration with **the CNR Institute for Water Research** for the development of tools and instruments for forecasting the flow rates available for drinking water purposes in relation to short-term scenarios (less than 1 year), and the collaboration with **the University of Catania** for the prediction of the probability of satisfying the available water flows in the event of climate change in **medium and long-term scenarios** (30, 50 years). Furthermore, in terms of initiatives to protect and safeguard sources of supplies, it entered into a research agreement with **La Sapienza University of Rome's CERI Geological Risk Prevention and Control Research Centre**, for the study of geological hazards, with the implementation of monitoring systems and the relative reporting for managerial purposes, at the Peschiera and La Capore Springs plants, some of the main supply sources managed.
In 2022, **AdF**, alongside **Agile Academy**, signed a **Collaboration Agreement** with the **Department of Biological, Geological and Environmental Sciences (BIGEA) at the University of Bologna** aimed at carrying out studies, research and trials in the context of forecasting the availability of water resources, planning their use and managing the integrated water cycle. The company is also an **industrial partner of the research doctorate "*Smart Artificial Cells for Remediation of Environmental Pollutants*"** coordinated by the Department of Biotechnology, Chemistry and Pharmacy at the University of Siena, aimed at the development of a new technology for the **treatment of emerging pollutants**, such as pharmaceuticals, drugs, pesticides, and plant protection products, etc. (see also the box *Research and innovation in the water area*).
During the year, in collaboration with IRSA-CNR, **Acea Elabori** launched the **BIOREF** project for the **development of biobased products obtained from organic, safe and low-impact waste**.
**Areti** entered into a **collaboration contract with RSE – Research on the Energy System** for the evolution of electricity infrastructure, in line with the decarbonisation targets set by Agenda 2030, studying, in particular, the interactions of electric vehicle charging systems, on public land as well as private property, with the electricity distribution grid. The agreement is part of the *Mission Innovation* initiative, which sees Italy, in particular Areti and RSE, in support of the Ministry for the Environment and Energy Security, involved in the *Green Powered Future Mission*, a project aimed at promoting and financing the development of smart grids. The company **continued its collaboration with the Department of Astronautical, Electrical and Energy Engineering (*DIAEE*) of the University of Rome La Sapienza** to conduct studies and research in the relevant areas. Lastly, **Areti became a partner of the Linux Foundation for Energy (LFE)**, an *open source foundation* focused on the energy systems sector, which exploits the best solutions to scale, modernise and digitally transform the energy systems sector. Thanks to its collaboration with the Foundation, **Areti launched the implementation of the *Advanced Distribution Management System* (ADMS) for the management of the electricity distribution grid**, using as a reference the architecture designed for the *Service-based Open-source Grid automation platform for Network Operation of the future (SOGNO)* that LFE is developing.
Lastly, **Deco** launched a collaboration with the **Department of Engineering and Geology at the Università Gabriele D'Annunzio di Chieti** for the **monitoring of inclinometer measurements and stability studies on land and river banks**.

The virtuous relationship with the local region is also expressed through the **collaboration between Group companies and the educational world of the new generation** (see Customers, section on Communication, events and solidarity, and Personnel, section on Development of human resources and communication).
In 2022, **Acea Ato 2** offered its support to the Liceo Orazio in Rome, organising training events on water management, and renewed the ***Difendiamo l'acqua*** [Let's Defend Water] initiative, with events aimed at primary and lower secondary schools in the municipalities of Gallicano nel Lazio, Guidonia Montecelio, Castel Gandolfo, Lariano, and Nemi.
**AdF** organised **environmental education activities**, with visits to springs and events at schools, and distributed over 2,500 bottles to students.
**Deco** carried out the **educational project *Un goal per il futuro. Fai vincere la sostenibilità*** [One goal for the future. Victory for sustainability], aimed at primary and lower secondary schools in the Abruzzo Region, to promote the knowledge and dissemination of the culture of sustainability. The young people were asked to write a report on their choice of at least one of 17 Sustainable Development Goals. The papers were evaluated by Deco's *Sustainability Team*, which selected and awarded the three best reports.
**Gesesa** continued **the "Plastic Free" project aimed at local institutes and universities** and donated water bottles and dispensers to reduce the use of plastic.

## COMPARISON WITH THE REFERENCE CONTEXT

In addition to the collaborations with universities and the aforementioned partnerships, Acea participates in **research centres**, **standard-setting bodies and industry associations**, playing strategic roles, participating in projects of interest and contributing to studies related to the businesses in which it operates.

### THE MAIN 2022 MEMBERSHIPS OF RESEARCH CENTRES, STANDARD-SETTING BODIES AND INDUSTRY ASSOCIATIONS

During the course of the year the Group renewed and activated numerous memberships of organisations of interest, including:

- AGICI – Finanza d'Impresa;
- AICAS Associazione Italiana Consiglieri, Amministratori e Sindaci;
- AIDI Associazione Italiana Illuminazione;
- Analysis;
- Andaf;
- ANFOV;
- ASCAI;
- Aspen Institute Italia;
- Assochange;
- Associazione Amici della Luiss Guido Carli;
- Associazione Civita;
- Associazione Geotecnica Italiana;
- Associazione Idrotecnica Italiana (Italian Hydro-technical Association – AII);
- Associazione Infrastrutture Sostenibili (Association of Sustainable Infrastructure – AIS);
- Associazione Italiana Internal Auditors;
- Associazione Italiana Esperti Infrastrutture Critiche (Italian Critical Infrastructure Experts Association – AIIC);
- Associazione Elettrotecnica ed Elettronica Italiana (Italian Electro-technical and Electronic Association – AEI);
- Associazione nazionale fornitori di elettronica (National Electronics Suppliers Association – Assodel);
- Assogas;
- Assonime;
- ASTRID;
- CEDEC Bruxelles (European Federation of Local Energy Companies);
- CEEP Bruxelles (European Centre of Employers and Enterprises providing Public services);
- Centro Studi Americani (Centre for American Studies);
- CDP Worldwide;
- CISAMBIENTE;
- CISPEL Confservizi Toscana;
- CLUB Ambrosetti;
- Comitato Elettrotecnico Italiano (Italian Electro-Technical Committee – CEI);
- Confindustria Chieti-Pescara;
- Confindustria Umbria;
- Conseil de cooperation economique;
- CONSEL Consorzio Elis per le Formazione;
- CSR Manager Network Italia;
- Distretto Tecnologico Nazionale sull'Energia (Di.T.NE.);
- EDSO Bruxelles (European Distribution System Operators' Association for Smart Grids);
- Elettricita Futura ("Future Electricity" formerly AssoelettricaAssoRinnovabili);
- Energy and Strategy Group – Politecnico di Milano (Polytechnic of Milan) (ES-MIP);
- EU Bridge Harmonized Electricity Market Role Model;
- EU-DSO (European Distribution System Operators' Association);
- EURELECTRIC Bruxelles (Union of the Electricity Industry);
- FAI Fondo per l'Ambiente Italiano (Fund for the Italian Environment);
- FERPI;
- FIRE (Federazione Italiana per l'uso Razionale dell'Energia) (Italian Federation for the Rational Use of Energy);
- FISE Assoambiente;
- Fondazione Global Compact Network Italia (Global Compact Network Italy Foundation);
- Fondazione Roma Europa;
- Fondazione Utilitatis (Study and Research Centre for Water, Energy and the Environment);
- Gruppo Galgano;
- IATT (Italian Association for Trenchless Technology);
- ICESP Piattaforma Italiana Economia Circolare coordinata da ENEA;
- I-Com (Istituto per la Competitivita – Institute for Competitiveness);
- IGI (Istituto Grandi Infrastrutture);
- InnovUp;
- ISES Italia (International Solar Energy Society – Italian Section);
- Laboratorio dei Servizi Pubblici Locali di REF-Ricerche (Local Public Services Laboratory of REF-Ricerche;
- Linux Foundation for Energy;
- Motus E;
- NORMAN NETWORK;
- Italian Phosphorus Platform coordinated by AENEA and MATTM;
- Proxigas;
- Servizi Professionali Integrati;
- Task Force Demand Side Flexibility;
- Task Force TSO-DSO on Distributed Flexibility;
- Task Force TSO-DSO on Smart Grid Indicators;
- Technopole;
- UNI (Italian Standards Body);
- Unindustria Lazio;
- UPA Utenti Pubblicità Associati;
- Utilitalia (Federazione delle imprese ambientali, energetiche ed idriche) (Federation of Environmental, Energy and Water Companies);
- UNICHIM;
- World Energy Council (WEC).

Acea participates in occasions for dialogue with the business world and the scientific community on **issues of national and international importance** and **offers its own specialist contribution on the occasion of conferences**, **forums and workshops** on topics linked to its managed companies, also presenting publications and works of technical-scientific relevance.
In 2022 **Areti** published in the international journal *The European Physical Journal - Special Topics: Complex Urban Systems*, **the article *Analytical fault impact-model for the electrical grid***, which presented the analytical mathematical model designed and developed by the company to calculate the impact of faults on the electrical grid.
During the year, the Group participated in events including: **Ecomondo**, the biggest trade fair for the *green and circular economy* in the Euro-Mediterranean region; the **FORUM PA**, a national event on innovation designed to create collaboration between central and local administrations and companies active in the territories around the objectives of Italy's National Recovery and Resilience Plan (NRRP); **SMAU Milano 2022**, the **exhibition for CSR and social innovation**, and **Maker Faire Rome**, the European event for innovation (see info box).
Furthermore, Acea took part in important events on innovation, such as ***Gli Stati Generali delle Città Intelligenti*** [The General States of Smart Cities] organised by Blum for the *City Vision* event in Padua; the ***Utility Day*** at the Forum D'Assago; the ***Scaleup Summit*** of *Mind the Bridge* in San Francisco and the **conference** of the Start-up Intelligence Observatory by PoliMi, ***Imprese e startup nella transizione: innovazione digitale per un futuro sostenibile*** [Businesses and start-ups in the transition: digital innovation for a sustainable future].
**Gesesa** and **Gori** attended the ***Green Med Symposium***, an event dedicated to the *green economy* and the ecological and digital transition (see the box *Acea Innovation Day 2022: a tour of "People, Territories and Experiences through the Ecological and Digital Transition"*).
**Gori** took part in the **Giffoni Film Festival**, speaking during the masterclass dedicated to water sustainability and answering questions from the young participants, and in the ***Climate Smart Utilities Recognition Programme*** in Copenhagen, during which it explained its vision, strategies and programmes for managing climate change.

### ACEA AT *MAKER FAIRE ROME 2022*

Acea participated, for the eighth consecutive year, in ***Maker Faire Rome – The European Edition***, Europe's largest innovation event. This edition was held both digitally and in person.
From 7 to 9 October, **Acea was present at the Gazometro Ostiense with a dedicated stand** where it presented solutions in support of developing the circular economy to the community of makers and startuppers from all over Italy and to visitors:

- **Acea Smart Comp**, the mini-plant for nearby composting;
- the **MIDA project**, developed in collaboration with the Italian start-up Wesii, to monitor photovoltaic plants (see also the box – *Research and Innovation at Acea SpA*);
- **the autonomous mobile robot by Pixies** capable of independently navigating large *indoor and outdoor spaces*, avoiding obstacles while collecting litter.

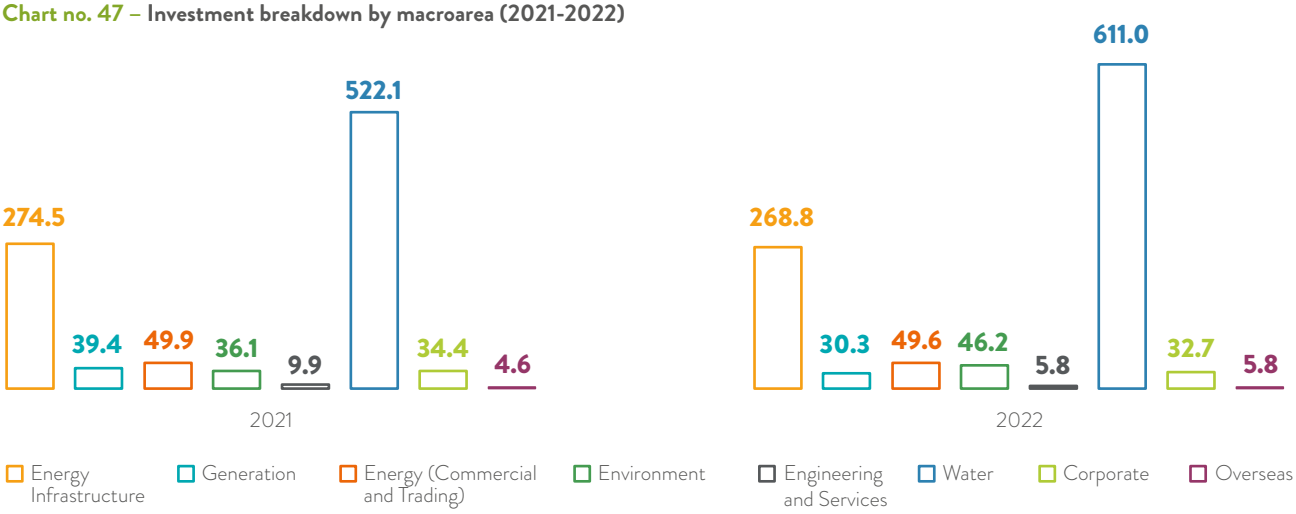
On **sustainability** issues, Acea participates in **networks of experts**, **working groups**, **studies and sector research** organised by the academic world, civil society, institutions and business entities. Indeed, the company is active as an associate in the **Global Compact Network Italy Foundation**, the representative body of the United Nations Global Compact in Italy, the **Sustainability Makers - the Professional Network** (formerly the **CSR Manager Network**), the national association that brings together the main Italian companies active in corporate social responsibility.
Acea's participation in **Utilitalia**, the federation that brings together the *multi-utilities* of water, environment, energy and gas, is also expressed through its participation in **technical panels** and **topical working groups**. In 2022, Acea took part in initiatives organised by the federation on antitrust, data breaches, EU regulations on sustainable finance, and the Taxonomy.
The company also participates in benchmark analyses on sustainability in Italian *Utilities*, like those carried out by the **Utilitatis** research centre and **Top Utility**.

## THE COMPANY AS A STAKEHOLDER

### THE MANAGEMENT OF COMPANY ASSETS

**Acea protects and enhances its tangible and intangible assets**, pursuing a sustainable financial position and **governing the internal needs**, linked to the operating management and the **growth prospects**, consistently with the aims expressed in the business mission and the strategic plan.
In 2022 **investments** totalled **€ 1,050 million**, **up 8.2%** (€ 970 million in 2021). These were distributed by business segment as follows: € 46.2 million for the **Environment** area, in particular for work on plants and for the change in the scope; € 49.6 million for the **Commercial and Trading** area, in line with the previous year, for the activities related to the acquisition of customers, the implementation of the new CRM and improvements to the Contact Centres; € 611 million for the **Water** area, with increases due to the investments of Acea Ato 2, Gori, AdF, and SII; € 5.8 million for the **Engineering** area, mainly related to Acea Elabori; € 268.8 million for the **Energy Infrastructure** area, for work on MV/LV networks, substations, measurement and remote control instruments and projects to re-engineer information systems; € 30.3 million for the **Generation** area, both for work on hydroelectric plants and Acea Produzione's district heating network and for upgrading and maintenance of photovoltaic, including investments for the construction of photovoltaic plants on agricultural and industrial land. Finally, the **Parent Company** and **Overseas** with investments for about € 32.7 million and € 5.8 million, respectively.

**Chart no. 47 – Investment breakdown by macroarea (2021-2022)**




**Depreciation**, **amortisation**, **provisions and write-downs** amounted to approximately **€ 739 million** (+9.5% compared to 2021). The increase in amortisation and depreciation mainly relates to investments in the period and the ongoing entry into operation of assets with particular reference to the water companies. Impairment of receivables, although up compared to the previous year (+€ 27.1 million), maintained essentially the same impact compared to 2021 in terms of total Group revenue (2.20%).

## THE COMMITMENT TO RESEARCH AND INNOVATION

**Scientific and technological innovation** at the service of business processes is one of the **pillars of the Group's strategic planning**, an area in which **it invested over € 3 million** in 2022.
At Acea, **innovation** is a **cross-sectional** strategic lever that is **open** to the external ecosystem; through its innovative approach, the Group aims to **explore new businesses** and create **new development models**.
**The innovation line** is managed by the **Technology & Solutions Function** of Acea SpA, which has the task of developing and implementing infrastructures, systems, products and services in the technological, innovative and digital field, directing and coordinating the preparatory activities for the generation of products and services in the market segments of interest, and by **Acea Innovation** which facilitates the Group's design and innovation initiatives, generating products and services for the business (B2B) and institutional (B2G) markets, particularly in the area of electric mobility.
The **innovation model** adopted by Acea identifies internal needs and areas of interest and implemented typical Open Innovation processes, with the **collective generation of ideas and the involvement of internal and external stakeholders** starting from the conception process, moving on to trialling, to the implementation of the projects.
According to this logic, the **promotion of the Group's culture of innovation and the development of internal entrepreneurship** are fundamental.
For a systematic approach to innovation, in 2022:

- the **new corporate entrepreneurship programme** named ***Acea Innovation Gym*** was developed, aimed at young people under 35 who joined the company less than two years ago, which covered topics of artificial intelligence and robotics;
- **dissemination programmes for the culture of innovation** were organised, as were **idea generation workshops**, to creatively address business and innovation needs, like the ***Learn & Inspire*** project, an advanced learning course on topics related to the world of innovation – *Smart Human Organisation, Psychology of Storytelling, Digital Innovation, Body Language & Pitching Skills, Building your Product Roadmap, and ESG* – promoted by the Human Resources Function and by the Innovation Unit of Acea SpA;
- **4 open calls** were launched on **smart cities**, **new sources of sustainable energy**, **critical infrastructure and work/life balance**, and participation in **The Big Hack** was promoted, an international hackathon to develop prototypes for hardware and software projects;
- alongside players from academia and the technology sector, **co-innovation projects** were organised, including the **Working Groups for the Ecological Transition**;
- the ***Digital Innovation Antenna*** was launched, the international collaboration, previously mentioned, aimed at optimising the scouting of start-ups and innovative solutions present in the Silicon Valley ecosystem;
- the Group's internal **Innovation Community** continued to be active, for which the ***InnovAction – L'innovazione è semplice!*** [Innovation is Simple!] programme was created, aimed at exploring innovative ideas and new technologies, through monthly webcasts and podcasts that use the edutainment method;
- the third edition of **the Innovation Day** was organised (see info box).

The Innovation Model also involves the use of **market analysis**, **continuous scouting and development of** national and international **partnerships, with players in the innovation ecosystem active in sectors of strategic interest to the Group**. This allows the Group to activate privileged channels of access to ideas, business and technological opportunities, academic research and provides new talents to innovate business, processes and corporate products.
To this end, in 2022 Acea participated in the following programmes:

- ***Mind the Bridge Scaleup Summits***, which promotes a sustainable and global business ecosystem thanks to programmes and activities intended to encourage exchange between scaleups and international companies;

- **Elis *Open Italy***, the aim of which is to promote dialogue and collaboration between large companies, Italian start-ups, enablers of innovation and young talent. Open Italy has created a space where various stakeholders can meet and work together to incentivise the introduction and development of innovative solutions within the Italian economy;
- **the Osservatorio Digital Innovation [Digital Innovation Observatory] of the Polytechnic University of Milan**, a point of reference for digital innovation in Italy, in which Acea participates mainly through the **Startup Intelligence Observatory**, a community of discussion and open innovation at the apex of innovation. In 2022, Acea took part in the **Space Economy Observatory** to explore the opportunities of space technology, and in the **Quantum Computing Observatory**, centred around cutting-edge technologies in the fields of *quantum and high-performance computing* (HPC);
- **Zero Accelerator**, the startup accelerator born from the collaboration between the National Network CDP Venture Capital SGR - Fondo Nazionale Innovazione, Eni, LVenture Group and ELIS to support the best startups and innovative SMEs that develop projects and solutions in the *greentech/cleantech* field aimed at minimising carbon impact, facilitating the reduction of emissions, optimising the waste cycle by speeding up energy transition processes and promoting the circular economy;

Furthermore, in 2022 the **collaborations with Talent Garden** on *digital transformation and corporate innovation* projects continued, as did those with **InnovUp (formerly Italia Startup)**, the no-profit association that represents the ecosystem of Italian start-ups, expanded to all private and public entities, to promote the creation of a new national business fabric.

In recognition of its achievements in innovation, **in 2022 Acea again received the prestigious Innovazione SMAU award** (see info box).

## AWARDS IN THE FIELD OF INNOVATION

In 2022, **Acea** won the **SMAU 2022 Innovation Award**, with the project ***3Ws – Women, Welfare and Work/Life Balance – Startups for a better life***, an initiative carried out in collaboration with the **Welfare Unit of Acea SpA and La Carica delle 101**, an association of female professionals who provide *pro-bono mentorship* to new businesses. It involved an open call dedicated to start-ups with a high percentage of women committed to the development of solutions to improve work/life balance and define corporate welfare services (also see the chapter *Staff*).

With reference to the Group's industrial processes and infrastructure, the following boxes illustrate, by way of example, the main **research and innovation projects** carried out in 2022 by Acea SpA's Technology and Solutions Function, Acea Innovation, Acea Elabori and the industrial segments of the Group. We also recall what has already been illustrated in the paragraph *Relations with institutions*, and in particular Projects for the innovative and sustainable development of the territory, Customers and the community and the section *Relations with the environment*.

## RESEARCH AND INNOVATION AT ACEA SPA

In 2022, the **Innovation unit of Acea SpA's Technology & Solutions Function** with the involvement of all the company's entities and external start-ups, **launched and/or realised numerous experiments and initiatives for the innovation and digitalisation of services**, including:

- the **MeGA project**, led by Acea SpA and Areti in collaboration with M2D Technologies, made it possible to create a platform that could analyse medium and low voltage SCADA protocols (the computer system for the supervision and management of an electrical power station) and extract indicators on the functioning of new automation solutions;
- **VR Training**, an initiative developed with Areti and the start-up Start Smart involving the use of virtual reality to prepare colleagues to work in hostile environments like confined spaces;
- **MIDA**, a project developed in collaboration with the start-up Wesii to monitor photovoltaic plants, with an ultra-technological model of self-flying drones equipped with a thermal camera, which can fly over plants at a height of 25 metres, monitoring the integrity of the panels in real time and optimising maintenance interventions and costs;
- **Machine Learning – Elabori**, the activation of a *machine learning* infrastructure that enhances all of Acea Elabori's logs and data, making it possible to carry out forecasts and predictive analyses in the cloud to improve the planning of dispatching and the performance of analyses and work sites;
- **Up2You (Waidy – Water)**, a solution developed with the innovative start-up Up2You, which makes it possible to very precisely calculate the sustainability benefits associated with using the Waidy app;
- **AI for Contact Centres (Acea Energia)**, a platform based on artificial intelligence that allows for an improvement in Acea Energia's outbound lists, with a consequent improvement in the conversion rate.

## RESEARCH AND INNOVATION IN THE COMMERCIAL AREA

In 2022, the company **Acea Innovation** continued the development of **electric mobility** functions. It upgraded the **Charging Point Operator** platform, in interoperability with e-Mobility Service Providers, with two new interoperability options with Be-Charge and Hubject and launched Acea Energia's **EMSP platform** (Electric Mobility Service Provider), in which new functions were made available, including FLAT tariffs and profiling for Business clients. The company also developed and launched a **private network model** to create B2B private networks in which integrated electric charging stations are installed with a dedicated portal that allows customers to monitor the charging sessions carried out, and implemented a new system for managing energy communities.
As part of its activities in the sale of electricity and gas commodities and non-commodity services, **Acea Energia has launched and/or completed the following innovative projects**:

- the **E2CRM digital transformation programme** which involved adopting the Salesforce CRM platform, enabling all processes to be implemented digitally, with a consequent reduction in contacts through traditional channels and paper-based flows, and new functions to be developed on the portal reserved for customers in the Large & Business segment;
- **the change to the digital channels** with the creation of projects to revisit and increase the features of *certain digital touchpoints*, including **revising the website,** the design of a **new sales funnel**, the launch of the **new app** with features intended to reduce telephone contact, a renewed **routing model** for the management of the telephone channel and the launch of two **agile rooms** to improve processes from a client-centric perspective (*close the loop*, *predictive call management*, etc.), and the monitoring of the KPIs of the individual processes.

## RESEARCH AND INNOVATION IN THE NETWORKS (ENERGY INFRASTRUCTURE) AREA

In 2022, **Areti implemented several innovative projects** as part of its electricity distribution activities, including:

- the **PlatOne project**, financed by the European programme Horizon 2020, intended to develop and test technological solutions and new market schemes capable of **enabling the flexibility of the utilities connected to the distribution network**, with the aim of promoting transparent and inclusive participation of end customers in the electrical flexibility market. The project involves public and private organisations operating in Italy, Greece, Belgium, and Germany, under the coordination of RWTH Aachen University in Germany and **Areti coordinates the Italian trial implemented in the Rome area**. The pilot is based on a multi-platform architecture which, using blockchain technology, simulates a local flexibility market, enabling the users connected to the distribution network to provide services to the local and global electricity system. **Acea Energia** is an **aggregator** of the project, gathering availability of end customers and offering them to the market, before then distributing the revenues with those customers;
- **the European project BeFlexible**, launched in September 2022 with the involvement of other organisations, including Enel Group, Terna and RSE, is intended to **test the use of flexibility services** as well as the synergy between the electricity system and other sectors **for the stability and security of the grid**. The project aims to define and standardise a **catalogue of flexibility services**, shared with the stakeholders involved in the project (grid operators, dispatching users, aggregators, prosumers, technology providers) and to trial, through the use of technological solutions developed in other European projects, a common market model for the supply of such services, promoting the involvement of end customers and synergy across sectors (gas, water, heat, mobility, etc.). Areti participates in the initiative by enhancing the architecture developed in the PlatOne project;
- **the Flow project**, financed by the Directorate-General for Energy of the European Commission, intended to identify technological solutions and coordination methods with all actors involved which allow for **a management of electric mobility with respect for grid security and quality of service**. The project, launched in July 2022, involves various organisations, coordinated by Spain's IREC, including Enel Group, Terna, Engineering SpA and RSE. Again in this case, Areti participates in the project by enhancing the architecture developed as part of the PlatOne project;
- the **RomeFlex** pilot project, financed by ARERA and aimed at **creating a flexibility market for the electricity grid across the Rome area**, expanding the trial already in place with the PlatOne project. In December, Areti launched a **public consultation** to allow stakeholders to make comments about the regulations required for application of the trial;
- the **POLEDRIC** project, for the construction, in Rome, of a type of **intelligent public lighting pole**, able to improve the service, through sensors and advanced technologies, and enable **additional environmental**, **security and communication services**, from a **smart city** perspective (environmental sensors, traffic and parking monitoring sensors, video surveillance and video analysis, etc.);
- The **G.I.M.M.I.** project (Massive and Targeted Infrastructure Inspection Management), to **reduce undiscovered faults on overhead lines** and asset monitoring, through periodic analysis of satellite images and targeted drone inspections;
- the **BVLOS** experiment which involved the inspection of an overhead line conducted using a remotely piloted drone, with 4G connectivity and completely autonomous flight;
- the **AUTONOMOUS** project, to **reduce the incidence of faults in the primary substation**, by means of preventive inspections either autonomously or remotely guided by a UGV (*Unmanned Ground Vehicle*) drone. In 2022, the testing of the solution was completed with the setting up of a recharging box in which the drone, at the end of the mission, can recover and recharge itself, and the data collection and management platform was created, which is necessary for the integration of the new solution in the current inspection processes;
- the **Automa per selezione guasto in TLC** [Automated Fault Selection in TLC] experiment, aimed at supporting and automating human operations by means of **Robotic Process Automation techniques for remote fault selection on the network**. In early 2022, the demonstrator implementation experiment was completed, which made it possible to perform fault selection on a portion of a real network, using *logic developed in matlab* which, thanks to innovative *Robotic Process Automation techniques*, interacted with the SCADA system. The demonstrator project made it possible to verify the validity of the approach and to define the integration solution when fully operational;
- the project **Automation of Low Voltage Lines**, aimed at enabling remote control and automating the reclosure of low voltage lines from the secondary substation on disconnection for excess power; Mass installations of the solution began in 2022;
- the **Bilateral LTE Automation** project, which involves the implementation of a **field automation solution to select the fault line** and uses the **4G network to make the switches along the line communicate**. In 2022, the mass installations of the solution and the evolution of *central device management platform* were launched for the remote management of *peripheral Industrial IoT devices* that support other remote and service monitoring solutions in secondary substations;
- the transition to an operating environment of the **pilot project** for the application of ***Internet of Things – IoT* technologies** to **secondary substations**, with the aim of collecting and analysing measurements of **environmental parameters** and **electrical** quantities from the low-voltage network, to improve **plant maintenance** and **energy loss control**. In 2022, the engineering of the solution in the field was completed with the installation of the technology in 50 secondary substations, and an IoT Monitoring platform was implemented;
- the **IA-TEXT-MEANING** trial, which enabled the creation of a platform that could analyse, interpret semantically and classify the text notes related to field interventions made by WFM operators.

## RESEARCH AND INNOVATION IN THE WATER AREA

With the aim of improving its operational performance, **in collaboration with Acea Elabori**, **Acea Ato 2 implemented research activities and technological-digital innovation** on:

- the **satellite radar technique Intasar Monitoring required to monitor the stability of elevated structures on the ground** (e.g. tanks) with specially designed reflectors to improve accuracy and resolution;
- **monitoring of emerging organic micropollutants (EOM) and endocrine disruptors in the wastewater of medium- to large-sized plants**, selected according to process scheme and territorial location; in 2022 monitoring activities continued at the CoBIS and Roma Sud plants and those of the Tiber River relating to environmental risk assessment and analysis;
- **the combined use of the two disinfectants**, **sodium hypochlorite and chlorine dioxide**, in different proportions at the **Grottarossa drinking water plant**, with the aim of finding an effective composition of the mixture of the two disinfectants that prevents the proliferation of algae in the clariflocculators and minimises the use of chemicals while continuing to guarantee full microbiological compliance of the outgoing water;
- the trial, at the **Grottarossa drinking water plant**, on the use of **coadjuvant polyelectrolytes of PAC** in the clariflocculation process with the aim of improving the performance of the plant under serious operating conditions following heavy rainfall;
- the creation of a **model to estimate the load capacity of the filter material** at the **Pescarella drinking water plant**, based on the chemical composition of the incoming water and the flow rates processed by each filter, for the purpose of prolonging the lifetime of the filter material and creating uniform wear and tear of the filters;
- the monitoring of the trichloroethylene and tetrachloroethylene parameters and the **study of the abatement capacity of the filter media (GAC)** at the **Laurentino drinking water plant**, for the purpose of upgrading its performance and optimising resources thanks to the reduction of the supply/regeneration cycles of adsorbent material and disposal of spent material, guaranteeing the compliance of the water distributed;

In terms of drinking water processing and purification, the following activities were carried out:

- the adoption of an **automatic coagulant dosage** system on the basis of the turbidity recorded at input and the optimisation of such dosage according to a **feedback logic**, on the basis of the turbidity detected at output of the clariflocculation treatment, for the purpose of upgrading the efficacy of the process while reducing product consumption;
- the optimisation of the disinfection treatment through the **reduction of the dosage of sodium hypochlorite** and **product quality control** with the aim of intercepting non-compliant discharges and reducing the level of chlorates in the water distributed to protect the health of consumers;
- the **extension of backwashing times** with water of the sand filters to improve the filtration process with a reduction in the levels of dissolved aluminium present at output of treatment;
- the creation of **an innovative trial treatment plant for water intended for human consumption capable of removing arsenic**.
- the **characterisation of the floating residue from the desanding/de-oiling process of urban wastewater** and assessment of the best **treatment technologies**;
- conclusion of the full-scale **experimentation** of **Taron technology** at the Santa Fumia wastewater treatment plant, which uses a dynamic rotating disc filtration system that combines secondary sedimentation and tertiary filtration in a single step, optimising the wastewater treatment process;
- **conclusion of the study on lysis technologies for optimising biogas/biomethane production** from anaerobic digestion plants at some purification plants.

With regard to innovation applied to the management of water distribution networks new generation techniques - satellite, noise recorder and fibre optics - were tested for hidden leak detection (Noise Logger and Satellite Radar Interferometry):

- the **calculation on an experimental basis of GHG (greenhouse gases) of the purification sector**, including in collaboration with the Politecnico delle Marche.

In addition, with reference to **forecasting the availability of water resources, *Acea Ato 2 has implemented a machine-learning algorithm based on the random forest technique*** to identify **meteorological proxies (temperature and/or precipitation)** or management proxies (volumes drawn) correlated to the variability of the state of preservation of the resource, with reference to the different collection sources (springs, well fields, etc.)

In 2022, with external support, **Acea Ato 5** conducted a **pump audit to analyse the efficiency of the pumping systems of one of the main well fields managed** (site in Posta Fibreno) and implemented a corrective measure to significantly reduce the plant's energy consumption.

**AdF** has carried out:

- a **Proof of Concept (PoC) pilot to test a Smart Chatbot**, based on *artificial intelligence and conversational AI agent technology* to improve navigation experience on the website;
- mass remote reading of meters across the territory through *drive-by and walk-by reading*, covering over 50% of the installed base of meters, and developing further implementations of the **NEXTex** platform, using predictive analysis tools on the information collected via the meters;
- the completion of a PoC aimed at **defining a platform for managing and integrating data from smart meters**, both *drive-by* and *nbIOT*, and *no-meter* sensors, with the aim of creating a **data hub**, performing **advanced management of events and alarms** and **feeding analytics systems**;

Within the framework of internal projects implemented in *agile mode*, it has **developed two dashboards** integrated with SCADA systems and analytics tools, for monitoring **water requirements**, **planning water production**, creating **consumption forecast scenarios** using predictive algorithms, and for **monitoring the electricity budget** and the energy performance of the main plants.

Lastly, in the context of the development of the **Water Safety Plans (WSP)**, **AdF** systematised the implementation methodology by developing a **PosgreSQL database** dedicated to storage of the data, the calculation and logging of risks and measures identified to contain priority risks, and, in collaboration with the company SIMAM, conducted an experiment at the Sant'Angelo plant in the municipality of Senigallia aimed at the production of **biomethane with zero $CO_2$ emissions** from EER waste (sludge produced from the treatment of urban wastewater) with **ASAC patented technology**.

## RESEARCH AND INNOVATION IN ENGINEERING AND SERVICES

In 2022, in collaboration with the Technology & Solutions Function of Acea SpA and the start-up BeamDigital, **Acea Elabori continued experimentation on the Safety Check project**, for the remote monitoring of the safety conditions of the personnel working at the sites, carrying out analyses on personal data protection.
Implementation continued of the **Master Reclamation project**, a data retrieval system able to retrieve customer master data, using machine learning and artificial intelligence, and automate internal data quality processes.
With reference to the **innovation of business processes**, it should be noted that **Acea Elabori has BIM (Building Information Modelling) certification for engineering design**, which employs intelligent digital models throughout a project's entire life cycle and works on seven dimensions, visualising not only progress and costs, but also the **sustainability of the project** and encouraging the implementation of choices oriented towards a positive impact on the environment.
Acea Elabori carried out numerous other projects for the Group companies. In particular, in 2022, in collaboration with the SAGEN association and Tor Vergata University, **"VOLATOLOMICS"** was launched, **a social innovation project** intended to define a method for assessing the **volatile fraction of the metabolome** through breath analysis, implemented using an advanced examination technology developed by Acea Elabori. The purpose of the initiative is to validate, using research on a sample of the population, a non-invasive and low-cost **diagnostic screening technique** that can also be used for genome analyses. The project won a sustainability award for protection and social development in an internal contest, as part of the Acea Green Cup 2022.
Focusing once more on the social aspect, Acea Elabori launched a collaboration with the Department of Translational and Precision Medicine at La Sapienza University in Rome, for the **development of advanced analysis and diagnostic methods** to evaluate the weight of exposure to persistent organic pollutants (POPs) in the progression of **metabolic-associated fatty liver disease (MAFLD)**.

## RESEARCH AND INNOVATION IN THE ENVIRONMENT AREA

In 2022, the following research and innovation activities carried out by the Environment business are worth mentioning:

- completion of the design activity for the **recovery of sodium bicarbonate and calcium chloride dihydrate in combination with the treatment of fly ash** for the reduction of hazardous characteristics of the matrix and of the recovery;
- execution of the first phase of the on-site pilot project for the **treatment of bottom ash** for the recovery of the inert fraction present;
- obtaining the **experimental authorisation** for the **plasmix treatment** pilot plant, which is part of a wider project for the sustainable recovery of mixed plastics (plasmix) and their transformation, through the GASIFORMING™ process, into pure marketable methanol. The project implements circularity **recovering material from waste** destined for landfill or waste-to-energy, vertically integrating the plastics chain, and producing methanol from a renewable source.
- execution of the first phase of testing related to the characterisation in terms of concentration of pollutants in the areas.

# 3

# RELATIONS WITH THE ENVIRONMENT

# ENVIRONMENTAL SUSTAINABILITY AND THE PRIMARY CHALLENGES

According to the surveys conducted each year by the World Economic Forum, including the most recent Global Risk Report 2023[142], environmental risks are among the top long-term global threats. The major challenges everyone is facing include the continuous rise in global temperature, as well as other extreme events related to intensifying climate change, land use and declining biodiversity (see the boxes "Climate Change at COP27" and "Biodiversity: Policies and Instruments for Protection").
After the pandemic, which also persisted through some of 2022, the global scenario became characterised by international tensions and conflict, the energy crisis, and rising inflation.
Against this backdrop, Italy is implementing its National Recovery and Resilience Plan (NRRP), published in 2021, in line with the **European Green Deal** and the "**Next Generation EU**" recovery package. As well as outlining the challenges in the near future, particularly for environmental sustainability, the **NRRP supports and promotes** Italy's ecological transition by allocating major investments to several strategic sectors, such as the **circular economy**, **renewable energy**, **energy efficiency, the national electricity grid to support mobility, territorial protection** and **water conservation**.
Operating in a sphere of interdependence between the environment, the territory and the community, Acea takes into account the UN Sustainable Development Goals and is a major player in the ecological transition, implementing development projects aimed at promoting the circular economy and the smart city concept, promoting the use of renewable energy sources to replace fossil fuels, increasing the resilience of electricity and water distribution infrastructure, and increasing the focus on water conservation and technological innovation applied to infrastructure management.

As regards **climate change**, the Group continues to develop its executive-level scenario analyses and is committed to lowering GHG emissions with energy efficiency and energy saving measures, as well as other initiatives to **promote adaptation and mitigation processes**. This is evidenced by the Group's level of compliance with the requirements of the first two climate objectives under Regulation 2020/852 (see the chapter on Information required by the European Taxonomy) and the publication, in 2022, of the Group's first Climate-related Disclosure[143], in accordance with the recommendations of the Task Force on Climate-related Financial Disclosure, as well as the additional project on the subject carried out during the year (see box).

With regard to **managing water**, in agreement with the relevant institutions, Acea continued preparatory actions for the construction of the new upper section of the Peschiera-Le Capore Aqueduct to safeguard the water supply in the city and province of Rome. In this regard, the Technical and Economic Feasibility Studies were completed and the authorisation procedures for certain sections are underway.
Acea has played a primary role with regard to the **circular economy**, for a number of years, with activities aimed at **reducing waste of resources**, for example by utilising process waste and enabling **recovery of energy** and **secondary raw materials**. In this context, the Group has progressively expanded in the field of waste management (Environment Segment). For example, the waste processing and disposal company Deco (included in the reporting boundary as of 2022) operates a Mechanical Biological Treatment plant for municipal solid waste, one of the largest and most technologically advanced facilities in Europe, which transforms biostabilised waste into Solid Recovered Fuel (SRF), used to power dedicated and non-dedicated plants, such as waste-to-energy plants and cement plants, with less than 35% of incoming waste going to landfills.

Once again, in 2022, the Acea Group attended Ecomondo, the top green and circular economy trade fair in the European and Mediterranean area, presenting a series of projects the main business areas developed (see box).

## ACEA PROJECTS AT ECOMONDO 2022

The Acea Group took part in Ecomondo, held in Rimini from 8 to 11 November 2022. The event aimed to represent **all sectors involved in the ecological transition**: integrated waste recovery services and solutions, the integrated water cycle, land reclamation and regeneration, renewable energy, mobility and green infrastructure, circular economy models, and protecting natural resources.
Acea had a 200 $m^2$ **Group stand** at the event, where it presented its most recent initiatives. These include the **Waidy Wow App**, which maps over 50,000 geo-located water sources and promotes the responsible use of water to reduce the environmental impact, the **DepurArt project**, developed during the renovation of the Fregene treatment plant operated by **Acea Ato 2**, which transformed the site into a cultural attraction, and the ***Conoscenza Comuni* shared knowledge project,** an intuitive online platform that enables users to consult detailed information on the water management services provided by Acea Ato 2 for each Municipality. **Acea Ambiente**, which discussed the topic of plastic recycling, signed a **memorandum of understanding** with the Metropolitan City of Turin and Turin Polytechnic University for a **pilot project on the use of recycled polymers** in road surfaces with a view to identifying innovative solutions to transform polymers into high-quality and sustainable asphalt. **Acea Innovation** illustrated the systemic approach and the holistic and integrated vision that underpins Acea's commitment to the ecological transition.

142 From the Global Risk Report 2023, published by the World Economic Forum in January 2023: the findings of the Global Risks Perception Survey again place the failure to mitigate and adapt to climate change at the top of the list of "top ten global risks" as the greatest long-term (ten-year) threats, followed by natural disasters and extreme weather events, and biodiversity loss and ecosystem collapse.

143 Available on the Group website: www.gruppo.acea.it

**Acea Elabori** promoted the topic of **circular communities** as new production and sustainable consumption models. It also presented some of its research:

- "*H2020 PROMISCES: cost-effective PFAS analysis in complex matrices*", an analysis to identify how industrial pollution prevents the full development of the circular economy in the EU and strategies that could help to overcome the barriers identified;
- a study developed in collaboration with IRSA-CNR to examine the opportunity to produce high value-added material using **recovered organic waste**;
- an analysis to demonstrate the effectiveness of an **advanced monitoring system** to determine **odorous impacts**;
- a study conducted in collaboration with ISS, ENEA and La Sapienza University of Rome showing the results of the development of an analytical method for measuring plastics in water intended for human consumption;
- a study of Lake Bracciano that analysed the monitoring methods, the results of isotopic analyses and surveys, satellite data and the complete numerical model that could be used to **draw up long-term scenarios**.

# ENVIRONMENTAL AND CLIMATE RISKS: IN-DEPTH ANALYSIS AND DISCLOSURE

## CLIMATE RISKS

Although the COVID-19 pandemic has represented the priority emergency in recent years, the current geopolitical situation is forcing us to confront an unprecedented energy crisis, while the intensification of climate change is having serious impacts locally and globally. These two factors have resulted in a slowdown of the world's leading economies.

As noted earlier, climate change is one of the most significant environmental and social challenges of our era. The Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change, held in Sharm el-Sheikh in November 2022 (see box for more details), confirmed the goal ratified in 2021 in Glasgow to maintain global temperatures below a 1.5°C increase on pre-industrial levels.

However, according to the latest IPCC Report published in 2022, the average global temperature increase since 1850 has been around 1°C[144]. Despite the current containment measures in place, keeping the global temperature rise below 1.5°C will require further commitments.

### CLIMATE CHANGE AT COP27

The 27th Conference of the Parties (COP27) to the United Nationals Framework Convention on Climate Change was held in Sharm el-Sheikh from 6 to 18 November 2022, against a backdrop of global crisis. The negotiations focused on **five key topics**: decarbonisation, climate adaptation, nature, food, and water.

Meanwhile, on 16 November during the G20 Summit in Bali, these issues were incorporated into the updated "G20 Action Plan on the 2030 Agenda, adopted in 2016.

COP27 ended with the issuing of a final decision, the **Sharm el-Sheikh Implementation Plan**. The plan **maintains the agreements ratified in the Glasgow Climate Pact (COP26)**, under which the signatory countries undertake to maintain the global temperature increase to below 1.5°C compared to pre-industrial levels.

The Agreement highlights the need to **transition to an economy based on renewable sources** and to **reduce the use of fossil fuels**. Efforts to gradually eliminate coal were encouraged, favouring low-emission sources and promoting the elimination of fossil fuel subsidies. As regards the **Nationally Determined Contributions - NDC**, countries that had not yet presented their decarbonisation commitments were encouraged to do so, while those that already have were asked to update them by the end of 2023.

The main change involves the **introduction of the "loss and damage" principle**, which calls for the payment of indemnities to the most vulnerable developing countries for climate damage suffered. This principle will be implemented by establishing a specific Fund to be defined at a later date. The next conference, COP28, will be held in Dubai from 30 November to 12 December 2023.

**Acea** has continued **its climate-change mitigation and adaptation strategy** i) with an increase in the energy efficiency of Companies and, regarding water, with the reuse of purified wastewater in agriculture ii) implementing actions aimed at increasing the resilience of infrastructure, and iii) adopting a plan to significantly increase **generation from renewables**[145], and with the dual objective of achieving a high level of **efficiency for final domestic usage and usage in energy processes**, and **reducing carbon intensity** ($gCO_2$/kWh produced). The results obtained to date are shown in Table no. 63 on energy intensity indices and in Table no. 69 on emission intensity indices.

Acea assesses **climate risks**, **classifying them into physical and transition risks**, in accordance with the CDP Questionnaire and with the recommendations of the *Task Force on Climate-related Financial Disclosures* (TCFD). After an initial project conducted in previous years, in 2022 Acea worked **in synergy with the main Group companies**[146] to **analyse** the main climate-related risks on its business areas (see box for more details).

144 Available on the Intergovernmental Panel on Climate Change website.

145 In particular, in 2022 the output of the photovoltaic plants of the investee company reached 92.8 MW. Added to the 7.8 MW of Acea Production, total installed capacity stood at 100.6 MW.

146 In 2022, along with Acea Ato 2, Areti, Acea Produzione and Acea Ambiente, the companies Acea Ato 5, AdF, Gori and Gesesa took part in the TCFS project.

### THE 2022 ACEA PROJECT ON THE TCFD APPROACH

Acea, which has long been aware of the global challenge of climate action through to its experience with CDP, has aimed to expand its knowledge of the **application of international climate scenarios** through the development of **two consecutive projects**, most recently in 2022, on the application of the approach recommended by the Task Force on Climate-related financial Disclosures (TCFD). The **11 Recommendations** issued by the TCFD **on Climate-Related Financial Disclosures** represent the benchmark model at international and EU level. They are **applicable to all organisations**, are **focused on risks** and **opportunities** connected to climate change and increasing the capacity for a panorama based on **precise analyses of scenarios**. The scope of the **2022 project** was extended to include the **main Group companies** operating in the water, energy production, energy distribution, and waste treatment and recovery sectors in the process to **identify physical risks and the necessary transition**.

The project also involved **certain key departments of the Parent Company**, particularly in the process to **prioritise the identified risks**.

Once the **priority risks** to be evaluated and compared with the more representative scenarios and parameters were identified, the in-depth analysis began. For most Companies involved, the risk of drought and water stress was identified as one of the critical **physical risks**. Other risks analysed included extreme precipitation and flooding (Acea Produzione, Areti and Gori), heat waves (Areti) and, during the first project, the risk of lightning strikes (Acea Ambiente and Acea Produzione). In terms of **transition risks**, carbon pricing was identified as the most representative risk by most of the Companies involved.

The outcome of the analyses, finalised at the end of the year, will be incorporated into Acea's climate-related disclosure, updating the first edition on FY 2021 published in 2022.

## ENVIRONMENTAL MANAGEMENT

The majority of Group Companies have implemented **Integrated Management Systems** certified in accordance with standard UNI EN ISO (see info. box *Corporate Identity* in the chapter*Corporate governance and management systems*). The Parent Company has adopted an **Integrated Management System with Quality, Environment, Safety and Energy systems** that facilitates environmental *compliance* and a **Management and Sustainability Systems Policy** aimed at promoting the respect and protection of the environment, also in line with the main principles of the *Code of Ethics*, and updated in 2022.

The UNI EN ISO 14001:2015 **Environmental Management System** offers greater capacity to identify and manage the impacts that the Company has or could have on the **environment** by promoting compliance with the regulations in force.

Some Group plants are subject to an **Environmental Impact Assessment** (**EIA**) under Art. 28 of Italian Legislative Decree 152/2006, as amended, with the aim of ensuring that "human activity is compatible with the conditions for sustainable development, i.e., constructed and operated in line with the regenerative capacity of ecosystems and resources, the preservation of biodiversity and a fair distribution of the benefits of economic activity"[147]. Furthermore, all sites subject to EIA or IEA (Integrated Environmental Assessment) are required to adopt an **Environmental Monitoring Plan** (**EMP**) containing the set of measures used to assess the actual impact on the work on various environmental components (water, air, soil, fauna, flora, etc.). In the water sector, projects that are usually subject to EIA are aqueducts and treatment plants with a treatment capacity of over 10,000 population equivalent.

Some plants in the Environment sector may also be subject to EIA/IEA such as, for example, the Orvieto hub, and the waste-to-energy plants in Terni and San Vittore del Lazio. The waste-to-energy plants have also adopted the **Eco-Management and Audit Scheme** (EMAS), an instrument used to evaluate and improve environmental performance and report it to stakeholders.

The Group's operating companies are committed to ensuring the continued efficiency of the Environmental Management System through the correct management of impacts and regulatory compliance. This commitment, however, does not prevent the emergence of situations, usually caused by contingent circumstances, that may lead to cases of **non-compliance** that can be challenged by the competent control bodies and authorities (see the box on Investigations, Awards and Sanctions in the *Institutions and the Company* chapter). During the year the companies included within the scope of the NFS received **approximately 60 environmental fines**, with the consequent payment of **approximately € 272,500**[148]. An additional 56 **environmental disputes** are currently being settled.

Environmental problems of greater significance are forwarded to the Units responsible, which establish the facts reported and request the necessary action, as well as providing feedback to the Bodies involved. Exceptionally, it may happen that the Company receives significant reports from individual persons; in this case they will be checked and, where needed, it will intervene to resolve them.

In the electricity distribution sector, Areti may receive comments concerning alleged environmental damage to buildings that house electrical installations. However, this concerns **installations indispensable for the correct exercise of the electricity distribution network**, created by the Company following **authorisations granted by Bodies which are custodians of the land** and therefore fully compliant with the legislation of reference, including both town planning and environmental legislation[149]. The Assets and Special Projects Unit, which protects the company's assets, receives the notes of dispute from the owners of the immoveable properties that host **transformer substations** or are adjacent to power lines, and subsequently the Areti Risk & Compliance and Safety Unit **carries out the instrumental checks** in response to the disputes. **In 2022 8 complaints were processed**, which have not yet been closed as the counterparties have submitted appropriate appeals to the relevant Courts.

147 Article 4, paragraph 3 of Legislative Decree 152/2006 on Environmental Regulations.

148 The data includes fines received in previous years but paid in 2022. With reference to Acque, Publiacqua and Umbra Acque, which are not included in the reporting boundary of the NFS, the fines paid were, respectively: €43,555; €58,500 and €150,000.

149 In this case, the environmental regulatory reference is D.P.C.M. of 8 July 2003.

# SAFEGUARDING OF LAND AND BIODIVERSITY

Areas connected to conservation and the promotion of biodiversity have an increasingly important role in the environmental agenda of leading international institutions. These are set out in the UN Sustainable Development Goals (Agenda 2030) and, taking into account the European Green Deal, focus on on the main causes of biodiversity loss, including land use, habitat fragmentation, exploitation of natural resources and pollution. The European Union, which in 2020 published the EU Biodiversity Strategy for 2030 (COM (2020) 380 final), aims to define binding targets to restore damaged ecosystems, improve the condition of habitats and protected species, reduce pollution and promote the "greening" of urban environments. Furthermore, Regulation 2020/852 (the "European Taxonomy") lists the "*Protection and restoration of biodiversity and ecosystems*" among its six key environmental objectives (see *Communicating Sustainability: Methodological Note*).

## BIODIVERSITY CRISIS: POLICIES AND TOOLS FOR BIODIVERSITY PROTECTION

Growing biodiversity loss and the progressive reduction of natural areas were addressed at the 15th **Conference of the Parties on Biological Diversity (COP15)**, held in Montreal from 7 to 19 December 2022. During COP15 the **Kunming-Montreal Global Biodiversity Framework - GBF** was adopted, an agreement that establishes **four macro-objectives and 23 targets to be achieved by 2030** to halt and reverse biodiversity loss. None of the 20 objectives defined previously by the Global Strategic Plan for Biodiversity 2011–2020, also known as the Aichi Biodiversity Targets, were fully achieved. The implementation of the GBF provides for the following by 2030: the protection of 30% of the Earth's land and water (mainly through regulated systems of protected areas), the restoration of 30% of degraded ecosystems, the recognition and respect of the rights of local and indigenous communities, and the reduction of the risk from pesticides by at least 50%. The GBF also enshrined the commitment of developed countries to allocate $20 billion per year from 2025 and $30 billion from 2030 in aid to developing countries and small island states. As a result, all 196 signatory countries were requested to update or, where not already defined, prepare **National Biodiversity Plans and Strategies**.
The aims established at COP15 are in line with the EU proposals issued in June 2022. In the context of the European Green Deal and the **EU Biodiversity Strategy for 2030**, the European Commission has proposed the so-called **Nature Package**, containing the **Nature Restoration Law**. This is the first European law that explicitly aims to restore nature by setting binding targets for Member States. The restoration of ecosystems, habitats and species will help to increase biodiversity, strengthen nature's resilience, contribute to the achievement of the European climate change mitigation and adaptation goals, and meet international commitments. The proposed law provides for the restoration of at least 20% of all land and ocean in the EU. Specifically, in order to combine the restoration of biodiversity with climate action, the law identifies ecosystems with the greatest potential for storing carbon and preventing and reducing the impact of extreme events as priority areas for intervention.
In line with European guidelines, Italy, which has the highest rate of biodiversity in Europe but with a mostly critical conservation status of protected species and habitats, introduced in 2022 "the protection of the environment, biodiversity and ecosystems" into the **fundamental principles of Article 9 of its Constitutional Charter**[150]. Furthermore, the **National Forestry Strategy to Protect Biodiversity** and the **National Biodiversity Strategy (NBS) for 2030** were approved. The former is a strategic tool to outline the forestry policies and plans, while the latter, which confirms the vision to 2050 of the previous NBS 2020, identifies two strategic objectives for terrestrial and marine environments: the construction of a network of protection areas and the restoration of ecosystems. This is structured into eight specific objectives, including deliver a 50% reduction in the number of national Red List species threatened by invasive alien species by 2030, and protect at least 30% of terrestrial environments and 30% of marine environments through an integrated system of protected areas, Natura 2000 and other legally protected areas.

Acea Group Companies conduct activities that could **potentially** have **impacts on biodiversity**, such as the integrated cycle of waste, operation of power generation plants, management of water sources and treatment plants and the distribution of electricity. On this basis, Acea focuses closely on **safeguarding the ecosystems in areas where it operates**, as defined in the procedures of the **Environmental Management Systems**, which pursue continuous improvement with a view to reducing environmental impacts, in the context of assessments for the **planning and creation of plants**, as well as **management** of operational areas. The Companies manage processes in compliance with the environmental authorisations issued to each plant.

The environmental provisions contained in the authorisations issued by the competent administrative authority are established on the basis of technical and environmental assessments considering the area surrounding each plant, to **safeguard the flora and fauna** present and **protect the natural environment**, in line with sector-specific BATs or BEMPs[151] where applicable.

Specifically, the activities involved in the **Integrated Water Service** are aimed at the **maintenance of optimal environmental conditions** and sites where water is drawn, near to springs, are managed with attention to the **conservation of existing ecosystems and the preservation of the water flow**.

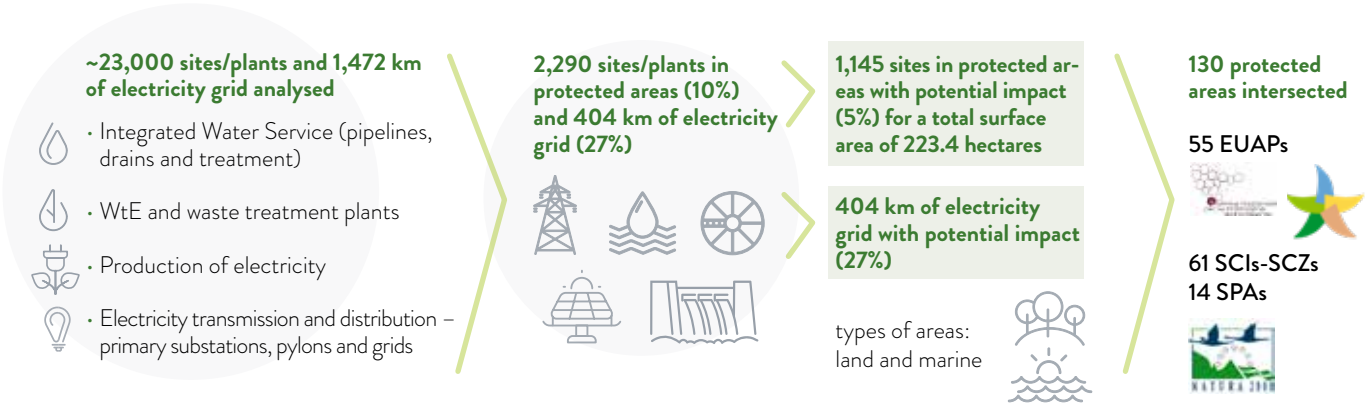
150 The Constitutional law also regulates the methods and types of protections for wildlife and specifies that private economic activity may not occur in a way that harms human health and the environment.

151 BATs (Best Available Techniques) refer to the best technical, management and control solutions able to guarantee a high level of environmental protection, while BEMPs refer to Best Environmental Management Practices.

Likewise, with **treatment activities**, the primary goal is that **discharges**, after appropriate treatment, comply with the limits established by regulations in the sector and are therefore **compatible with the natural habitats of the receiving bodies of water**. In implementation of this commitment, targets have been established for **improved treatment efficiency** for certain Water Companies (see the paragraph *Strategy and sustainability, The 2020-2024 Sustainability Plan and operational goals*).
For **hydroelectric power stations**, **Acea Produzione** manages withdrawals and inputs of water in compliance with the Concessions issued by the competent authorities and with applicable regulations. **Management Projects** have been prepared for **all reservoirs**, with the relative impact studies for those in protected areas, with the goal of maintaining reservoir capacity and protecting the water quality of the reservoir and the receiving body of water, as well as guaranteeing the correct operation of discharge systems and dams (Legislative Decree 152/2006 and Ministerial Decree of 30/06/2004). As regards waste-to-energy plants, **Acea Ambiente** manages atmospheric emissions in compliance with the operating authorisations issued by the competent authority and in accordance with the Air Quality Plan for the area in which the production activity is located (for more details, see the chapter on Emissions).
The company provides for the **protection of the habitats of all species present** in order to **mitigate the effect of the artificial barrier of the dams**, which interferes with the natural migration of fish and the gradual sedimentation of the riverbed, with consequent changes in the native flora of the banks. In addition, protection of the aforementioned basins ensures the living conditions of the "resident" and "migratory" birds, which use these sites for reproduction and feeding even during migration.
Other plants in the **energy sector**, which generate electricity using fossil fuels and waste-to-energy, **are incompatible with protected areas** and therefore **cannot be located within them**.

Acea has **identified those of its sites/plants located in areas with a high level of biodiversity or Protected Natural Areas (EUAP) recognised nationally and sites of the Natura 2000 Network** (SCIs, SCZs and SPAs)[152] established at European level, through **mapping of the infrastructure of the main operating companies** (Acea Ato 2, Acea Ato 5, Gori, Gesesa, AdF, Acea Ambiente, Acea Produzione and Areti)[153]. Analysis **conducted** in 2020[154] **on over 23,000 sites/plants**, including pylons but excluding underground electricity grids and pipelines, has shown that **2,290 sites**, corresponding to **approximately 10%, represent potential interference with biodiversity-rich areas**. Plants of the Environment Segment, carrying out waste-processing activity, are not located in the aforesaid areas. Considering, instead, **only the sites/plants which could have a significant impact on biodiversity, the number drops to 1,145** and the total percentage to **5%**.
**Significant impacts have been estimated** taking into consideration the **design, implementation and management phases of plants**, and therefore exclude sites/plants with minimal impacts, such as the Water Kiosks of Acea Ato 2, the secondary substations of Areti and the photovoltaic plants included considered as residential plants of Acea Produzione.
The analyses conducted on the **overhead electricity distribution network (1,472 km analysed)** showed interference with protected areas for approximately **27%**, corresponding to **404 km of network**.
The **total number of natural areas intersected by sites/plants/networks with a significant impact total 130** (55 EUAP, 61 SCIs/SCZs and 14 SPAs)[155] for a **total area of 223.4 hectares**.

**Chart no. 48 – Acea sites/plants analysed, with potential impacts on biodiversity and protected areas intersected**




**NOTE**: where SCIs/SCZs and SPAs coincide, they are only considered once under SCIs/SCZs.

In the areas affected, there are many **animal and plant species**, including some on the **International Union for Conservation of Nature (IUCN) Red List of Threatened Species** (in the categories "vulnerable", "endangered" and "critically endangered")[156], i.e. at risk of extinction in the short or medium term. These species therefore represent a conservation priority.

152 The Protected Natural Areas (EUAP) at national level are those areas recognised officially by the State pursuant to Framework Law 394/91. The Natura 2000 Network, established pursuant to "Habitat" Directive 92/43/EEC, is the main policy instrument of the European Union for the conservation of biodiversity. It is composed of Sites of Community Interest (SCIs) which are then designated as Special Conservation Zones (SCZs) and also includes the Special Protection Areas (SPAs) established by "Birds" Directive 2009/147/EC on the conservation of wild birds. The areas composing the Natura 2000 network are not reserves where human activities are excluded: the Directives intend to guarantee the protection of nature whilst also taking "account of economic, social and cultural requirements and regional and local characteristics".

153 Areas were mapped using QGIS, an open-source GIS application that enables viewing, organisation, analysis and presentation of spatial data, processing each layer of the sites/plants belonging to the Companies.

154 The analyses are based on infrastructure data of the main Group companies as at 2020. As of 2022, no significant changes had occurred.

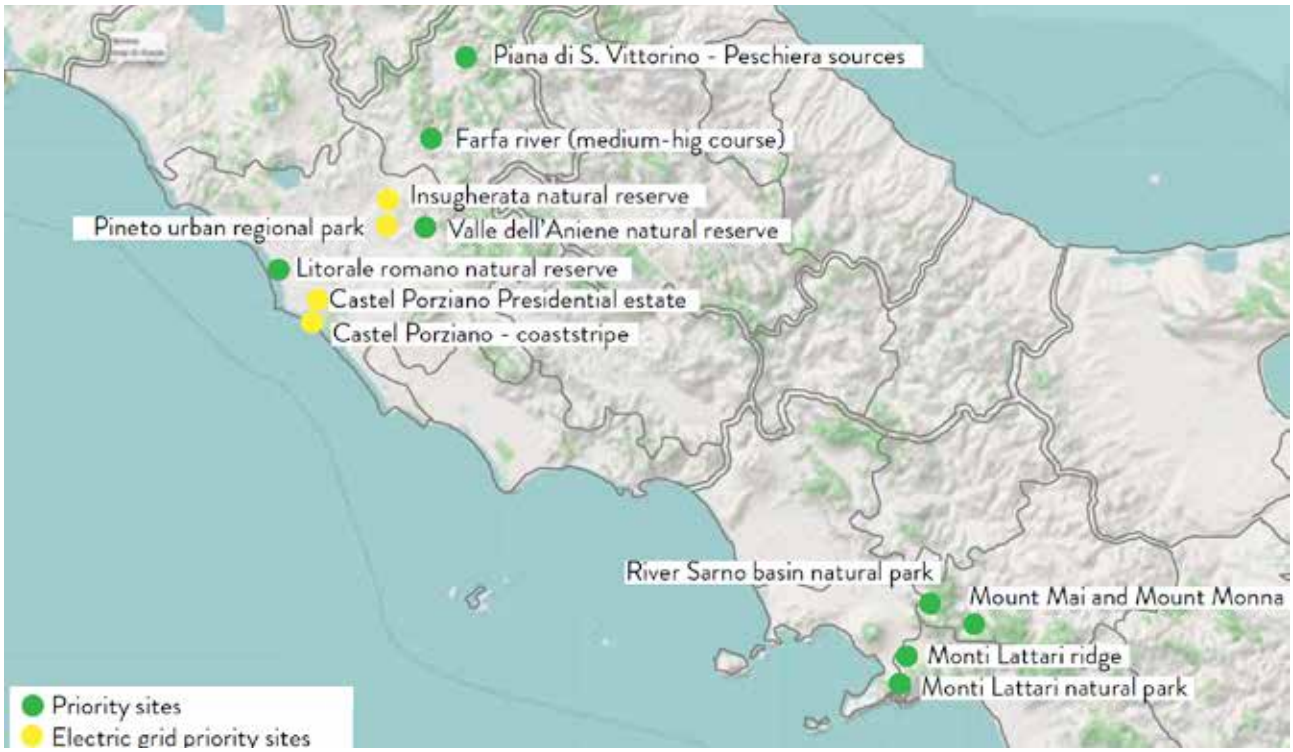
155 Where SCIs/SCZs and SPAs coincide, the areas are counted once amongst SCIs/SCZs.

156 There are 11 risk categories, from Extinct (EX), applied to species for which there is definitive evidence that the last individual example has died, and Extinct in the Wild (EW), assigned to species for which there are no longer natural populations but only individuals in captivity, through to the category Least Concern (LC), applied for species that are not at risk of extinction in the short or medium term. Between the categories of Extinct and Least Concern, there are the threatened categories, which identify species at progressive risk of extinction in the short or medium term: Vulnerable (VU), Endangered (EN) and Critically Endangered (CR).

**A total of 45 IUCN Red List species are potentially affected**. Specifically, there are **3 plant species** (1 critically endangered and 2 endangered) and **42 animal species**, of which 7 are critically endangered, 9 are endangered and 26 are considered vulnerable (see Chart no. 49 for details).

**Chart no. 49 – Number of species listed in the IUCN Red List with habitat in the protected areas intersected**

Following a **further in-depth study**, carried out in 2021 with the aim of identifying the **"priority" biodiversity-rich areas** impacted by the sites/plants/electricity grids of the Group's main companies, i.e., the most fragile habitats and/or those most impacted by external factors, **Acea developed an Environmental Fragility Index (EFI)**[157]**, a tool** designed to assess, for each protected area impacted, the different habitats included and the portion of land occupied, the fragility of the habitat and the type of sites/plants present[158]. This led to the identification of **12 biodiversity-rich zones** considered as **priority areas** due to their increased vulnerability. In **eight** of these — Monti Lattari regional natural park, Monti Lattari ridge, Piana di S. Vittorino - Peschiera sources, Valle dell'Aniene natural reserve, Farfa river (medium-high course), River Sarno basin regional natural park, Mount Mai and Mount Monna, Litorale romano natural reserve — **sites/plants** have potential impacts , while **four** may be affected by interference from **electricity distribution networks** (Pineto urban regional park, Castel Porziano -coaststripe, Castel Porziano - Presidential estate, Insugherata natural reserve).




157 The EFI is defined based on data provided by the *Carta della Natura*, a national IT system created by ISPRA (Italian Institute for Environmental Protection and Research), which is a cartographic and evaluation tool used to identify the distribution of Italian ecosystems across the country and analyse them based on their current state, considering physical, biotic and human factors.

158 For preparation of the EFI, the initial step was calculation of the relationship between the area of each habitat and that of the protected area containing it, generating a value for the portion of the protected site occupied by each habitat. This value was then multiplied by the fragility of the habitat as defined by ISPRA (Italian Institute for Environmental Protection and Research). Following this, all of the environmental fragility values of the habitats present in each protected area were added together. Having defined the EFI for each protected area intersected, this information was then cross-referenced with the individual Group plants with significant impacts located in the protected areas (plants identified as sites with potential impacts, from "low-medium to "high"). Finally, to identify the "priority" areas with high levels of biodiversity, the IFA was multiplied by the area intersected by the plants. The higher the value for the index, the higher the "priority" of the area.

Awareness of potential interference enables optimisation of operations and the Companies have planned and/or implemented **various actions to safeguard biodiversity**, some in "priority" areas with a high level of biodiversity, as summarised in the info box.

## THE MAIN PROJECTS IN "PRIORITY" AREAS WITH A HIGH LEVEL OF BIODIVERSITY

| "PRIORITY" AREAS WITH A HIGH LEVEL OF BIODIVERSITY | ACTIONS |
|---|---|
| **Piana di S. Vittorino - Peschiera sources**<br><br>**River Farfa (medium-high course)** | The two areas are affected by the **Peschiera-Le Capore aqueduct system managed by Acea Ato 2** on which works are in progress to double the upper section of the aqueduct. The project was defined to meet the requirements of the **Envision protocol**, the first rating system for sustainable infrastructure, which evaluates the economic, environmental and social sustainability of infrastructure and includes specific evaluation criteria linked to biodiversity, such as the preservation of sites of high ecological value. In the river Farfa area, the Company has engaged the University of Naples Federico II for preparation of a technical and scientific study into the natural characteristics of the Farfa river that includes the collection site of the Le Capore spring. The study highlighted how the release of water downstream of the Le Capore springs has benefits on the ecosystem, supporting restoration of the natural river environment with its rich diversity of animal and plant species. The River Farfa is also subject to an agreement between Acea Ato 2 and the Nazzano regional natural reserve, Tevere-Farfa, with the aim of monitoring the evolution of the river ecosystem within the protected area. |
| **River Sarno basin regional natural park** | **Gori** is working on **important works to resolve pollution of the river Sarno hydrographic basin** through completion of the sewerage system and consequent collection and treatment. The project, carried out in synergy with various local players, also involves **the Marevivo Onlus environmental association** and will have significant impacts on recovery of the river ecosystem and, consequently on the entire Gulf of Naples. |
| **Valle dell'Aniene natural reserve**<br><br>**Litorale Romano natural reserve** | To check for any critical issues in the habitats surrounding the **major treatment plants** in Rome, **Acea Ato 2** has conducted special monitoring of **areas it is responsible for and the surroundings**. Previous studies have focused on the treatment plants in Roma Nord, Roma Sud and CoBIS Ostia, located within the **Litorale romano natural reserve**, while in 2022, the Roma Est treatment plant, located in the **Valle dell'Aniene natural reserve**, was evaluated**.** The results achieved so far have demonstrated that the plants analysed **have a positive effect** on the ecosystem, constituting **synanthropic biodiversity hotspots**, i.e. places where species that coexist or are learning to coexist with humans, tending to form a rich and stable ecological community. Indeed, the specific environmental conditions and the low impact of man-made structures facilitates the presence of an extremely particular wildlife community. Similar monitoring is planned for 2023 at the Fregene treatment plant also located in the **Litorale romano natural reserve**.<br>In the **Litorale romano natural reserve** protected area, Areti is pursuing a project to **decommission and demolish electricity power lines and pylons**, and has installed nests boxes on various substations to **protect birdlife**. |

The initiatives launched by the Companies also involved other others, again of particular natural interest, although not classified as "priority" areas.
In order to limit the **potential impacts** of overhead infrastructure for the **distribution of HV and MV electricity on birds, Areti employs risk mitigation initiatives** in collaboration with the relevant authorities, making use of the best technological solutions for problems that are likely to occur in sensitive areas or areas of particular naturalistic value. Specifically, in compliance with the *Memorandum of Understanding for restructuring the electricity grid*, works continue to **decommission and demolish overhead power lines** within **important protected areas**, including Veio natural park, Marcigliana natural reserve and, south of Rome, Decima Malafede natural reserve, (as well as in the priority area of Litorale romano natural reserve). For details of the works performed in 2022, see the section *Energy distribution* in the chapter *Energy Segment*. The electricity distribution company and the Park Authority of **Veio natural park signed a pledge of commitment** under which the Company guarantees financial and operational support to launch **a plan** for **monitoring birdlife** by installing **bird-deterrent devices** on earth cables of overhead lines, composed of plastic spirals that make the cables more visible, significantly reducing the risk of bird collision. Furthermore, in 2022, Areti supported the **Ornis Italica** project to protect **barn owls** (see the box on "Nesting of Barn Owls on Areti Sites"), while Acea Ato 2 continued its work conducted in previous years to monitor the presence of **peregrine falcons** (included on the Red List under the "Least Concern" category) at the SCI-SCZ site of **Villa Borghese and Villa Pamphili**, in a specific area around the **Acqua Vergine Springs**. As always, a community of scholars, ornithologists and enthusiasts had the opportunity to follow the lives of the birds of prey that live among the Acqua Vergine springs, **thanks to a webcam managed by Ornis Italica**, an association of researchers promoting the Birdcam.it project, which broadcasts images of a nest situated on Acea infrastructure (www.birdcam.it). The project was a great success in 2022, with the birth and development of peregrine falcon chicks.
**Acea Ato 2** carried out monitoring to assess the hydrological system of the **River Mignone**, with the aim of promoting the sustainable management of water withdrawals and water resources and preserving the balance of natural ecosystems. This project was conducted in collaboration with the Park Authority of the **Canale Monterano natural reserve** in which the plant is located.

In 2022, **AdF signed two river contracts** for the **Pecora and Pesa river basins**, with the aim of developing proposals, formulated jointly by the various stakeholders, on regional and environmental development topics which will help to reduce impacts on the ecosystems of the two water basins.
In 2020, as a tool to monitor **ecosystem quality** in areas where its plants are located, **Acea Ambiente** developed the "**UrBees**" project, in collaboration with bee-keeping experts and the Sacro Cuore Catholic University, aimed at environmental monitoring by observing the **behaviour of bees, as bioindicator insects**, at the San Vittore del Lazio (FR) waste-to-energy plant. Biomonitoring is a tool for environmental control that allows the **effects of pollution to be identified**, observing living organisms and their biological parameters through the study of ecological changes due to the effects of one or more polluting substances present in the biosphere. Honeybees, in particular, are one of the best "sentinel species". They support plant biodiversity and enable determination of **qualitative and quantitative data regarding the health or lack thereof of a specific ecosystem, along with mapping of an area's biodiversity**. The observations made have highlighted **the overall good health of the bees and the absence of instances of unexpected illnesses or depopulation**. In 2022, the countless flights made by the bees produced 90 kg of honey from three different blends of botanical species: Honey 40 flowers, Honey 35 flowers and Honey 36 flowers. The analysis of the samples of honey produced revealed a total of 83 different species of plant, **pointing towards high floral biodiversity**.

## NESTING OF BARN OWLS ON ARETI SITES

In 2022, Areti launched a partnership with the nature organisation **Ornis Italica**, a scientific non-profit association of biologists and natural scientists that aims to develop scientific knowledge on the behavioural ecology of birds and wildlife. Specifically, the Company took action to protect a specific species of bird, the **barn owl** (included on the IUCN Red List under the category "Least Concern"), whose habitat coincides with the Areti's areas of operation, and identified potential sites to install nest boxes to **promote their breeding**.
The collaboration led to the installation of **30 nest boxes on electricity substations**, some of which are located in **biodiversity-rich areas**, such as the **Litorale romano natural reserve and the Marcigliana natural reserve** protected areas.

During the first phase of monitoring, it emerged that **4 of the 30 nests installed were occupied by barn owls** and also by **little owls** and **kestrels** (also on the Red List in the "Least Concern" category). According to Ornis Italica, this is an excellent result, particularly given the short period of time between installation and nesting.

## MANAGEMENT OF WATER RESOURCES, SPRINGS AND PROTECTED AREAS

Through the companies **Acea Ato 2, Acea Ato 5, Gori and Gesesa,** the Group mainly uses springs located in uncontaminated areas for water supply.

**The supply system** of the area managed by Acea Ato 2 is composed of **seven aqueduct systems** that transport water from **14 main sources to the distribution networks** and from numerous smaller local sources (mainly wells), for a total **flow that exceeds 21,000 litres/second**. The drinking water aqueduct and distribution network extends for more than **15,700 km**[159].

In addition to this priceless natural resource, following upgrading works on the Grottarossa drinking water plant, Lake Bracciano, and the river Tiber also represent water reserves, after appropriate treatment, to be used only in the event of water emergencies.

159 The value is higher than that added in chart no. 54, which features a geo-referenced value.

## EVALUATION OF THE GROUNDWATER AVAILABILITY

In accordance with that established by the criteria of the Water Framework Directive (WFD, 2000/60/CE), investigation of the availability, in quantitative terms, of potential groundwater resources and the possible impacts associated with the withdrawal of water resources from springs can be performed by monitoring certain variables through implementation of appropriate interpretive models.
The main aspects to monitor can be identified as precipitation (rain and snow), evapotranspiration, surface run-off and infiltration into the soil in the area where the balance is assessed. For the refilling areas representative of the aquifers managed by **Acea Ato 2**, a continuous calculation methodology was implemented (from 1990 to today), for quantification of the components of the hydrological balance at a daily level. This method, re-proposed by Acea Ato 2 according to the national guidelines (Technical criteria for analysis of quantitative status and monitoring of groundwater stores ISPRA 157/2017), is considered a **valid tool to monitor the quantity of groundwater stores**.
**Acea Ato 5** has continued a study on water availability on certain important sources. Analysis of precipitation and withdrawals has been performed for the years 2017-2022. In particular, in 2022, there was a **significant reduction in precipitation** for almost the entire year and, as noted above, rainfall patterns are a primary factor in refilling springs. Thanks to the method used in the study, it was possible to predict the reduced availability. A report is prepared on a periodic basis that, based on the patterns observed and comparing the availability scenarios of previous years, formulates hypotheses on water availability for the summer period. The document is presented by the Company at the periodic meetings convened by the Permanent Observatory on the Use of Water Resources of the Lazio Region. **AdF** constantly monitors the volume of water withdrawals using data provided continuously by remote-control gauges or data taken in the field by operating personnel and sent by tablet to the company management system. The data received from the two channels flow into a single system which is used to monitor the water districts to direct leak detection activities, and to monitor the water balance and the relative technical quality indicators (M1a and M1b). On the basis of this monitoring, three-monthly updating is also carried out on a document shared with the Tuscan Water Authority regarding possible water-emergency status, with indication of critical issues involving "drought" (lack of resources) and management or infrastructural actions planned to handle such issues. Monitoring dashboards created to enable the real time assessment of the qualitative and quantitative characteristics of supply sources have proved particularly useful for monitoring the situation of the water crisis declared in summer 2022 in terms of resource use planning and for reporting and communication purposes

In the Municipalities that fall within OTA 5 Lazio Meridionale - Frosinone, **Acea Ato 5** manages **80 sources**, **75 of which are active**, with 41 wells/well fields and 34 springs. In addition to these sources, the Company purchases/sells water through exchange points with other operators and with a Municipality in a neighbouring area. From the sources, the water is transported to the Municipalities through a supply network, which follows a complex distribution network beginning with tanks and dividing elements before reaching all users served, and totalling **6,181 km**.
**Gesesa**, which operates in District 1 *Calore Irpino* in the Campania Region, for the supply of drinking water, manages approximately **2,093 km** of network, springs, primarily seasonal, and collects the majority of the water utilizing groundwater wells. There are three large collection systems: the Benevento plain, constituted of the well of Pezzapiana, a well located at the aquifers of Monte Taburno and a well located near to the Grassano spring.
**AdF**, which operates in Optimal Territorial Conference no. 6 "Ombrone" (ex OTA 6), manages the drinking water system through a network that stretches approximately **8,360 km**. Almost 50% of the water is drawn from the **Fiora springs** located on the slopes of Monte Amiata, while in the Siena area, the most significant systems are the Luco well field and the Vivo aqueduct, which takes water from the three springs of Amiata Ermicciolo, Ente and Burlana, located in the Vivo d'Orcia area.
The water system managed by **Gori** in the **Sarnese Vesuviano** territorial district has three main subsystems: Vesuviano, Monti Lattari and Ausino. The Vesuviano System is the most extensive of the three and arises from the functional integration of the Sarno aqueduct and the Vesuviano aqueduct, in turn interconnected with external elements of the Campano aqueduct, the West Campania aqueduct and the Serino aqueduct. This is responsible for supplying the majority of the OTA 3 municipalities. The Monti Lattari System serves the territory of the Sorrento Peninsula, the Island of Capri and the Stabiese plain. Finally, the Ausino System, represents the supply framework for the municipalities of the OTA that occupy the eastern edge of the territory. The water drawn from endogenic sources represents approximately one third of the total, while the remainder originates from systems outside the OTA.

All of the Companies guarantee operation and correct maintenance of collection infrastructure, primary and secondary water plants, supply systems and distribution networks and user meters. Extraordinary maintenance is also performed (renovation, upgrading and/or expansion of plants and networks).
In 2022 Acea Ato 2 continued to develop the programme of works under the "**Safeguarding and modernisation of the Peschiera water system**" project (Annex 4, Art. 44, Decree Law 77/21, converted with amendments into Law 108/21). As of 2021, these works have been conducted under the authority of the Extraordinary Commissioner. In particular, the Technical Economic Feasibility Studies, produced according to the Guidelines established by Art. 48 of Decree Law 77/21, were completed and, in December 2022, authorisation and tender procedures were launched for four sub-projects to develop hydraulic works, partly financed by the NRRP (see the section Quality in the water area in the Customers and Community chapter).
The location and surface area of the **fully protected areas**[160] are shown in Table no. 50. Please note that the sources illustrated are all drawn in "areas under water stress" as defined at international level[161] by the World Resources Institute. The water drawn is freshwater[162], apart from 1.3% of the amount drawn by AdF, corresponding to approximately 0.8 million cubic metres, from marine sources. The amounts drawn by the Companies from the springs listed are indicated in the *Environmental Accounts*.

160 The areas of absolute protection are the areas immediately surrounding the catchments or off-springs, as defined in Legislative Decree no. 152/2006.

161 https://www.wri.org/aqueduct.

162 Water with total dissolved solids ≤ 1,000 mg/l.

To protect **areas where springs are located**, Acea Ato 2 also employs **satellite monitoring**. Surveillance is concentrated in the places showing – on the basis of the comparison between two images taken from space at a distance of several months – an **unjustified or suspect morphological variation**, such as new, unsurveyed constructions, earth movements, small landfills. The Company performs checks on site to identify any threats to water resources, ensuring **precise monitoring**. In fact, in 2022, **thanks to the use of a satellite to perform change detection** and additional inspections carried out along the supply and collection network, **63 violations were identified**.

**Table no. 50 – The principal sources under protection**

| sensitive area | municipality | area ($m^2$) (*) |
|---|---|---|
| **IN OTA 2 – CENTRAL LAZIO**[163] | | |
| Peschiera springs | municipality of Cittaducale (Rieti, Lazio) | 187,289 |
| Le Capore springs | municipality of Frasso and Casaprota (Rieti, Lazio) | 618,273 |
| Acqua Marcia spring | municipalities of Agosta-Arsoli-Marano Equo (Rome) | 818,457 |
| Acquoria spring | municipality of Tivoli (Rome) | 8,862 |
| Pantano Borghese Acqua Felice springs | municipality of Zagarolo (Rome) | 392,123 |
| Simbrivio springs | municipality of Vallepietra (Rome) | 190,624 |
| Ceraso springs and wells (Simbrivio aqueduct) | municipality of Vallepietra (Rome) | 9,072 |
| Pertuso springs | municipality of Trevi – Filettino (Lazio) | 66,853 |
| Doganella springs | municipality of Rocca Priora (Rome) | 137,873 |
| Acqua Vergine springs | municipality of Rome | 220,566 |
| Torre Angela wells | municipality of Rome | 49,897 |
| Finocchio wells | municipality of Rome | 32,197 |
| Laurentina wells | municipality of Ardea | 7,650 |
| Pescarella wells | municipality of Ardea | 2,472 |
| Lake Bracciano | municipality of Rome | 1,038 |
| supply works on the Tevere River by the Grottarossa water treatment plant | municipality of Rome | 1,769 |
| supply works on the Mignone River by the Lasco del Falegname river crossing | municipality of Canale Monterano | 2,000 |
| other supply sources (minor springs and other well fields) | various municipalities in OTA 2 | 80,000 |
| **IN OTA 5 – SOUTHERN LAZIO** | | |
| Posta Fibreno wells | municipality of Posta Fibreno (Frosinone) | 20,000 |
| Tufano wells | municipality of Anagni (Frosinone) | 18,000 |
| Capofiume spring | municipality of Collepardo (Frosinone) | 10,000 |
| Madonna di Canneto spring | municipality of Settefrati (Frosinone) | 10,000 |
| Forma d'Aquino wells | municipality of Castrocielo (Frosinone) | 20,000 |
| Carpello wells | municipality of Campoli Appennino (Frosinone) | 15,000 |
| Mola dei Frati wells | municipality of Frosinone | 5,000 |
| **IN THE PROVINCE OF BENEVENTO – OTA – CALORE IRPINO** | | |
| 18 wells | municipalities of Benevento, Telese Terme, Castelpagano, Vitulano, Melizzano, Sant'Agata de' Goti, Cautano | 9,110 |
| Ciesco spring | Castelpoto | 307 |
| Faitillo and Orto dei Ciuffi spring | San Giorgio La Molara | 2,412 |
| Gradola spring | Tocco Caudio | 707 |
| Monticelli spring | Castelpagano | 358 |
| Pietrafitta and Ruggiero spring | Torrecuso | 2,242 |
| San Vito spring | Frasso Telesino | 249 |
| Voneventa spring | Molinara | 516 |

163 Compared to the previous version of the document, the data on fully protected areas have been restated following the progressive conclusion of ongoing studies to outline the protected areas.

| | | |
|---|---|---|
| **IN THE SARNESE VESUVIANO DISTRICT** | | |
| Vado spring | municipality of Bracigliano (Salerno) | 1,338 |
| Forma spring | municipality of Gragnano (Naples) | 322 |
| Imbuto spring | municipality of Gragnano (Naples) | 187,159 |
| S.M. Lavorate spring | municipality of Nocera Inferiore (Salerno) | 5,971 |
| S.M. La Foce spring and well field | municipality of Sarno (Salerno) | 60,202 |
| Fontana Grande source | municipality of Castellammare di Stabia (Naples) | 330 |
| centres of Murata, Pugliana, Casaliciello, Santa Lucia and Tartaglia | municipalities of Cercola, Ercolano, Pollena Trocchia, Roccarainola and San Giorgio a Cremano (Naples) | 15,473 |
| centre of Monte Taccaro and Angri well field | municipality of Angri (Salerno) | 43,072 |
| well field of Suppezza, Gragnano, San Mauro Montalbino, Mercato Palazzo and Santa Lucia | municipalities of Castellammare di Stabia, Gragnano, Nocera Inferiore and Sarno (Salerno) | 46,610 |
| wells of Traiano, Stromboli-Vesuvio and Petraro | municipalities of Castel San Giorgio, Mercato San Severino and Nocera Superiore (Salerno) | 7,203 |
| 21 wells in the province of Salerno | municipalities of Bracigliano, Castel San Giorgio, Corbara, Fisciano, Mercato San Severino, Nocera Inferiore, Nocera Superiore, Pagani and Siano (Salerno) | 10,657 |
| 4 wells in the province of Naples | municipalities of Castellammare di Stabia, Palma Campania, Roccarainol and San Giorgio a Cremano (Naples) | 1,529 |
| **IN OPTIMAL TERRITORIAL CONFERENCE NO. 6 "OMBRONE"** | | |
| Spring of Galleria Alta – Galleria Bassa – Fonte Carolina | municipality of Santa Fiora (Grosseto) | 37,046 |
| Ermicciolo Spring | municipality of Castiglione d'Orcia (Siena) | 3,885 |
| Arbure Spring | municipality of Castel del Piano (Grosseto) | 7,443 |
| Ente Spring | municipality of Arcidosso (Grosseto) | 327 |
| Burlana Spring | municipality of Seggiano (Grosseto) | 2,442 |
| Luco well field | municipality of Sovicille (Siena) | 10,063 |

(*) The surface area data is estimated.

# ENERGY SEGMENT

## SCOPE

The chapter *Energy Segment* includes Acea Produzione, Areti, the Acea Ambiente, Deco and Ecogena energy production plants (Ecogena is only included for data on energy produced and Energy Efficiency Certificates). Waste-to-energy activities are also described in the chapter *Environment Segment*.

**842 GWh**
energy produced
(**941 GWh** including the PV plants not included in the NFS reporting scope)

**64%**
energy produced from renewable sources
(**68%** including the PV plants not included in the NFS reporting scope)

approximately **169,500 t** of **$CO_2$** saved thanks to **electricity produced** from **renewable sources** instead of conventional sources (200,300 t $CO_2$ including the production of the PV plants not included in the NFS reporting scope)

The Group, which operates in the **generation** of electricity and thermal energy, in the **distribution** of electricity in Rome and Formello, including management of public lighting, and in the **sale** of electricity, heating and gas, **manages the entire chain of production and supply** through the operations of separate independent Companies, as required by electricity-market regulations.
To improve the **management of distribution infrastructure**, Acea implements hi-tech innovative solutions — remote control, IoT and smart grids — enabling **increased resilience**. The increased flexibility of the grid also responds to the trend of increasing numbers of **prosumers** connected (see also chapters *Customers and the community* and *Institutions and the Company*).

## ENERGY PRODUCTION: FOSSIL AND RENEWABLE ENERGY SOURCES

### GROUP PLANTS

Through **Acea Produzione** and **Acea Ambiente**, the Group **generates electricity** primarily from renewable sources. **The majority of production is provided by hydroelectric plants** and **another significant portion**, also partially renewable, **from waste-to-energy plants utilising paper-mill waste** and **Solid Recovered Fuel** (SRF).
Acea also launched a **major programme to increase its activities in the photovoltaic sector**, in line with the 2020-2024 Business Plan, which plans for an installed capacity of around 750 MW through acquisitions and the construction of new plants. As of March 2022, this aim has been supported by a financial transaction under which Acea transfers its existing photovoltaic assets — which are either already in operation or in the process of being connected to the grid — to a Company of which Acea Produzione is a minority shareholder[164], while **retaining control of the management of the plants**, and has signed agreements aimed to **purchase the renewable energy produced** by the plants.

Lastly, Acea Produzione has generation plants from fossil fuel (thermoelectric) – the latter mainly through the **high-efficiency cogeneration plant** of the Tor di Valle plant, which had greater availability during the year..
The power park includes:

- **7 hydroelectric power stations** located in the Lazio and Abruzzo regions for a total of **122 MW**;
- **2 thermoelectric power stations** located within the Municipality of Rome area: Montemartini (78.3 MW)[165] and Tor Di Valle (28.5 MW), for **106.8 MWe total available installed capacity**;
- a **photovoltaic park** for a total of **7.8 MW**[166] (total capacity, including the plants owned by the investee company and not consolidated on a line-by-line basis, is **100.6 MW**).

The generation of energy from waste-to-energy processing is managed by **Acea Ambiente**, taking place at **two plants** located in San Vittore del Lazio and Terni, and both with percentages of **biodegradable** material (renewable source) varying between 40% and 50%. The total gross electrical power currently available is approximately **58 MWe**.
In addition, the Environment Segment produces electricity using **biogas** derived from the anaerobic digestion process at the Orvieto Technology Hub, the sites managed by Deco and the composting plants of Aprilia and Monterotondo Marittimo.
The Company **Ecogena**, certified as an ESCo (Energy Services Company) in accordance with UNI CEI 11352:2014, **develops the energy efficiency initiatives for the Group** and reports their results to Gestore dei Servizi Energetici (GSE) for the awarding of Energy Efficiency Certificates (EEC).
The activities assigned to Ecogena include also the design and building of **cogeneration and trigeneration** plants[167] for the combined production of **electricity**, **heat and cooling energy**.
The total production capacity of the **cogeneration plants** managed by Ecogena, combined (or not) with **district heating networks**, amounts to a total electrical output of **1.9 MW**, located in areas across the Lazio region.

**Table no. 51 – Installed power of the electric power stations of Acea Produzione**

| hydroelectric power stations | thermoelectric power stations |
|---|---|
| A. Volta di Castel Madama (Rome) power station gross power **9.4 MW** | Tor di Valle power station: high-efficiency cogeneration (CAR) section (*) (Rome) methane fuel - gross power **28.5 MW** |
| G. Ferraris di Mandela (Rome) power station gross power **8.5 MW** | Montemartini power station (Rome) diesel fuel - gross power **78.3 MW** |
| Salisano power plant (Rieti) gross power **24.6 MW** | |
| G. Marconi di Orte power plant (Viterbo) gross power **20.0 MW** | |
| Sant'Angelo power plant (Chieti) gross power **58.4 MW** | |
| Cecchina power plant (Rome) gross power **0.4 MW** | |
| Madonna del Rosario power plant (Rome) gross power **0.4 MW** | |
| **general total: gross capacity 229 MW** | |

(*) The CAR plant in Tor di Valle provides district-heating service in the area south of Rome.

164 In particular, this refers to AE Sun Capital Srl, established in January 2022, and 40% owned by Acea Produzione and 60% by the investment fund Equitix Investment Management.

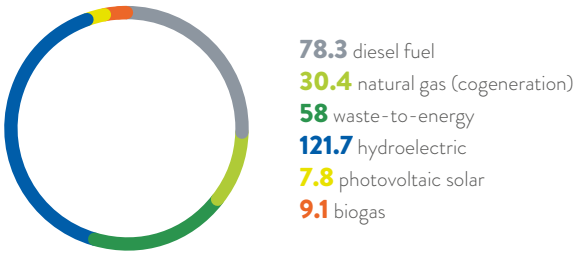
165 The power station is operational only in the event of extraordinary energy demand, and operation can also be managed remotely from the control room at the Tor di Valle Power Station.

166 Output of the Acea Produzione, Acea Solar, Acea Renewable and SF Island plants.

167 Cogeneration, i.e. the combined production of electrical and thermal energy, allows high efficiencies to be achieved, between 80 and 90%. Trigeneration, which is a special application of cogeneration, allows use of a part of the thermal energy recovered in order to produce cooling energy in the form of cooled water for air conditioning in rooms or for industrial processes.

**Installed capacity**, which totals[168] **around 305 MW** (398 MW including the Investee company not consolidated on a line-by-line basis), is represented in Chart no. 50, broken down by energy source.

**Chart no. 50 – Installed power of Companies included in the NFS divided by energy source (MW) (2022)**




## ELECTRICITY PRODUCED

**In 2022**, **total gross electricity production fell by 17%**, from 1,016 GWh in 2021[169] to **842 GWh in 2022** (941 GWh, including energy produced by the photovoltaic plants of the subsidiary not consolidated on a line-by-line basis).
The reduction is mainly due to the **lower rainfall** in the year, which impacted hydroelectric energy production (down 23%). **Biogas production increased by 16%**, partly due to the inclusion in the reporting scope of Deco (without this, the increase would have been 7%). For further details, see the *Environmental Accounts*.

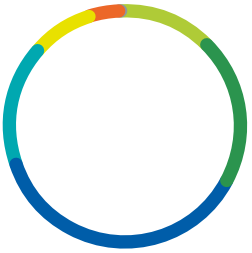
**Electricity generated from renewable sources**, amounting to approximately **538 GWh (636 GWh** including the photovoltaic plants of the subsidiary not consolidated on a line-by-line basis) represents the **majority** at **around 64%**[170], with the following contributions:

- 335.3 GWh from hydroelectric power,
- 152.6 GWh from waste-to-energy,
- 36.3 GWh from biogas (Orvieto, Deco[171], Aprilia and Monterotondo Marittimo waste management plants)
- 13.5 GWh from photovoltaic plants[172] (111.9 GWh including the plants of the subsidiary not consolidated on a line-by-line basis), see Chart no. 51 and Table no. 52.

After the completion of **upgrading and energy efficiency measures in 2022**, the **revamping of the Sant'Angelo power plant** was completed, with the goal of optimising the use of available water resources, with the same specifications in terms of installed power and authorised by concession.

A significant portion of the energy **from waste-to-energy production**, as already noted, is associated with the combustion of the **biodegradable fraction of waste** used as a primary source. In particular, the **renewable share of the fuel** (SRF) of the **San Vittore del Lazio plant** was **46.8%** of the total of waste-to-energy in 2022, while at the **Terni plant** this share was **40.8%**.

**Chart no. 51 – Electricity produced subdivided by primary energy source (TJ) (2022)**




**NOTE**: the values reported in the chart are expressed in TJ (1 GWh=3.6TJ).

**Table no. 52 – Electricity produced (by primary energy source) (2020-2022)**

| primary energy source | 2020 | 2021 | 2022 |
|---|---|---|---|
| | TJ (GWh) (*) | | |
| **ELECTRICITY PRODUCED (FOR PRIMARY ENERGY SOURCE)** | | | |
| diesel fuel | 5.4 (1.5) | 5.9 (1.6) | 7.9 (2.2) |
| natural gas (co-generation) | 362.5 (100.7) | 406.1 (112.8) | 425.1 (118.1) |
| *waste-to-energy* (approximately 55% of the total in 2022) | 716.8 (199.1) | 730.4 (202.9) | 664.2 (185.5) |
| **total thermoelectric** | **1,048.6 (291.3)** | **1,142.4 (317.3)** | **1,097.2 (304.8)** |
| hydroelectric | 1,354.7 (376.3) | 1,564.9 (434.7) | 1,207.1 (335.3) |
| *waste-to-energy* (approximately 45% of the total in 2022) | 529.3 (147.0) | 552.7 (153.5) | 549.3 (152.6) |
| biogas | 96.9 (26.9) | 113.0 (31.4) | 130.7 (36.3) |
| photovoltaic solar (**) | 269.9 (75.0) | 283.0 (78.6) | 48.6 (13.5) (***) |
| **total renewables** | **2,250.7 (625.2)** | **2,513.6 (698.2)** | **1,935.8 (537.7) (***)** |
| **general total** | **3,299.3 (916.5)** | **3,656.0 (1,015.6)** | **3,032.9 (842.5) (***)** |

(*) 1 GWh = 3.6 TJ.
(**) Photovoltaic energy includes the production at the plants located on sites of the water area (Acea Ato 2 and Acea Ato 5) and in Orvieto, for a total of 1.7 GWh produced. Natural gas includes production by Ecogena.
(***) Including the data from the photovoltaic plants of the subsidiary not consolidated on a line-by-line basis, the 2022 data would be solar photovoltaic 402.8 TJ (111.9 GWh), total renewables 2,290.0 TJ (636.1 GWh), overall total 3,387.1 TJ (940.9 GWh).

168 Total installed power includes the plants operated by Acea Produzione, Ecogena, Acea Ambiente (waste-to-energy plants and the Orvieto, Aprilia, Monterotondo Marittimo and Grasciano 2 plants) and Deco for the production of biogas.

169 The data for Ecogena, previously reported separately, is now included in the 2021 data.

170 68% if including the photovoltaic plants of the subsidiary not consolidated on a line-by-line basis.

171 The Deco plants, which joined Acea Ambiente in 2022, produced 2.7 GWh.

172 This does not include the energy produced by two photovoltaic plants operated by AdF and the Terni waste-to-energy plant, which produced 12.8 and 454.3 MWh respectively, mainly for self-consumption.

### THERMAL ENERGY PRODUCED

Total thermal energy produced in 2022 was **105.3 GWh**.
The **Tor di Valle** thermoelectric power plant generated **87.7 GWh of thermal energy**.
The heat generated was used to serve 40,794 residents in the area south of Rome (Mostacciano, Torrino and Mezzocammino) by means of a district-heating network which provides a volume equal to 3,668,967 cubic metres.
This thermal energy is supplemented by the **17.6 GWh** produced by the Ecogena plants in 2022.
For production data for the three-year period for Acea Produzione and Ecogena, see Products in the Energy section of the Environmental Report.

## ENERGY DISTRIBUTION

### THE DISTRIBUTION NETWORKS

management of the distribution grids in Rome and Formello: approximately
**32,200 km**

approximately
**10,000 GWh**
of electricity demand (Areti)

improves territorial protection (underground HV network/total HV network):
**49.3%** (47% in 2021)

Areti manages the **electricity distribution network** of Rome and Formello, covering **approximately 32,200 km** and capable of supplying over **2.8 million residents**. In terms of volumes of electricity distributed, about 9,400 GWh in 2022, Acea is the third largest Italian operator in the sector.
Table no. 53 presents the principal plant data of the Company, including the number of primary and secondary substations, the transformers[173] and the km of overhead and underground distribution lines.
**The environmental indicator** related to **protecting the land**, calculated as a percentage share of the **underground high-voltage** (HV) **network in relation to the total of the HV lines in use** (overhead and underground), **improved** thanks to the continuing transformation and modernisation of the high and extra-high-voltage electricity distribution grid, and stood at 49.3% in 2022 (47% in 2021).

**Table no. 53 – Number of plants and overhead and underground distribution lines (2020-2022)**

| Areti | | | | |
|---|---|---|---|---|
| **systems and output** | | | | |
| | **u. m.** | **2020** | **2021** | **2022** |
| High-Voltage/High-Voltage – HighVoltage/Medium-Voltage primary substations | no. | 70 | 70 | 70 |
| High-Voltage/High-Voltage and High-Voltage/Medium-Voltage transformers | no. | 171 | 170 | 169 |
| transformation power | MVA | 7,881 | 7,921 | 7,757 |
| substations in use | no. | 13,292 | 13,309 | 13,347 |
| Medium Voltage/Medium Voltage - Medium Voltage/Low Voltage transformers | no. | 12,897 | 12,893 | 12,914 |
| transformation power | MVA | 6,298 | 6,313 | 6,347 |
| **overhead and underground networks** | | | | |
| high voltage network – overhead lines | km | 282 | 275 | 247 |
| high voltage network – underground lines | km | 243 | 244 | 240 |
| medium voltage network – overhead lines | km | 421 | 420 | 420 |
| medium voltage network – underground lines | km | 10,211 | 10,269 | 10,357 |
| low voltage network – overhead lines | km | 1,642 | 1,642 | 1,595 |
| low voltage network – underground lines | km | 18,511 | 18,829 | 19,396 |

173 With regard to polychlorinated biphenyls (PCBs), pursuant to Legislative Decree no. 209/99 and Law no. 62/05, Acea disposed of transformers with PCBs above the 500 ppm threshold in 2009. In 2022, 114 transformers with PCBs above 50 ppm but below the threshold of 500 ppm, with 41 reported to ARPA, with a PCB quantity of 6,398 ppm and a weight of approximately 46 tonnes, all of which were recovered.

The activities defined in the **Plan to modernise the high-voltage (150 kV) electricity distribution network**[174], which are constantly being developed, reduce the environmental impact thanks to the demolition of power lines and the removal of pylons, and help to deliver energy savings through the reconfiguration and optimisation of the HV network:

- works continued to dismantle decommissioned HV lines, with removal of a total of 49 pylons for 150-kV and 60-kV lines;
- 5.4 km of 60 kV high-voltage lines in EPR underground cable (Castel Romano HV lines 1 and 2 leaving PS Laurentina towards Via Gadda terminal area) were decommissioned;
- the new 150 kV Selvotta - Castel Romana line (comprising a 5.8 km overhead section with 24 pylons and a 2 km underground section) was completed and entered into operation;
- works to modernise the existing 150 kV Capannelle - Cinecittà/O HV line began (laying of 1.6 km of new HV cable and subsequent removal of two sets of three HV cables extending for 2.7 km).

The management of the electricity distribution network of Rome and Formello is characterized by the **continuous improvement of the performance**, with a particular focus on energy efficiency. Areti implements measures, such as the reclassification of medium voltage levels from 8.4 kV to 20 kV and the installation of MV/LV transformers with very low losses, which help to **reduce grid losses**. In 2022, **grid losses** amounted to **6.5% of total issued power**, in line with the previous year (6.0%). For further information see the *Energy savings* section in the chapter *The use of materials, energy and water*.

Upgrading electricity lines promotes and supports the energy transition. In this context, **certain projects launched by Areti, such as PlatOne, G.I.M.M.I.** and **Be Flexible**, are particularly significant. The PlatOne project also involves Acea Energy and aims to effectively manage the expected increase in distribution network loads by actively involving customers. The G.I.M.M.I. project focuses on developing a system that improves grid monitoring and maintenance.

The third project, launched in September 2022, tests the use of flexibility services, as well as synergies between the electricity system and other sectors, to promote network stability and security. For more details, see the section "The Commitment to Research and Innovation" in the *Institutions and the Company* chapter.

# ENVIRONMENT SEGMENT

## SCOPE

The chapter refers to Acea Elabori for the Smart Comp project. The activities of the waste treatment hubs, waste-to-energy plants and composting plants, all within Acea Ambiente, and the activities of Aquaser, Acque Industriali and the Bio Ecologia plant (the latter within Acea Ambiente), the companies Berg and Demap and, as of 2022, the company Deco[175].

**36,976 t** of quality compost produced:
**+31%**
compared to 2021

**36 GWh** of energy produced from approx.
**20,207 kNm³**
of biogas

waste-to-energy:
**387,346 t**
of waste input and approximately
**93,820 t** of waste output:
**24%** (output/input)

Awards
**EMAS 2022**
in the Circular Economy category awarded jointly to Acea Ambiente and Berg for the **reuse of ash** and to Acea Ambiente (Orvieto) for the use of **compost as fertiliser**

Acea has continued to expand its capabilities in management of the final part of the waste cycle, **for optimised recovery, recycling and reuse** and, where possible, **recovery of energy**. The Group manages the following activities: the treatment of **municipal solid waste** (MSW) and other types of waste (such as green waste from separated waste collection, industrial waste, etc.) for the recovery of **material** and disposal of residual materials in landfill, the **storage**, **selection**, **sorting and separation of multi-material waste** originating from separated waste collection, such as plastic and metal packaging, for subsequent **recovery**, the **treatment of liquid waste** such as leachates and liquid sludge, **waste-to-energy that recovers the energy portion of the waste** and reduces the landfill required for disposal, and the **production of high quality compost** for agricultural use.

174 Defined in the Memorandum of Understanding signed in 2010 between Areti SpA, Municipality of Rome and Terna SpA.

175 Deco also manages other plants that have merged directly into the company Acea Ambiente. For more details see the section *Integrated Waste Treatment - Orvieto hub and Deco sites*.

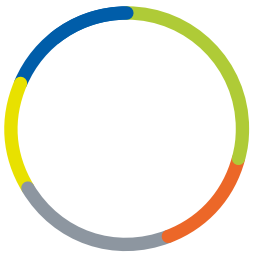
The management of solid and liquid waste is performed at plants using advanced technology and in recent years, in order to improve and renew processes and increase recovery of materials and/or energy, some of them have been upgraded or expanded.
The Companies that operate in that area **conduct research**, also in collaboration and partnerships with university institutions and companies operating in the circular economy field. Included in this context is the Acea Smart Comp local composting activity carried out by Acea Elabori.
The **Acea Smart Comp project** continued in 2022 with the support from the University of Tuscia and Enea. Going beyond the logic of waste transition, since 2020, the project has proposed a new organic waste management model that shifts management in large plants to **decentralised waste management**. This project, which has enabled the Company to become organic waste free and patent the control system for electric composters, involved several different companies. In fact, the technology adopted involved areas such as wireless sensor technology, involving partnerships with start-ups such as Nature 4.0, air filtration with photocatalysis, automated bin rotation, with an integrated waste weighing system, predictive maintenance, which involves hardware that can be installed on Smart Comp systems to interface with an IoT platform, and optical waste recognition, which involved a partnership with Keybiz to define the algorithms and process the video streams. The project also involves the strategic introduction of the solution into the **new concept of circular communities and smart apartment buildings**. In this regard, pilot projects were launched on different types of potential circular communities, or community aggregators, such as barracks, parishes, district markets and universities.

During the Ecomondo event, Acea Ambiente presented various plastic recycling initiatives, including the innovation plant currently being constructed in Cittaducale designed to **sort and recover plastic waste** from separated urban waste collection (for more details see the "Ecomondo" box in the Environmental Sustainability and the Main Challenges chapter).
The following paragraphs provide further details of operational aspects of activities in the circular-economy field.

## WASTE-TO-ENERGY, COMPOSTING, DISPOSAL OF SOLID AND LIQUID WASTE AND RELATED SERVICES

Chart no. 52 illustrates the types of processing and recovery of materials or energy for the Environment Segment.

**Chart no. 52 – Incoming volumes of waste managed by type of plant/activity (t) (2022)**



**387,346** waste-to-energy (pulper and SRF)
**194,858** compost (including Orvieto)
**295,554** waste entering the Orvieto hub (landfill)
**198,273** intermediation and selection
**241,634** liquid waste and leachate

### WASTE-TO-ENERGY

In addition to the activities already described of solid and liquid waste treatment and anaerobic-digestion lines at composting sites, **Acea Ambiente** also manages the waste-to-energy process through the plants of San Vittore del Lazio and Terni. The two plants are operated according to the certified Environmental Management Systems and registration with the European EMAS III scheme (see also *Corporate identity*, *Management systems*). Adopting **circular economy logic**, once all possible material has been recovered, energy recovery generates energy and economic benefits and leads to a **notable volumetric reduction** — in 2022 the volume of waste leaving the waste system was 24% of the waste-to-energy volume — and the **biological stabilisation of waste**, minimising disposal in landfills.
In its current configuration, the San Vittore del Lazio plant is the **largest in the Lazio Region** and plays an important role in the management of municipal waste, both for the advanced technologies used for its construction and for its considerable treatment potential[176]. It is composed of **three independent waste-to-energy lines** designed to be fed with Solid Recovered Fuel (SRF), with the following characteristics:

- 52 $MW_t$ of thermal power for line 1 and 56.7 $MW_t$ of installed thermal power for each of the other two lines, for a total thermal power of approximately 165 $MW_t$
- 13.9 $MW_e$ of electric power for line 1 and 15.1 $MW_e$ for each of the other two lines, for a total power of approximately 44 $MW_e$;
- approximately 400,000 t/year of SRF, sludge and other waste at full treatment capacity.

In October 2022, the Lazio Region issued Resolution no. G14621 to create a **fourth waste-to-energy line**, enabling the complete processing of waste entering the plant in the case of shutdowns for upgrading or scheduled maintenance, as well as treatment of sewage sludge in compliance with the indication of the Waste Management Plan approved by the Lazio regional authority.
In 2022 **289,550 tonnes of waste** were processed by the waste-to-energy plants and approximately **251 GWh** of electricity was generated, a drop compared to 2021 production (-6%).

**Table no. 54 – San Vittore del Lazio waste-to-energy plant: operating data (2020-2022)**

| | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| incinerated fuel | t | 319,122 | 307,391 | 289,550 |
| gross electricity produced | GWh | 269.38 | 267.74 | 251.26 |
| conversion efficiency (*) | kWh/kg SRF | 0.84 | 0.87 | 0.87 |

(*) Relationship between gross electricity produced and quantity of SRF converted to energy.

**The Terni plant** is composed of **a waste-to-energy line** and has the following characteristics:

- 52 $MW_t$ of thermal power installed;
- 13.6 $MW_e$ of electrical power installed;
- 120,000 t/year of pulper waste (paper mill waste resulting from the pulping of waste paper), as the maximum potential for incoming waste.

The waste-to-energy plant is **also equipped with photovoltaic systems**, the primary system on the pulper waste pre-treatment area and a secondary system on the adjacent building, which in 2022 generated approximately 454 MWh of electricity, with around 61% consumed on site and the remainder sold to the grid, in line with previous years.

176 With reference to Decree Law 133/2014 (referred to as *Sblocca Italia*), the plant has been defined as a strategic structure of primary national interest for the protection of health and the environment, as per Lazio Regional Decree no. 199 of 24/04/2016.

In 2022 **97,796 tonnes of pulper waste** were processed by the waste-to-energy plant and approximately **86 GWh** of electricity was generated, a slight decrease compared to 2021 figures.
For data on the emissions of both waste to energy plants see the chapter *Air emissions*, in addition to the data reported in the *Environmental accounts*.

**Table no. 55 – Terni waste-to-energy plant: operating data (2020-2022)**

| | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| waste-to-energy paper mill pulper | t | 90,215 | 99,730 | 97,796 |
| gross energy produced | GWh | 76.77 | 88.67 | 85.81 |
| conversion efficiency (*) | kWh/kg pulper waste | 0.85 | 0.89 | 0.88 |

(*) Relationship between gross electricity produced and quantity of pulper waste converted to energy.

In 2022, a waste **research facility** was opened within the Berg plant in San Vittore del Lazio to study the re-use of **fly and bottom ash**. For this project, Acea Ambiente and Berg received an EMAS award in the Best Circular Economy Initiative category[177].
For information on the projects to recover sodium bicarbonate and calcium chloride dihydrate from the treatment of residual sodium carbonate (RSC), as well as on the treatment of fly ash and the recovery of mixed plastics, see the section "The Commitment to Research and Innovation" in the Institutions and the Company chapter.

## INTEGRATED WASTE TREATMENT

**Acea Ambiente** manages major waste management facilities in the Umbria and Abruzzo regions. In particular, **in Orvieto**, in Umbria, it manages an important **systems hub for waste treatment, recovery and disposal**, ensuring the integrated cycle of municipal solid waste and equivalent materials, produced by all municipalities in the province of Terni. The landfill site is also authorised to receive special waste.
The Orvieto hub includes the mechanical biological treatment of municipal solid waste, composting and refining of the organic fraction of the sorted waste and disposal in landfills. Management takes place in accordance with the certified Management Systems (see the section *Management systems* in *Corporate identify*), with the goal of **maximising recovery of materials** (production of high-quality compost) and supporting both the **production of renewable energy** (utilising biogas produced for energy) and, as far as possible, the **reduction of waste sent to landfill**.
There are **beehives** at the hub which are used to biomonitor the environment by sampling wax, honey and bee matrices and to plan public educational events aimed at local communities.

Total waste entering the plant in 2022 was **97,661 tonnes**, of which 71% (approximately 69,500 tonnes) was sent to landfill and almost all of the remainder was sent to the **anaerobic digestion and composting** section of the treatment plant for the **production of biogas and compost**. The end product resulting from the aerobic process is refined and subsequently analysed for its chemical and physical classification as **high-quality compost**, for use as a raw material in commercial growing, environmental restoration, and for maintaining green areas (for more information see the "Use of Compost in Agriculture" box).
At the same site, there are **two energy production plants** powered respectively by the **biogas** produced by the anaerobic section of the treatment plant and by the biogas produced naturally by the landfill site. The latter is collected through a supply network and sent to two internal combustion engines that transform it into electricity, which is then sold to the grid:

- approximately **1.7 Mm³ of biogas** and **3.2 GWh of energy** were produced at the treatment plant **in 2022**;
- approximately **6.7 Mm³ of biogas** and **9.5 GWh of energy** were produced at the **landfill site**.

**In total, approximately 12 GWh of electricity was fed into the grid** (for more information see the Environmental Accounts).
The Orvieto hub is also equipped with a **photovoltaic plant** owed by Acea Produzione, which, in 2022, generated around 515 MWh, of which 99.8% was used for self-consumption on site.

The company **Deco** operates in Abruzzo, where it is responsible for managing its own plants[178] and plants owned by Acea Ambiente (such as the Grasciano hub[179]). In particular,

- a **landfill** for non-hazardous waste in **Casoni** (Chieti), divided into four sites with a total capacity of over 900,000 cubic metres, which is nearly full;
- a **landfill** for non-hazardous waste in **Colle Cese** in the Municipality of Spoltore (Pescara), divided into three sites with a total capacity of over 1,000,000 cubic metres;
- a **landfill** for non-hazardous waste in **Grasciano in the Municipality of Notaresco (Grasciano 2)** with an approximate capacity of 480,000 cubic metres.

The first two of the above plants belong to Deco, while the latter belongs to Acea Ambiente. Biogas for the production of electricity is recovered at all three sites. In 2022, Deco's waste processing plants produced **4,180,996 Nm³ of biogas and 2,656 MWh of electricity**.
Deco also operates a **Mechanical Biological Treatment (MBT)** plant for Municipal Solid Waste (MSW) in Casoni (Chieti). The facility, which recovers materials and SRF, processed **241,642 t of waste** in 2022 (see box).

177 *https://www.isprambiente.gov.it/it/attivita/certificazioni/files/emas/newsletter/2022/newsletter-emas-n3-2022.pdf*.

178 Deco's facilities include a Transfer Point where third-party urban waste collection vehicles transfer the collected waste from their own machines to larger-capacity vehicles, and a depot on the quayside of the port of Ortona, in the Province of Chieti, authorised for the storage of waste for recovery, where the SRF to be shipped is stored, providing several logistical, organisational and environmental advantages. This is not included in the reported data due to its negligible significance.

179 The Grasciano site also includes other plants that have been inactive for several years: a platform for the treatment and energy recovery of waste from separated waste collection, a landfill for non-hazardous waste (Grasciano1) and two waste treatment lines (one for mixed and/or similar waste to produce SRF and the other for the wet organic fraction derived from separated waste collection to produce high-quality compost).

## DECO'S MBT PLANT

In view of the European regulations implemented in Italy by Legislative Decree 152/06, Deco has developed an innovative technology for the energy recovery of mixed municipal waste, with the consequent construction of a Mechanical Biological Treatment (MBT) plant, located in Casoni (Chieti), which has an authorised waste capacity of 270,000 t/year and is **one of the largest and most technologically advanced plants in Europe**.
The plant processing procedure includes a Reception and Primary Mechanical Treatment phase, a Biological Treatment phase and a Final Mechanical Treatment (refining) phase. Each phase takes place in separate rooms equipped with exhaust air and dust extraction and purification systems (biofilters, bag filters, etc.).
Thanks to the technology used, **less than 35% of the waste that enters the plant is sent to landfill**. Biostabilised waste is converted into **Solid Recovered Fuel (SRF)** and is used to power facilities such as waste-to-energy plants and cement plants.
In 2022, 241,642 t of municipal waste was processed, including **4,121 t recovered ferrous and non-ferrous metals and 96,093 t of SFR**. Around 58% of the SRF produced was used in cement plants outside Italy instead of conventional fossil fuels, while 42% was used in waste-to-energy plants in Italy to produce electricity.
The facility also has a photovoltaic system on the roof that produced 1,059 MWh in 2022, of which 943 (or 89%) was self-consumed on site by the MBT plant and the remainder was fed into the grid.

### HIGH-QUALITY COMPOST PRODUCTION

Experimentation is currently underway with the University of Tuscia on high-quality compost produced by the Orvieto plant hub, totalling **approximately 3,412 tonnes in 2022**, for use as agricultural fertiliser, applying the direct product and sowing wheat crops on land at the plant itself (see the dedicated box).
As well as the site in Orvieto, Acea Ambiente has **two other composting plants** — one in **Aprilia** and one in **Monterotondo Marittimo** — while at the composting plant in Sabaudia waste delivery was suspended from 31 October 2019 to allow extraordinary maintenance works to be carried out[180].

**The Aprilia plant** can recover up to 120,000 tonnes/year of organic waste, with production of electricity and thermal energy integrated with the pre-existing composting section. In the first quarter of 2022, the compost bagging line entered into operation, with the aim of accessing additional markets for the soil improver and activating SRF production line using waste from the same plant. This new line enables waste to be delivered to the San Vittore del Lazio plant and contributes to an increasingly circular economy.
The **Monterotondo Marittimo plant** has a recovery capacity for the organic fraction of municipal solid waste, garden waste (grass cuttings and material from pruning), and sludge, of 70,000 t/year. **Anaerobic digestion and composting facilities** are active at both sites, enabling the **recovery of electricity and thermal energy**. For details on the quantities of biogas and energy produced, see the *Energy Segment* chapter and the *Environmental Accounts*.

## THE USE OF COMPOST IN AGRICULTURE

At the Orvieto hub, a study is currently being conducted with the University of Tuscia to expand knowledge on the agricultural use of compost to explore responsible production and consumption practices. The land adjacent to the plant has been cultivated using compost produced at the plant and a study is being launched to analyse the toxicological and ethological effects of compost on the Folsomia candida springtail, a small invertebrate used as a bio-indicator.
The main aim of the project is to provide experimental evidence of the absence of contraindications on the use of compost and the benefits it can generate as a fertiliser and by increasing soil organic matter. In 2022, Acea Ambiente won one of the EMAS awards in the Best Circular Economy Initiative category for its project on how compost can be used as a fertiliser in a sustainable and circular agricultural system.

### INTERMEDIATION AND TRANSPORT OF WASTE

In 2022, Aquaser**, which loads, transports, recovers and disposes of waste produced by treatment plants**, managed **400,000 tonnes of waste** (390,000 tonnes in 2021). With regard to **intermediation**, during the year Aquaser took charge of **approximately 166,000 tonnes of waste**, of which **137,000 tonnes of sludge** is attributable to the **Group's water companies**[181], and in particular approximately **80,500 tonnes to Acea Ato 2, Acquedotto del Fiora and Acea Ato 5**. The dried and dewatered sludge coming from the three Companies was sent to the following end destinations:

- 61% to material recovery operations (pretreatments aimed at agricultural use and composting);
- 13% to recovery of energy (waste-to-energy);
- 26% for disposal.

Also this year, due to regulatory constraints direct spreading was not used in agriculture.
Aquaser in particular **used its own means** to transport approximately **42,000 tonnes of non-hazardous waste**.

180 The liquid waste treatment facility at Sabaudia is currently inactive and studies, analyses and technical and economic assessments are currently underway to identify possible new industrial uses for the site.

181 The data detailed here for the sake of completeness concerns sludge for which Aquaser has managed the entire supply chain, from loading to transport and final disposal, originating from the following Group Companies: Acea Ato 2, Acea Ato 5, Acquedotto del Fiora, Umbra Acque, Publiacqua, Acque and Acea Molise.

### SELECTION AND SEPARATION OF MULTI-MATERIAL WASTE

The **Demap** plant, located in the province of Turin, carries out **selection and implementation of recycling for plastic and plastic/metal packaging**. In particular, it handles the storage, selection, sorting and separation of single and multi-material waste originating from separate waste collection, such as plastic material and metal packaging, **for subsequent recovery**. The Demap plant is affiliated with the Corepla Consortium, a group of companies established pursuant to Italian Legislative Decree 22/1997 to organise and manage post-consumption plastic packaging, and performs its activity on the basis of a contract for the selection of waste plastic packaging with the Consortium itself. In 2022, approximately **25,400 tonnes of material** entered the plant and was processed for separation and recovery.
Meanwhile, almost **6,900 tonnes** of waste was processed by **Berg**, although, as detailed below, the company's main business area is the storage and treatment of hazardous and non-hazardous liquid waste (for more details, see the Environmental Accounts).

### TREATMENT OF LIQUID WASTE

**Acque Industriali** carries out brokering and liquid waste treatment services for private and public companies, as well as activities related to the integrated water cycle, mainly consisting of the **recovery and disposal of organic sludge**, through the management of **several platforms**. In 2022, due to the closure of the Pisa Nord and Pontedera sites, the amount of waste processed fell to around 50,000 tonnes of liquid waste, down 46% compared to 2021[182]. In addition, the Company provided brokerage services for approximately 37,000 tonnes of waste during the year (-31% compared to 2021).
Acque Industriali uses technologies that **support recovery of raw materials contained in waste, energy saving and the efficient use of resources**, such as stripping/absorption of ammonia in a closed cycle that enables **recovery of ammonium sulphate**, which can be used as an agricultural conditioner, of which **139,040 kg** were produced in 2022. The Company also provides services for design, creation and management of plants for the treatment of wastewater for third parties, decontamination of polluted sites and environmental consulting for the management of plants, investing in research and development in the relevant sectors, in collaboration with recognised Research Bodies. For details of the type of incoming waste, the resources used, the waste produced and other specific information, see the **Environmental Accounts**.

The **Berg** plant is a **polyfunctional platform for the storage and processing of hazardous and non-hazardous waste**, authorised for the sale and brokerage of waste and the creation of plants for treatment and processing of liquid waste.
Specifically, the plant has two departments: storage and treatment of liquid waste and storage and treatment of solid waste. In 2022 **approximately 93,700 tonnes of waste, both solid and liquid,** were processed and brokerage services were provided for a further 6,900 tonnes of waste.
The **Bio Ecologia**[183] plant in Chiusi handles the chemical/physical and biological treatment of **non-hazardous liquid waste**[184] **and treatment of sewage**. In 2022 approximately **98,000 tonnes of liquid waste** and approximately 82,000 $m^3$ of wastewater were processed.

# WATER SEGMENT

## SCOPE

The scope includes the companies Acea Ato 2, Acea Ato 5, AdF, Gori and Gesesa.
Some water companies - Acque, Publiacqua and Umbra Acque - not included in the scope of the *Consolidated Non-Financial Statement* (pursuant to Legislative Decree no. 254/2016) have been included only in the water graphs, with evidence of their contribution, and in a few other global data (water fed into the system and analytical calculations). Specific data concerning these Companies are provided in a separate chapter: *Water companies data sheets and overseas activities*.

**6% reduction** in total lost water resources by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa compared to 2021

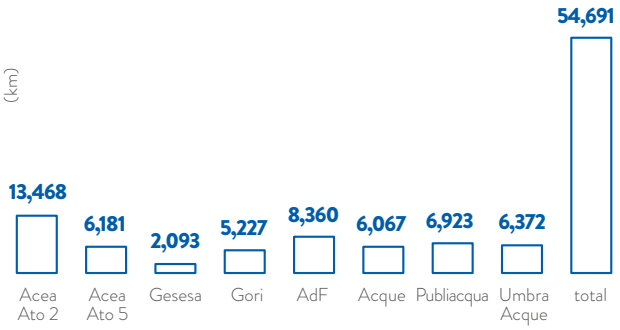
approximately **35,330 km of drinking-water network** managed by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa

**739,369 analytical tests on drinking water** (Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa)

182 As well as the two platform closures, the platform at Poggibonnsi suspended its activities in June 2021 pending the re-issue of the standard operation permit.
183 (*) On 1 May 2021, Bio Ecologia Srl was merged by incorporation into Acea Ambiente.
184 The quantities of liquid waste authorised for treatment (excluding wastewater) have a maximum limit of 99,900 tonnes/year.

The Acea Group is a leader in Italy in terms of number of citizens served and one of the primary operators in the water sector. Activities regarding **water resource management** in all phases of the **integrated water service** are performed with the aim of preserving water and natural ecosystems from springs to surface bodies where water returns into the environment. Safeguarding of water resources is also expressed through **recovering leaks** (see the section *Attention to the use of water resources*), the **circular economy**, activities to combat **climate change**, **protection of springs** and other sites of interest at an EU, regional or local level and natural parks (see section *Safeguarding of land and biodiversity*) and also **monitoring** of internal water consumption, with the end goal of reducing consumption.
The total pool of users served in Italy **by the Group**[185] is about 8.6 million residents, with **volumes of drinking water fed into the network** in 2022 equal to 1,285 million cubic metres. The distribution networks of the main Group Companies operating within the integrated water service stretches approximately 54,700 km (see Chart no. 53).

**Chart no. 53 – The water distribution network of the main Group Companies in Italy (2022)**




**NOTE**: the kilometres of network include the aqueducts.

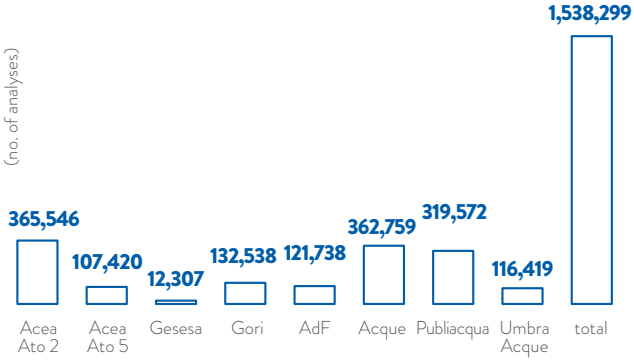
The **volume of drinking water drawn and fed into the grid by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa** in 2022 was approximately **1,010 million cubic metres**, with a total delivery[186] of 474 million cubic metres to more than **6.1 million citizens**. The specific data on the three Companies, are provided in the *Environmental Accounts*.
99.9% of the volumes drawn are fresh water, with the remainder, less than 1 million $m^3$ being seawater and drawn in Tuscany by AdF. The sources are located in areas at potential risk of water stress, as defined by the map of the Aqueduct Water Risk Atlas, drawn up by the World Resources Institute (WRI)[187] that illustrates the water availability of the different countries, taking into consideration risks caused by climate change, including extreme weather events such as drought and flooding.

The Companies within the Water Area in the water segment implement various initiatives to mitigate the impacts associated with these risks, including **Water Safety Plans** (see the section "Water Safety Plans - WSPs"), actions to **minimise leaks** on distribution networks and investments to secure water supplies.
In **OTA 2 - Lazio Centrale**, which includes Rome and 112 other municipalities[188], as at 31 December 2022 Acea Ato 2 managed the entire integrated water service[189] for 89[190] municipalities, thanks to the completion of the acquisition in 2022 of the management contracts for Agosta, Anguillara Sabazia, Anticoli Corrado, Campagnano di Roma, Civitella San Paolo, Marano Equo, Roviano, Sant'Angelo Romano and Trevi nel Lazio. The **volume of water drawn and issued from and to the network**, serving approximately 4 million citizens, was approximately **663 million cubic metres**[191].

## WATER QUALITY

Water quality is monitored by all the companies in the operating segment (see Chart no. 54). The **analytical checks**, in addition to those performed by the Local Water Authorities, are performed on a scheduled, ongoing basis and regard drinking water issued to users, essential due to the **associated health effects**, and water returned to the environment following treatment, both of which are **crucial to the environmental quality of the region**. Compliance with drinking water analyses for all companies in the NFS reporting boundary is between 97% and 100%.

**Chart no. 54 – Analytical checks on drinking water, total and by Company (2022)**




In **Rome**, the qualitative characteristics of the water collected and distributed are monitored through **continuous testing**, with instruments located **along the water systems** and through **daily sampling** at the collection points and in the distribution network.

185 The data for total number of citizens served by the water business, volume fed into the network, and size of the networks and checks on the water (shown in specific charts) include the main Operating Companies of the Group, including those outside the scope of the *Consolidated Non-Financial Statement:* Acque, Publiacqua and Umbra Acque.

186 This refers to the total amount of drinking water dispensed and billed by the Companies within the scope.

187 For identification of areas under water stress, as indicated by the Standard GRI 303, the Aqueduct Water Risk Atlas was employed, available on the World Resource Institute website: *https://www.wri.org/aqueduct*.

188 On 14.07.2021 with Regional Council Resolution no. 10, which followed Regional Executive Resolution no. 752 of 03.11.2020, Optimal Territorial Area no. 2, Central Lazio-Rome, was modified including in it the Municipality of Campagnano di Roma, which previously belonged to OTA no. 1 North Lazio-Viterbo.

189 Acea was entrusted with the running of the capital's aqueduct service since 1937, the water treatment system since 1985 and the entire sewerage system since 2002, effective 1 January 2003.

190 In 17 other municipalities the integrated water service was managed partially.

191 The water balance items for the last three years were determined using the calculation criteria provided by ARERA. The figure does not include the municipalities subject to exemptions in 2022 for the macro-indicator M1 pursuant to ARERA Resolution 917/2017/R/idr. See also the *Environmental Accounts*.

In Lazio, there are certain volcanic areas where groundwater contains mineral elements, such as fluoride, arsenic and vanadium in concentrations higher than permitted by law. In these areas, for some time, Acea Ato 2 has been working to resolve these issues, such as by decommissioning some local sources of supply and replacing them with higher quality springs. In 2022, in particular, **Acea Ato 2** built new drinking water plants and upgraded/expanded existing plants in the municipalities of Allumiere, Ariccia, Rignano Flaminio, Manziana.
Monitoring of the chemical-biological parameters of the water in the distribution network of the water system allows a high quality and safety level to be achieved.
Overall, in 2022, **365,546 analyses were conducted in the area managed by OTA 2,** for a total of 11,966 drinking-water samples. In addition to the analyses conducted to **check water quality**, performed by Acea Ato 2, with the support of Acea Elabori, analyses were performed by Acea Elabori for **study and research purposes** aimed at continuous improvement of monitoring of the drinking-water system.
**Acea Elabori**, **accredited pursuant to the ISO/IEC 17025 standard**, performs and certifies chemical and microbiological analyses in different substrates, including water (see Table no. 56 for the analyses performed on Rome drinking water). **AdF**, which outsources analyses to Publiacqua SpA, took 4,514 samples, identifying representative withdrawal points in the context of districts, with equivalent characteristics, into which the entire network of the aqueduct is divided. All withdrawal points are georeferenced using the GPS system and area available in a WebGis. Furthermore, in March 2022, the Company **opened its own laboratory**.

**Table no. 56 – Analyses in Rome (2020-2022) and main quality parameters of the drinking water distributed in Lazio, in Campania and in Tuscany (2022)**

| ANALYSES PERFORMED BY ACEA ELABORI ON DRINKING WATER – ROME HISTORICAL NETWORK (2020-2022) | | | | | | | |
|---|---|---|---|---|---|---|---|
| withdrawal area | no. withdrawal points | no. samples | | | no. analyses | | |
| | 2022 | 2020 | 2021 | 2022 | 2020 | 2021 | 2022 |
| collection | 46 | 227 | 344 | 307 | 13,579 | 15,267 | 15,180 |
| water system and water feed pipes | 15 | 135 | 104 | 116 | 4,950 | 3,997 | 4,736 |
| tanks/water centres | 18 | 85 | 198 | 135 | 3,048 | 7441 | 5,321 |
| distribution networks | 406 | 3,619 | 3,379 | 3,102 | 120,372 | 107,709 | 101,580 |
| **total** | **485** | **4,066** | **4,025** | **3,660** | **141,949** | **134,414** | **126,817** |

| MAIN AVERAGE CHEMICAL AND MICROBIOLOGICAL CHARACTERISTICS OF THE DRINKING WATER DISTRIBUTED IN LAZIO, IN CAMPANIA AND IN TUSCANY (2022) | | | | | | | |
|---|---|---|---|---|---|---|---|
| parameters | measurement unit | average value – Acea Ato 2 | average value – Acea Ato 5 | average value – Gori | average value – Gesesa | average value – AdF | parameter Legislative Decree no. 31/01 |
| chlorides | mg/l Cl | 10.3 | 6.4 | 47 | 16.0 | 25.0 | <250 |
| sulphates | mg/l $SO_4$ | 15.1 | 8.1 | 26 | 16.7 | 41.0 | <250 |
| calcium | mg/l Ca | 85.3 | 80.8 | 115 | exempt (*) | 60.0 | not applicable |
| magnesium | mg/l Mg | 16.8 | 15.4 | 28 | exempt (*) | 10.5 | not applicable |
| sodium | mg/l Na | 9.6 | 4.5 | 32 | 15.7 | 15.0 | <200 |
| potassium | mg/l K | 7.7 | 1.7 | 15 | exempt (*) | 2.3 | not applicable |
| calculated fixed residue | mg/l | 377.1 | 316.0 | 569 | 341.8 | 297.0 | (**) |
| nitrates | mg/l $NO_3$ | 5.9 | 4.0 | 19 | 12.3 | 4.0 | <50 |
| fluorides | mg/l F | 0.27 | 0.12 | 0.53 | 0.2 | 0.2 | <1.50 |
| bicarbonates | mg/l $HCO_3$ | 354.7 | 349.8 | 463 | exempt (*) | 233.0 | not applicable |

(*) In accordance with Legislative Decree no. 31/01 and in agreement with the health authority, Gesesa is exempted from supplying the parameter.
(**) maximum value recommended: 1,500 mg/l.

In 2022, **Gesesa** continued a project for the creation of an **activated-carbon filtration system** for treatment of drinking water for the water plant in Benevento, in the Pezzapiana area. The filtration plant will provide adequate water resources for the city of Benevento, maintaining the values for the substances tetrachloroethylene and trichloroethylene below the Contamination Concentration Limits (CCL) defined by Italian Legislative Decree 152/2006. The project has been submitted to the Municipality of Benevento, the implementing entity.
With regard to the **processing of drinking water**, at the Grottarossa and Montanciano plants of **Acea Ato 2**, monitoring and analysis activity continued on treatment processes (such as chemical conditioning and pre-oxidisation, clariflocculation, sand filtration, and others), evaluating the efficiency of the removal of pollutants, specialised parameters for emerging organic species, both microbiological and sub-products of disinfection, in relation to

the main management parameters of the plant. In addition, with reference to **forecasting the availability of water resources**, Acea Ato 2 has implemented a **machine learning algorithm** to identify **meteorological proxies** (temperature and/or precipitation) **or management proxies** (volumes drawn) correlated to **the variability of the state of preservation of the resource, with reference to the different collection sources (springs, well fields, etc.)**

## WATER SAFETY PLANS (WSPs)

Use of the Water Safety Plans (WSPs)[192] enables **prevention and reduction of the risks inherent in the drinking water service**, analysing dangerous events along the entire water supply chain, from collection to treatment and distribution, and through to the user's meter. The risk is calculated on the basis of the severity and probability of the pollution event or water shortage, and **risk mitigation actions**, **monitoring systems**, **operating procedures** under normal and emergency conditions, the **water quality control** plan, and the methods for **informing the public and the competent authorities** are defined.

**Acea Ato 2** began implementation of the WSPs four years ago with a pilot project, completed in 2019, for the water system connected with the emergency drinking water plant for water from the Tiber River, in the Grottarossa area, under the supervision of the Istituto Superiore di Sanità (ISS)[193]. The Company **launched 10 WSPs for main aqueduct systems under its management**, covering an area of approximately 640 km. In 2021, the WSPs for the Peschiera-Capore, Appio Alessandrino, Marcio, New and Old Simbrivio, Laurentino, and New Vergine aqueducts were submitted to the Italian Ministry of Health, followed by the WSP for the Doganella aqueduct system in 2022. Acea Ato 2 began implementing the WSPs for the water supply and distribution systems starting with the municipality of Guidonia Montecelio, with the documentation submitted to the Ministry in January 2022. In October 2022, the company also completed and submitted the WSPs for the municipalities of Albano Laziale, Manziana, and Marcellina and began preparing the Sanitation Safety Plan (SSP) for the Co.BIS treatment plant. Overall, implementation of the WSPs in Acea Ato 2 will involve 100% of the population served by aqueduct systems and from sources managed locally.

In 2022, **AdF** continued with the planned implementation of the WSPs according to a multi-year programme that will enable their full realisation across all water systems in the area by the end of 2028. In particular, AdF developed the WSPs of the water systems supplied solely by the Fiora and Arbure springs, for a total of **39 WSZs** (Water Supply Zones), corresponding to a resident population of **28,197** inhabitants, or **12.3% of the total**. In 2022, AdF also **systematised the WSP implementation methodology** by creating a specific application with a **user interface** to enable easier consultation, developed with the open source software Grafana. Data were entered into the database and queries and functions were developed to enable the automatic calculation of the risks for each plant/network, for each hazard event and for each type of hazard in current and hypothetical scenarios, assessing, for example, the implementation of management measures on the key risks identified. With this system, it will be possible to archive all calculation data, update evaluations and view the implementation status of control measures, providing full traceability and information to the competent authorities and monitoring the progress of each project against the project timeline.

Having successfully created, in the 2020-2021 two-year period, a cloud platform for sharing — including with the relevant authorities — data important to the process of implementing and approving WSPs, the description of aqueduct systems, requests to local health authorities to identify risk officers, control measures and the relative effectiveness, in 2022, **Gori** began to draft the operating instructions and procedures for managing documents and accessing the cloud, as well as the **risk management operating instructions manual**.

In 2022, **Gesesa** continued with training plans and authorisations on the draining necessary to manage WSPs, which will be prepared in collaboration with the University of Sannio. Finally, in 2022, **Acea Ato 5** chose the Agani Tufano spring as the site for the first WSP.

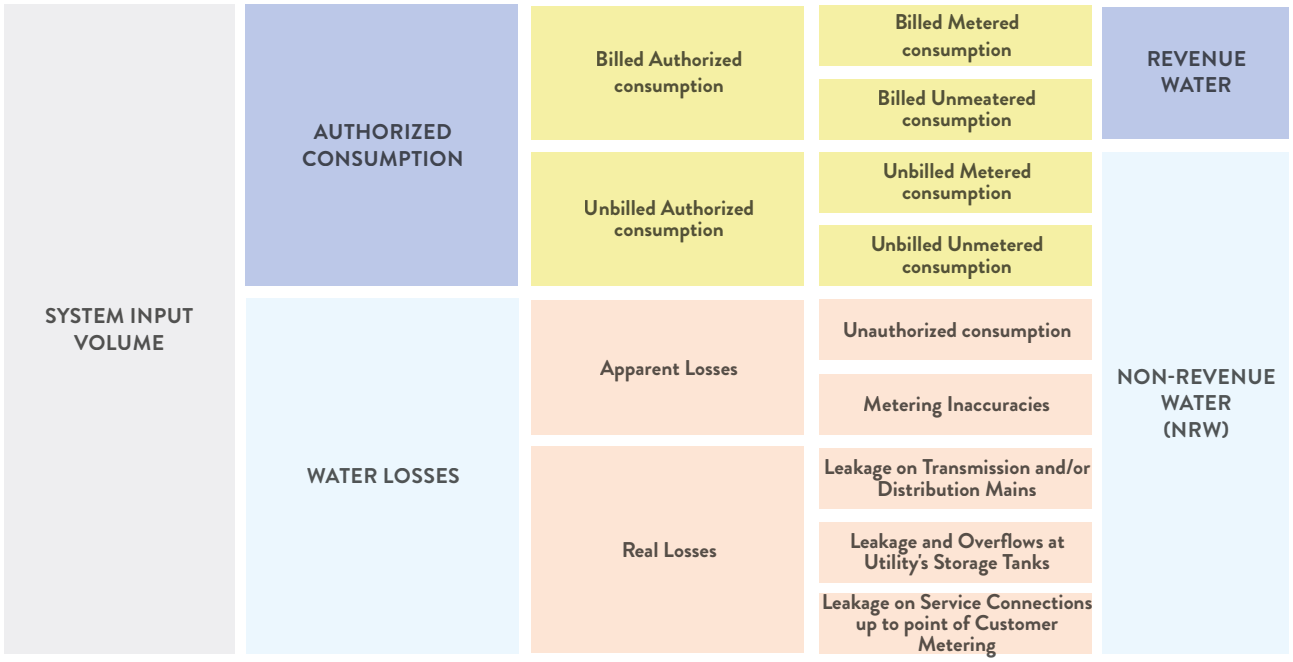
## WATER LOSSES

Sustainable management of water also requires **minimising losses on distribution networks**, with all operational Group Companies in the water area involved. Each year, **intensive activity is carried out to identify leaks**, quantified as described in Chart no. 55, with the aim of recovering the greatest possible quantity of water. The process of **dividing the network into water districts** is used to optimise operating pressures, reducing losses, with activities focused on losses in the **most critical districts**. With greater control of the individual parts of the network, it is possible to reduce losses, promptly identifying them or picking up on other anomalies.

192 The implementation of a Water Safety Plan (WSP) is required pursuant to the Decree of the Italian Ministry of Health of 14/06/2017, in implementation of EU Directive 2015/1787, which adopted the WSP methodology developed by the World Health Organization (WHO). In Italy, the Istituto Superiore di Sanità (ISS) has adopted WHO guidelines and approves WSPs.

193 For the WSP in question, in 2020 the initial draft of the Plan was finished and submitted to the Ministry of Health.

**Chart no. 55 – Water loss accounting model**




**NOTE**: the image refers to the model of the International Water Association.

Overall, **Acea Ato 2** has created **729 measurement districts** for over **13,460 km of** georeferenced **distribution network**. The activity consisted of surveys, flow and pressure measurements, map production, user analysis and water balancing, creation of measurement stations, installation of shut-off and adjustment elements, mathematical modelling and searches for leaks. The results of efficiency actions were imported into the GIS systems. In addition, 2022 saw optimisation of the quality of process measurements, through verification and calibration of meters installed on sources and drinking water plants, and **progress in survey activity and georeferencing of networks**. The measures reduced the **volume of lost water resources** by 4.2% compared to 2021 (a reduction of about 17% compared to 2019[194]).

At **Acea Ato 2**, thanks to actions to improve service efficiency, overall losses fell to around 38.9%[195] in 2022 (39.9% in 2021) and total leaks across the Rome network also **fell to 27.8%** (28.6% in 2021). Data and reductions in losses for 2020-2021 are presented in the Environmental Accounts and for 2019 in the 2020-2024 Sustainability Plan in The Corporate Identity chapter.

In 2022, **Acea Ato 5** completed district planning for the networks of **nine new municipalities** and improved efficiency in previously established districts to balance network operation and optimise the distribution service. The Company has created **100 new districts** covering **856 km of network**. Active control of pressures has continued, with the installation of meters, reducers and flow-control valves at strategic points (**39 hydro valves** installed during the year), with the goal of improving management of flows into the zones managed and reducing differences between daytime and nighttime pressure levels. *Thanks to the measures implemented,* **leakage volumes** decreased from 77.1 million m$^3$ in 2021 to **70.7 million m$^3$ in 2022**, reducing the total amount of water entered into the system from 115.8 million m$^3$ to 109.8 million m$^3$, **an immediate savings of approximately 6 million m$^3$**. Losses fell in 2022 to 64.4% (66.5% in 2021), as shown in the Environmental Accounts.

**AdF** conducted intensive activity to search for system leaks on its own water networks, making considerable improvements to efficiency thanks to the provision of advanced technology to all operators, and inspecting around 2,500 km of the distribution network during the year. A further 430 km of network was monitored during the **district planning process**. Particular attention was paid to municipalities with higher water losses, such as Grosseto, where the action taken has enabled a reduction in the minimum night flow rate of about 60 l/s compared to 2021. The measures carried out led to **reductions in water losses** from 23.7 million m$^3$ in 2021 to **21.9 million m$^3$** in 2022, decreasing water losses to 37.2% in 2022 (39% in 2021). In 2022, AdF also defined a network monitoring project which involves updating the Waidy Management System with a threshold alarm system in over 600 districts.

During the year in question, **Gori** continued a structured course of action to optimise the water network in the municipalities of Nola, Angri, Nocera Inferiore, Castellammare di Stabia, Gragnano and Torre Annunziata. The actions taken were divided into distinct phases: integrative survey, district planning, modelling, and execution of pressure control and leak detection measures. The execution phase of the district planning works and the replacement of the most critical damaged pipelines was proposed to the Italian Ministry of Infrastructures and Sustainable Mobility in response to the call for "Expressions of Interest on the formulation of Project Proposals under

194 See also the 2020-2024 Group Sustainability Plan.

195 Value calculated in line with the reporting boundary for total losses in 2019, the reference year for the targets defined in the 2020-2024 Group Sustainability Plan.

Axis IV" (React - EU)[196]. In the other municipalities in the Water District Zone, Gori conducted conventional leak detection controls systematically (at Angri, Nola, Castellammare Di Stabia, Sarno, Nocera Inferiore, Sorrento and Torre del Greco) and in response to faults across the entire managed area, with such actions taken on 1,528 km of the water network in 2022. In addition, it installed 8 pressure regulation valves and carried out reclamation works on approximately 14 km of water network, distributed across almost all OTA 3 municipalities. The combined action of these strategies enabled a recovery of water resources estimated at approximately **274 l/s over the entire Water District Zone**. After the measures taken, total losses fell from 49.6% in 2021 to 47.1% in 2022.
At **Gesesa**, in 2022, a **Recovery Plan** was implemented for the water resources in the city of Benevento and other managed municipalities, which involves the replacement of damaged pipes, implementation of remote control technology, application of a system to reduce water leaks and reduction of operating pressures on the network. Losses for the year were 55.9% of total water fed into the aqueduct system (57.8% in 2021), **reducing lost volumes** from 11.2 million $m^3$ in 2021 to **10 million $m^3$ in 2022**. Actions will continue in 2023, involving all the Municipalities.
Overall, thanks to the actions taken by the company, **losses fell by 6%** in the year, from 465.7 $mm^3$ in 2021 to 436.7 $mm^3$. When compared to 2020 data (507.5 $mm^3$), this reduction was 14%.
See the *Environmental Accounts* for details on individual water balances.

## SEWERAGE SERVICE AND TREATMENT SYSTEM

**13,225 km** of sewerage network and **489 treatment plants** managed by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa, for **759 $Mm^3$** of water treated

approximately **160,293 t of sludge produced** by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa, of which **66% recovered** (in line with 2021)

Once it has been used for various civil purposes, water is **collected through the sewer system** and **sent to the wastewater treatment plants**. The treatment process enables the **removal of pollutants via physical processes** (filtering, sedimentation, flocculation) **and biological** methods (aerobic and/or anaerobic decomposition of the organic substance with bacteria), and the production of sludge.
With **860 treatment plants** (of which **489** managed by Acea Ato 2, Acea Ato 5, AdF, Gori and Gesesa), the total volumes of water processed by the Group main companies[197] in 2022, were **940 $Mm^3$**, of which **759 $Mm^3$** by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa[198]. The total number of treatment plants has decreased, from 895 plants in 2019 to 860 in 2022, on the basis of the **project for centralisation of treatment of wastewater** in order to streamline the service, which involves the main Companies (see infobox for more details on Acea Ato 2). The volumes of wastewater treated and the percentage coverage of sewerage and treatment services, out of the total number of users served by the aqueduct, for Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa are shown in Tables 57 and 58. The sewerage networks managed in 2022 total **22,004 km**, of which **13,225 km** relate to the five Companies listed.

**Table no. 57 – Volumes of wastewater treated by Water Companies operating in Lazio, in Campania and in Tuscany (2020-2022) ($Mm^3$)**

| company | 2020 | 2021 | 2022 | destination |
|---|---|---|---|---|
| Acea Ato 2 | 596.9 | 601.5 | 589.5 | 99.7% returned to the environment (river/channel), sea (0.2%) and soil (0.1%). |
| Acea Ato 5 | 21.2 | 25.0 | 24.8 | surface water body (river) |
| Gori | 70.1 | 124.0 | 117.5 | surface water body and sea (in sea, in 2022, 24%, equal to approximately 28 million cubic metres[199]) |
| AdF | 23.3 | 25.9 | 25.6 | surface water body and sea (0.9% in sea) |
| Gesesa (*) | 2.2 | 2.3 | 1.8 | surface water body (river) |

(*) Since 2020, Gesesa began installing flow meters at the entry to treatment plants. Estimated data.

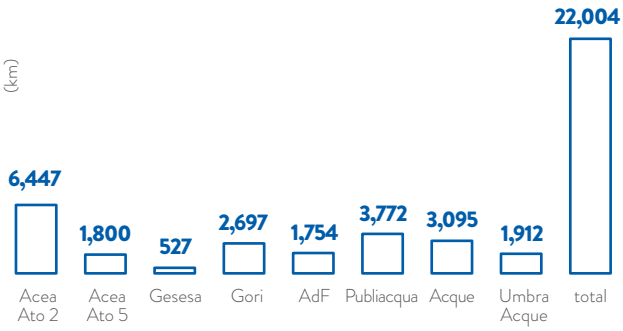
196 Gori was awarded a €50 million grant. The contracted works funded by the grant were delivered on 9 September 2022.

197 Data relating to the number of treatment plants, the volumes treated, the size of the networks and the controls refer to the main Group companies operating in the water sector, including three subsidiaries not consolidated on a line-by-line basis. Acque, Publiacqua and Umbra Acque.

198 Gesesa started installing the first flow meters on certain plants in 2020 and estimating the quantities of wastewater treated; this activity continued in 2022 as well.

199 Plants that discharge into the sea for the Company Gori are those on the islands of Capri, the Sorrento Peninsula and that of Foce Sarno.

**Chart no. 56 – Sewer networks of the main Group Companies in Italy (2022)**




**NOTE**: The kilometres in the chart refer to georeferenced data.

**The water in output from the plants** cited, after having undergone the purification treatments described, **has chemical and biological properties compatible with the life of the receiving body of water** and in accordance with the parameters established (as per Italian Legislative Decree no. 152/2006).

**Almost 100% of the wastewater treated**, which can be defined entirely as "fresh water", containing less than 1,000 mg/l of total dissolved solids, **flows into bodies of surface water**. Only 0.2% of the water treated by Acea Ato 2, 0.9% of the water treated by AdF and 24% of the water treated by Gori is discharged into the sea, representing approximately 4% of total water treated[200]. The portion of water discharged into the sea travels through underwater pipes, following treatment at the coastal treatment plants of the Sorrento Peninsula (Sorrento, Massa Centro and Marina del Cantone), the island of Capri (Gasto, Occhio Marino and La Selva) and Foce Sarno. The main basins affected by discharge are presented in Table no. 59.

**Table no. 58 – Percentage coverage of the sewer and purification services for total user accounts of the Water Companies in the NFS (2020-2022)**

| company | 2020 | | 2021 | | 2022 | |
|---|---|---|---|---|---|---|
| | sewer | purification | sewer | purification | sewer | purification |
| Acea Ato 2 (*) | 91.7% | 88.4% | 91.5% | 88.1% | 91.6% | 88.4% |
| Acea Ato 5 | 66.8% | 57.3% | 67.1% | 57.7% | 69.6% | 60.7% |
| Gori | 84.0% | 70.4% | 86.7% | 76.1% | 87.5% | 77.6% |
| Gesesa | 80.6% | 33.9% | 80.6% | 34.8% | 82.9% | 34.6% |
| AdF | 84.2% | 73.6% | 84.1% | 74.8% | 84.1% | 76.3% |

(*) The 2022 data include an estimated percentage of users in newly acquired municipalities not yet migrated to Acea Ato 2's commercial systems.

**Table no. 59 – Hydrographic basins affected by discharges of Companies within the scope of NFS**

| company | hydro graphic basins affected |
|---|---|
| Acea Ato 2 | basins of rivers Tiber, Aniene, Mignone and Arrone |
| Acea Ato 5 | basins of rivers Gari, Sacco, Cosa and Liri, Fosso della Maddalena, tributary of the River Sacco, Fosso del Diluvio, tributary of Lago di Canterno |
| Gesesa | basins of rivers Calore, Sabato, Isclero and Tammaro |
| Gori | basins of the river Sarno and Regni Lagni canals |
| AdF | basins of the rivers Ombrone, Orcia, Fiora, Albegna, Elsa, Pecora |

**NOTE**: prior to discharge, wastewater is treated in the treatment plants managed by the Companies themselves.

The companies operating in the water sector are committed to increasing the capacity and efficiency of their treatment plants by upgrading certain facilities and decommissioning others (see the box on Works by Acea Ato 2).

## CENTRALISATION OF ACEA ATO 2 TREATMENT PLANTS CONTINUES

To improve the quality of treated water, Acea Ato 2 has defined a Centralisation Plan for treatment plants aimed at **streamlining the service**, centralising treatment, where sustainable, at a limited number of sites identified through analysis of the land from a geomorphological and urban-planning perspective.

In fact, with a high number of small and medium-sized treatment facilities and sewage systems managed (119 treatment plants with capacity below 10,000 P.E.), service coverage is guaranteed primarily by large and medium-large treatment plants (52 treatment plants with capacity above 10,000 P.E.). **In the last three years (2020-2022), 17 small and medium-capacity treatment facilities were decommissioned.**

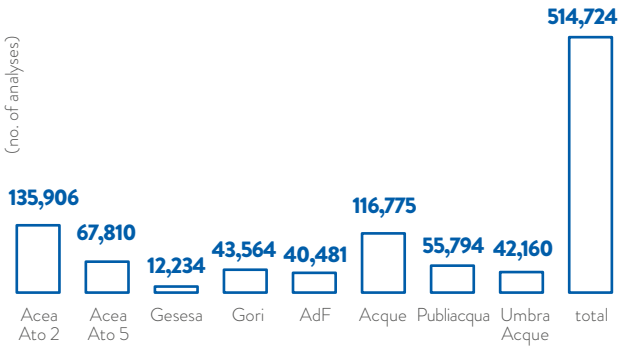
The reduced fragmentation in favour of medium-large plants, combined with integration of sewerage collector systems, has allowed **greater control of treatment efficacy** and optimisation of management and energy costs.

Acea Ato 2 has therefore prepared a rationalisation plan, which it keeps up to date, choosing between centralisation and upgrading of small plants on a case-by-case basis. The optimal solution depends on many factors that must be carefully evaluated for the specific case. In 2022, the Centralisation Plan achieved its target of **decommissioning four other small treatment plants** (Carchitti in the municipality of Palestrina, Morosina in the municipality of Ciampino, Parco della Tiburtina in the municipality of Rome, and Santa Palomba in the municipality of Pomezia).

200 The discharge of water, as for intake, occurs in areas at potential risk of water stress, as defined by the cited Aqueduct Water Risk Atlas.

The Company manages treatment processes in line with the provisions of the authorisations required for each plant and on the basis of the regulatory context in which they operate. The discharge limits are established for each plant, through an authorisation issued by the competent administrative body, which, on the basis of technical and environmental assessments during evaluation, may set stricter parameters compared to those applicable nationally. In this regard, for example, the regulatory framework in which Acea Ato 2 operates is characterised by prescriptive standards for discharge which are **generally higher** than the national regulatory reference level, while Acea Ato 5 is subjected to stricter authorisations regarding the **quality of water discharged** than those established by sector-wide regulations. This is a precautionary approach.
The companies that perform analyses to verify the proper treatment of water report the percentages of non-compliance with discharge limits, which are very low relative to the total quantities analysed: 2.8% for Acea Ato 2, approximately 0.8% for Acea Ato 5, 0% for Gori, 3.4% for AdF and 0.3% for Gesesa[201].

**Chart no. 57 – Analytical checks on wastewater, total and by Company (2022)**




The **135,906 controls** conducted by **Acea Ato 2** on wastewater confirmed the **high purification standards** achieved by the **treatment process**. In the "historic" area managed by Acea Ato 2, which includes **Rome and Fiumicino**, the **main treatment plants treated** in 2022 **approximately 510 million of cubic metres of wastewater**, a figure that is slightly lower than the previous year (516 million cubic metres in 2021). Considering also the smaller treatment systems and the plants of the municipalities acquired in OTA 2 (a total of 164) a **total volume of 589 million cubic metres of wastewater treated** (602 $Mm^3$ in 2021).
Table no. 60 shows the figures of the most important parameters from the main treatment plants of Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa. Other indicators of the efficiency of purification are described in the section *Key environmental performance indicators – Water Segment* of the *Environmental Accounts*.

**Table no. 60 – Output parameters of the main treatment plants managed by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa (2022)**

| | Acea Ato 2 | Acea Ato 5 | Gori | AdF | Gesesa (Benevento) | concentration limits in surface water (Legislative Decree no. 152/06) |
|---|---|---|---|---|---|---|
| **parameter** | **average of values (mg/l)** | | | | | |
| $BOD_5$ | 4 | 7 | 8 | 9 | 8 | ≤ 25 |
| COD | 24 | 24 | 23 | 40 | 18 | ≤ 125 |
| SST | 8 | 5 | 19 | 12 | 2 | ≤ 35 |
| nitrogen (ammoniacal, nitrate, nitrous) | 6 | 7 | 8 | 19 | 6 | - |
| phosphorous | 2 | 1 | 1 | 3 | 1 | - |
| | **quantity output (t)** | | | | | |
| COD | 15,721 | 822 | 2,749 | 654 | 32 | - |
| SST | 4,713 | 211 | 2,227 | 205 | 8 | - |

**The sludge produced** during the treatment process is mostly *sent for* **recovery of material** (see *Intermediation and Transport of Waste* in the *Environment* section, and the chapter on Waste).
In 2022, actions continued to reduce the **quantity of sludge produced by treatment plants** managed by the Group Companies.
For more details on the activities carried out by individual companies to reduce sludge production and improve the efficiency of waste treatment processes, refer to the section on Management and Minimisation of Waste Produced in the chapter on Waste.
In 2022, **Acea Ato 2** obtained authorisation to **build two plants to upgrade the biogas produced by the anaerobic digestion processes** at the Roma Nord and Roma Est treatment centres for the **production of biomethane** (through a refining process) and its introduction into the gas network managed by Italgas Reti. The production of biomethane, which when at full capacity is estimated to reach a total of around 2.6 million $Sm^3$/year, will be incentivised from January 2024[202]. Finally, please note that both projects were included on the final list of projects eligible for funding under the National Recovery and Resilience Plan (NRRP)[203].

201 The percentages correspond to the M6 value, as defined by ARERA, except for Gesesa, which reports non-compliances according to an alternative calculation method and for which the M6 data was not available at the time of publication.

202 In November 2022, the GSE accepted the qualification requests submitted by the two plants for admission to the incentive issued under Article 6 of the Ministerial Decree of 2 March 2018: ten-year incentive relating to the production of advanced biomethane, so called as it is produced from an advanced raw material such as the sludge deriving from the treatment of urban waste water.

203 Investment "1.1 Action Line C of the NRRP", but with a payable amount of zero due to exhaustion of the relevant budget ceiling (MITE Decree of 21/12/2022).

# THE USE OF MATERIALS, ENERGY AND WATER

energy efficiency (Areti, the Environment Segment and the Water Segment): approximately **8.4 GWh of savings per year**

and approximately **2,600 t** of **$CO_2$ emissions avoided**

around **350 GWh of electricity consumption** of the Group Companies **from renewable energy** with guarantee of origin, equal to approximately **110,250 t** of **$CO_2$ emissions avoided**

approximately **70,720 $m^3$** of water recovered in the Environment Area: **38%** of the total used in industrial processes by Environment companies

## CONSUMPTION OF MATERIALS

The main materials used in production processes differ according to the business sector. For the **Companies in the Environment Segment**, the most important resources include **incoming waste for production of compost and electricity** (waste-to-energy from pulper waste and SRF). Thermoelectric plants, managed by **Acea Produzione**, use **fossil fuels (natural gas and diesel) for the production of electricity**. For the electricity distribution process, carried out by **Areti**, one important gas is sulphur hexafluoride $SF_6$, used **in medium and high-voltage plants** for its specific electrical and thermal insulation properties. For the **Companies in the water segment**, there is use of **chemical products** required for process management, such as reactants for drinking water processing, disinfection and treatment of wastewater. Finally, **Acea Energia** and the structures managing commercial activity for the **Water Companies**, whilst all committed to digitalisation of processes, all use **paper** for customer invoicing. Please see Table no. 61 and the *Environmental Accounts* for details of resources used by each area.

**Table no. 61 – Type and consumption of materials by the main Group Companies (2020-2022)**

| materials | u.m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| incoming waste for composting and landfill | t | 221,950 | 249,867 | 246,846 |
| pulper | t | 90,215 | 99,730 | 97,796 |
| SRF | t | 319,122 | 307,391 | 289,550 |
| methane | $Sm^3$ x 1,000 | 23,496 | 26,102 | 26,340 |
| diesel fuel | l | 587,028 | 646,730 | 883,290 |
| $SF_6$ | t | 22.8 | 22.9 | 22.8 |
| various chemicals of water companies | t | 19,583 | 22,161 | 21,645 |
| paper | t | 352 | 341 | 320 |

**NOTE**: Data on incoming waste includes waste sent for anaerobic and aerobic treatment at the Orvieto landfill, waste entering the Deco landfill (2022 only), and waste processed for the production of compost (sludge, green, OFMSW and other agrifood waste). Pulper and SRF for waste-to-energy are resources with a renewable component linked to the biodegradable fraction of the waste. In 2022, the renewable and biodegradable portions of pulper waste and SRF were respectively 41% and 47%. The $SF_6$ data refer the total used Areti and Acea Produzione; data on paper use is associated with invoicing activities of the companies Acea Energia, Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa. Some values for the previous two-year period have been adjusted for consolidation.

## ENERGY CONSUMPTION

### ENERGY CONSUMPTION

**Total energy consumption** amounts to approximately **12,990 TJ**, **with a very slight increase compared to 2021 (+4%)**. Net of energy sold, consumption stood at 9,892 TJ; the details are illustrated in Table no. 62.

The increases in production are attributable to several factors that occur during production, for example less rainfall resulted in the higher energy expenditure of the pumping systems used by the water companies and activities involving the use of vehicles returned to full capacity during the year after the slowdowns caused by the pandemic. The increased consumption of biogas relates to the entry of Deco into the reporting scope.

**Electricity consumption of the main Companies**, particularly connected to the distribution of drinking and non-drinking water, treatment, waste management plants and internal consumption at work sites, **originates from renewable sources with a Guarantee of Origin**, **for a total of approximately 350 GWh**, which, despite the decrease on the previous year[204], **was equal to 48% of specific consumption (731.4 GWh)** in 2022 (Table no. 62).

**Table no. 62 – Energy consumption by source (2020-2022) (*)**

| energy per source | 2020 | 2021 | 2022 |
|---|---|---|---|
| | | TJ (GWh) | |
| SRF and pulper waste (waste-to-energy) – non-renewable share | 2,849.4 (791.5) | 2,770.1 (769.5) | 3,090.0 (858.3) |
| biogas (100% renewable – waste management and water segment) | 420.8 (116.9) | 424.1 (117.8) | 453.2 (125.9) |
| photovoltaic | 1.8 (0.5) | 1.0 (0.3) | 6.3 (1.7) |
| GO electricity | 1,516.6 (421.3) | 1,498.5 (416.3) | 1,260.0 (350.0) |
| **total fuel and electricity consumption from renewable sources** | **4,788.6 (1,330.2)** | **4,693.8 (1,303.8)** | **4,809.5 (1,336.0)** |
| SRF and pulper waste (waste-to-energy) – non-renewable share | 3,859.1 (1,072.0) | 3,659.0 (1,016.4) | 3,800.4 (1,055.7) |
| methane (for electricity generation, district heating, processes, water area dryers and heating for offices) | 1,238.6 (344.1) | 1,331.6 (369.9) | 1,281.5 (356.0) |
| diesel (for electricity generation, other uses, composting plants and road haulage) | 175.3 (48.7) | 176.0 (48.9) | 183.9 (51.1) |
| LPG (heating, road haulage and processing) | 1.2 (0.3) | 2.1 (0.6) | 2.2 (0.6) |
| petrol (road haulage) | 7.1 (2.0) | 18.0 (5.0) | 28.4 (7.9) |
| LSC oil for process (disposal of Acque Industriali wastewater) | 2.0 (0.6) | 1.3 (0.4) | 0.0 (0.0) |
| electrical energy losses on the distribution networks and transport | 1,076.8 (299.1) | 1,112.0 (308.9) | 1,161.1 (322.5) |
| own use of electricity for the implementation of distribution and transmission activities | 128.9 (35.8) | 110.5 (30.7) | 104.2 (28.9) |
| consumption for public lighting | 241.1 (67.0) | 242.4 (67.3) | 242.7 (67.4) |
| non-GO electricity for internal use (water systems, environmental processes, laboratories and offices) | 1,154.6 (320.7) | 1,124.2 (312.3) | 1,373.1 (381.4) |
| **total fuel and electricity consumption from non-renewable sources** | **7,884.7 (2,190.2)** | **7,777.0 (2,160.3)** | **8,177.5 (2,271.5)** |
| **total fuel and electricity consumption** | **12,673.3 (3,520.4)** | **12,470.8 (3,464.1)** | **12,987.0 (3,607.5)** |
| **total energy sold** | **3,429.2 (925.5)** | **3,749.4 (1,041.5)** | **3,095.5 (859.8)** |
| **energy consumed** | **9,244.2 (2,567.8)** | **8,721.3 (2,422.6)** | **9,891.5 (2,747.7)** |

(*) Figures for the 2020-2021 two-year period have been adjusted for consolidation.
**Note:** data on energy produced by the companies' plants, energy fed into the network and energy sold are illustrated in the *Environmental Report* (Products – Energy).

Table no. 63 shows the **energy intensity indices**. The public lighting indicators remain generally stable, while indicators regarding the water service reflect the low rainfall during the year which led to increased consumption for water collection/pumping and a lower quantity of water treated.

204 Rising electricity prices in 2022 also led to a sharp increase in the cost of renewable electricity certificates, which are no longer affordable for some Group companies.

**Table no. 63 – Energy intensity indices (2020-2022)**

| Energy consumption intensity index | u.m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| electricity consumed for public lighting per lamp | TJ/lamp | 0.00106 | 0.00106 | 0.00105 |
| total electricity consumed by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa/ water issued into aqueduct systems | TJ/Mm$^3$ | 2.437 | 2.471 | 2.567 |
| electrical energy consumed by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa for sewer service and treatment/water treated | TJ/Mm$^3$ | 1.264 | 1.263 | 1.286 |

### ENERGY CONSUMPTION ALONG THE SUPPLY CHAIN

Acea works to increase awareness and monitor its supply chain in relation to energy issues. Since 2015, it has monitored **energy consumption**, requesting a representative panel of the suppliers to fill out a specific questionnaire. In December 2022 the questionnaire was sent to 100 suppliers, the principal parties in terms of value of orders for the year. Thanks to the results from 47 of those contacted (equal to 31% of the total Acea expenditure for the procurement of goods/ services and works), the total energy consumption for all suppliers was estimated at approximately 342,372 GJ[205]. The questionnaire has included a specific section on water consumption (see the section *Attention to water consumption*, further on in the document).

## ENERGY SAVING

**Ecogena** is the organisation registered to develop **energy-efficiency initiatives for the Group Companies** and report their results to the Gestore dei Servizi Energetici (GSE) for the **awarding of Energy Efficiency Certificates** (EECs). From their activation to 31 December 2022, the cogeneration plants managed by Ecogena received a total of 9,335 **EECs** under the Ministerial Decree of 5 September 2011, of which **355 were in 2022**. Furthermore, the energy efficiency initiatives implemented by the Acea Group, reported by Ecogena and validated by the GSE, received a total of **19,014 EECs**, of which **6,769 were received in 2022**.
Areti, in its capacity as a distribution company, is required to reach a quantitative annual primary energy saving target defined by the authorities in terms of EECs. In this regard, in 2022 the Company cancelled 58,895 EECs, of which 9,948 were related to the 2021 quota and the remaining 48,947 to the 2019 quota.

### ENERGY EFFICIENCY ACTIONS

In 2022, Acea implemented **measures to improve energy efficiency**, aimed particularly at **companies operating in the industrial water and environmental sectors, and the company Areti**.
Considering the **photovoltaic systems** at the plants of Acea Ato 2, AdF, Deco, Orvieto and Terni, total energy consumption (on-site self-consumption) was approximately **2,600 MWh**, with a consequent **830 tonnes of $CO_2$ emissions avoided**. In the **water** sector, the Company implemented the following **energy efficiency measures** in 2022.
**Acea Ato 2** achieved **a total saving of 7.6 TJ** (2.1 GWh). The most significant efficiency gains, amounting to **6.5 TJ** (1.8 GWh), concerned several water centres, while for the water treatment sector, specific optimisation work was carried out at two treatment plants, with an efficiency gain of **approximately 0.8 TJ** (0.23 GWh).
Additionally, further savings related to reduced water losses. For **Acea Ato 5** increases in efficiency, corresponding to **2.9 TJ** (0.8 GWh), are attributable to replacing the pumps used for withdrawal at springs and well fields, installing inverters, and revamping a treatment plant.
**Gori** implemented actions to increase efficiency for a savings of **30.4 TJ** (8.5 GWh), primarily through the use of more efficient water sources, new water plant management structures, the use of higher-efficiency electric pumps, and measures to improve the efficiency of treatment plants. **AdF** increased efficiency for a savings of **4.7 TJ** (1.3 GWh) through the replacement of older pumps on the aqueduct network, district planning, management of pressure levels and leak detection. **Gesesa** has achieved a savings by improving the efficiency of **0.9 TJ** (0.3 GWh) resulting from actions to manage pressure in the context of the current district planning process. Overall, the above actions have enabled the **Water segment to avoid** approximately **1,700 t of $CO_2$**.
In the **Environment sector**, actions to improve energy efficiency in 2022 included the works at the **San Vittore del Lazio** plant to optimise combustion on Line 1, which led to annual efficiency gains of approximately **3.1 TJ** (869 MWh of electricity) and **28.5 TJ** (715 kSm$^3$ of natural gas). At the **Aprilia** composting site, efficiency gains were **3.8 TJ** (1.0 GWh of electricity) and **5.3 TJ** (208 kNm$^3$ of biogas) thanks to the optimisation of the anaerobic digester and the improved efficiency of managing plant downtime, which improved biogas productivity. At the **Monterotondo Marittimo** site, the replacement of halogen lights with LED bulbs and other process improvements provided efficiency gains of **0.9 TJ** (254 MWh). Other minor works included plant optimisation measures with the installation of inverters at a Berg plant (18 MWh/year) and the replacement of conventional lights with LED bulbs at Demap (for 3 MWh/year). In total, $CO_2$ avoided at sites in the Environment sector, including two waste-to-energy plants, amounted to approximately **2,406 t.**
In the Networks segment, the company **Areti** continued in 2022 with works to increase efficiency on the electricity distribution network managed, including:

- the replacement of **173 MV/LV transformers** with **super-low loss** equivalents, which allowed a reduction in electricity consumption of 276 MWh;
- other **actions on the HV/MV/LV distribution network** aimed at optimising the structure of the MV network and upgrading of HV and LV lines, currently estimated at a total of 744 MWh saved (including use of transformers).

Table no. 64 shows the types of actions and relative energy savings for Areti, for the last three years. In **2022**, the total **energy saving** was **2.7 TJ** (0.7 GWh) and approximately 230 tonnes of **$CO_2$ emissions were avoided**[206].

205 The figure is obtained by readjusting the consumption of respondents relative to the total purchased during the year.

206 Calculations for estimation of $CO_2$ emissions avoided in the entire section *Relations with the environment* have been carried out using the 2021 Terna location-based conversion factor, equal to 0.315 tonnes of $CO_2$/MWh. In the Sustainability Plan reporting, the same estimate is made using the 2019 conversion factor, in line with the calculation for definition of the 2024 target.

**Table no. 64 – Energy efficiency in Areti (2020-2022)**

**Energy savings achieved (GJ)**

| Action | 2020 | 2021 | 2022 |
|---|---|---|---|
| reduction in losses from the network | 6,372 | 4057 (*) | 2,678 (**) |
| *of which reduction in losses through the purchase of new transformers* | *1,141* | *1,397* | *992 (**)* |

(*) consolidated figure.
(**) estimated figure.

**Consumption for public lighting** in 2022 was **242 TJ** (67 GWh), in line with 2021 consumption. The ratio of LED lamps to total lamps was **92%**.
In 2022, the company's operating personnel used a total of **87 electric vehicles** (25 via car sharing, and 62 vehicles individually assigned to operating personnel on a 24/7 basis).
According to monitoring by Areti, total journeys amounted to approximately 260,000 km, consumption was around 42 MWh and a net saving of approximately **26,200 kg of $CO_2$** was achieved thanks to the avoidance of diesel-powered vehicles.

## ATTENTION TO THE USE OF WATER RESOURCES

**Water resources are used in industrial processes**, such as the generation of electricity and thermal energy and composting processes, as well as clean sewage treatment plant tanks and anaerobic digestion tanks. Water is also used in small quantities for laboratory activity.
Group companies are committed to reducing drinking water withdrawals and implement measures to enable the use of recycled water. In this regard, there has been a gradual increase in the quantity of recovered water, from around 2.2 million $m^3$ in 2021 to approximately **2.4 million $m^3$** in 2022, **an increase of 9%**. Specifically, in 2022 certain companies in the water sector developed initiatives to reuse treated water. For example, at the treatment plans currently managed by **Gori**, **treated wastewater was re-used**. The wastewater used for this purpose, defined as "technical wastewater", is distributed within plants through specific pipes and used for various purposes, including washing equipment (screens, units for thickening and drying of sludge), backwashing of certain parts of the treatment plant (membranes, fabric or sand filters), and washing of sand and screens. These sites are equipped with specific flow gauges, and water audits are conducted to assess water withdrawals and consumption from treatment processes and identify strategies to increase savings and reuse possibilities.
After having completed the **industrial water network** (non-drinking water) of the **Roma Sud, Roma Nord, CoBIS and Ostia treatment plants** in 2020-2021, **Acea Ato 2** is planning similar actions at the Roma Est and Parco Leonardo (Fiumicino) treatment plants, increasing the amount of water intended for reuse according to a circular economy model. In 2022, the company recovered approximately **1.8 million $m^3$** of process water, representing around **49% of total water used**. At **Acea Ato 5**, around **535,000 $m^3$** of treated water was used at the treatment plants for service activities related to their operation.
The **Companies in the Environment sector** limit the use of drinking water, **mainly using water from wells**. In addition, at the **plants of San Vittore del Lazio, Orvieto, Aprilia**, **Monterotondo Marittimo** and **Terni,** there are active **systems for the recovery of rainwater**. At the Terni plant, for example, rainwater is collected in **two tanks** equipped with a filtration system and storage tanks, before industrial use. The **Aprilia composting plant** also has a system for treating **residual water from unprocessed waste**, allowing it to be reused in production processes. For industrial uses[207], such as vehicle washing, rainwater that has already been treated in the storage tanks through sedimentation and de-oiling is also reused. The **Monterotondo Marittimo** plant also has a rainfall recovery system that, after phytodepuration, enables collection of the water in special aerated reservoirs as a reserve for fire-fighting and as a reserve of industrial water for process use. At the **waste-to-energy** plant in San Vittore del Lazio, rainwater goes through a special chemical/physical treatment process to produce demineralised water, which is then entirely reused within the same system as part of a closed cycle, with no water discharge to the environment. Finally, the **Orvieto plant hub** collects rainwater from the roofs of certain buildings and transfers it to underground storage tanks serving the fire-fighting reserve. Thanks to the various solutions described, **the volume of water recovered from the Environment Area** was approximately **70,720 $m^3$** in 2022.

**Water withdrawals** of the main Group companies associated with industrial processes and civil use are illustrated in Table no. 65. While withdrawals were **generally stable** during the year, the illustrated actions have led to a **significant increase in the amount of re-used water during the three-year period**[208].
The reuse of treated waste water **is an effective response to water stress** in Acea's areas of operation, but specific regulatory interventions are required to further expand its potential. In this sense, the recent European Regulation 2020/741 on the reuse of treated water in agriculture, in addition to provisions that will be adopted with national regulations, facilitates a significant reuse of treated water in coming years.

207 In 2022, the existing plant underwent a major energy efficiency upgrade, which caused a period of plant downtime, with a resulting temporary reduction in water production from the reverse osmosis plant.

208 The increase is partly due to improved measurement processes.

**Table no. 65 – Water withdrawal and recovery (2020-2022)**

| | 2020 | 2021 | 2022 |
|---|---|---|---|
| | | (Mm³) | |
| **Withdrawals (*)** | | | |
| **industrial processes** (district heating, thermoelectric generation, Ambiente plants, Water companies) (**) | **0.344** | **0.232** | **0.342** |
| *of which aqueduct* | *0.237* | *0.125* | *0.199* |
| *of which well* | *0.104* | *0.104* | *0.120* |
| *of which river water (***)* | *0.003* | *0.003* | *0.023* |
| **water consumption for civil use (****)** | **2.601** | **2.517** | **2.508** |
| **total water withdrawals (*****)** | **2.945** | **2.749** | **2.850** |
| **Recovery** | | | |
| **water recovered and used in industrial processes** | **0.115** | **2.222** | **2.393** |

**NOTE**: Intake of freshwater occurs in areas at potential risk of water stress, as defined by the Aqueduct Water Risk Atlas, the map drawn up by the World Resources Institute (WRI).
(*) The figures for the 2020-2021 two year period have been adjusted following consolidation.
(**) Water withdrawn for industrial use was partly used in processes totalling 0.193 Mm³ in 2020, 0.090 Mm³ in 2021 and 0.179 Mm³ in 2022; the discharge of water withdrawn for industrial use over the three-year period was 0.043 Mm³ in 2020, 0.027 Mm³ in 2021 and 0.001 Mm³ in 2022.
(***) The data refers to river withdrawals for the Orvieto Hub and sites managed by Deco.
(****) Water withdrawn for civil/sanitary use from aqueducts, representing 99.9% of total withdrawal for this purpose, is discharged into the public sewerage system after reuse and returned to the environment.
(*****) Out of the total water withdrawn, water consumption in the three-year period was 10% in 2020, 8% in 2021 and 12% in 2022. The increase in 2022 is partly attributable to the inclusion of Deco in the reporting scope.

The Group promotes informed and careful use of water resources, **also throughout the supply chain**, raising awareness among suppliers through issue of a questionnaire (see also the sub-section *Energy consumption along the supply chain*).

## WATER INTAKE OF PANEL OF SUPPLIERS MONITORED

Since 2020, to raise awareness along the supply chain of the importance of safeguarding water resources, the Sustainability Planning & Reporting Unit, with the support of the Procurement and Logistics function, has sent a panel of suppliers (on an experimental basis) a request for environmental data including information on water intake, divided by process and civil uses. **47 suppliers** out of 100 suppliers invited to replied to the section on water resources, corresponding 31% of the total expenditure of the Acea Group for procurements of goods, services and labour. Water intake for the above suppliers in 2022 equalled approximately 19,600 m³, divided into approximately 7,750 m³ for industrial uses and 11,850 m³ for civil uses. Acea intends to continue to send this questionnaire in the coming years, with the goal of raising awareness about the topic among its suppliers and improving the quality of the surveys.

**Discharges of water intake** occur within **authorised** and **closely controlled processes**. For example, at the **Terni waste-to-energy plant**, residual water from production processes is **first treated by internal treatment plants**, before being discharged into public sewerage. Water used in the waste-to-energy process at the **San Vittore del Lazio** plant, instead, is collected and stored in special underground tanks and disposed of as waste, as it may contain components that make it unsuitable for normal discharge. Wastewater from toilet facilities on the production lines and at the relevant offices is collected in septic tanks and subsequently disposed of, while the sewage from the administration building is collected and conveyed to an Imhoff tank with a sub-irrigation system for subsurface clarification. Water intake for industrial uses in activities connected to the integrated water service, and in particular water treatment, undergoes the **same treatment as waters transported via public sewerage**, i.e. it is retreated at the head of the treatment plant and sent to the locations described in the section *Sewerage service and treatment system*, in the chapter *Water segment*. All civil water intake from the aqueduct ends up directly in the sewer network.

# EMISSIONS

**-13% emissions on electricity sales** (market based) thanks to the increase in GO electricity sold (+15%)

**intensity index of Scope 2 emissions** deriving from losses on the electricity distribution grid/GWh was stable at **0.01 t/MWh**

continuous analysis of waste-to-energy emissions:

**values of pollutants significantly lower than legal limits**

## ATMOSPHERIC EMISSIONS

Atmospheric emissions from production activities are monitored in a planned and constant manner. The plants are managed according to UNI EN ISO 14001 and UNI EN ISO 45001 standards. Acea Ambiente also applies the UNI EN ISO 50001 management system, while the waste-to-energy plants, the Orvieto plant and the Deco sites are also registered under the European EMAS III scheme, extended until 2024[209].

The most relevant **macro-pollutants**, which are attributable to the Acea Ambiente and Acea Produzione plants, are monitored through Continuous Emission Monitoring Systems (CEMs). In 2022, macro-pollutants were recorded at very low values and are decreasing compared to previous years (see Table no. 66).

**Table no. 66 – Total atmospheric emissions of pollutants from the main Group plants (2020-2022)**

| emissions | 2020 | 2021 | 2022 |
|---|---|---|---|
| | | (t) | |
| CO | 8.34 | 7.68 | 5.95 |
| $NO_x$ | 190.67 | 198.11 | 191.30 |
| $SO_x$ | 0.90 | 1.60 | 1.51 |
| particles (particulate matter) | 0.60 | 0.74 | 0.36 |

**NOTE**: the emissions refer to the plants of Acea Ambiente – waste-to-energy and Acea Produzione.

Specifically, monitoring of the **waste-to-energy plants** is carried out by means of fixed and mobile stations that **sample and analyse the fumes coming out of the chimneys**, **measuring concentrations** for numerous parameters that are periodically checked by internal personnel and certified by qualified external laboratories. Again in 2022, the **values of the main pollutants** were also **significantly below the legal limits** (see Table no. 67).

At the **San Vittore del Lazio** plant, the monitoring campaigns carried out for PM10, PM2.5[210], heavy metals (fixed and mobile survey stations) and PAHs (polycyclic aromatic hydrocarbons), dioxins and furans (mobile only) did not detect any critical values. Other actions in the year including the monitoring of diffuse and fugitive emissions and the continuation of a biomonitoring campaign using bees as bioindicator insects (see Safeguarding of Land and Biodiversity, in the chapter Environmental Sustainability and the Main Challenges). Finally, each waste-to-energy line has systems to monitor emissions from the chimney, enabling continuous tracking for concentrations of pollutants 24/7, with availability of data on the Group website (www.gruppoacea.it).

Environmental monitoring is carried out at all plants. For example, at the Aprilia plant, a monitoring campaign was conducted in December 2022 to survey the presence of hydrogen sulphide, volatile organic compounds, nitrogen oxide, methane odours, and other components.

209 In the case of Deco, the EMAS registration is valid from 2022 to 2025.

210 PM10 refers to particles with a diameter less than or equal to 10 μm. The term PM2.5 refers to particles with a diameter less than or equal to 2.5 μm.

**Table no. 67 – Concentrations of atmospheric emissions generated by waste-to-energy plants (2020-2022)**

| | | San Vittore del Lazio plant (*) | | | | Terni plant (*) | | | |
|---|---|---|---|---|---|---|---|---|---|
| **pollutant** | **u. m.** | **scope of reference (**)** | **2020** | **2021** | **2022** | **scope of reference (**)** | **2020** | **2021** | **2022** |
| HCl | mg/Nm³ | 8 | 0.145 | 0.064 | 0.139 | 8 | 3.807 | 3.701 | 3.919 |
| $NO_x$ | mg/Nm³ | 70 | 29.925 | 29.488 | 29.560 | 180 | 125.989 | 120.644 | 122.070 |
| $SO_2$ | mg/Nm³ | 40 | 0.086 | 0.310 | 0.310 | 25 | 0.969 | 0.928 | 0.563 |
| HF | mg/Nm³ | 1 | 0.020 | 0.016 | 0.020 | 1 | 0.00 | 1.040 | 0.854 |
| CO | mg/Nm³ | 40 | 0.604 | 1.083 | 0.910 | 25 | 1.057 | 0.049 | 0.093 |
| total particles (particulate) | mg/Nm³ | 3 | 0.010 | 0.049 | 0.040 | 25 | 0.763 | 0.760 | 0.468 |
| PAH (polycyclic aromatic hydrocarbons) | mg/Nm³ | 0.01 | 0.00007 | 0.000007 | 0.00001 | 0.01 | 0.00000 | 0.00002 | 0.000005 |
| dioxins and furans (PCDD +PCDF) | ng/Nm³ | 0.1 | 0.0094 | 0.0023 | 0.0032 | 0.1 | 0.0000 | 0.0000 | 0.0000 |
| heavy metals (Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V) | mg/Nm³ | 0.5 | 0.0246 | 0.0315 | 0.0372 | 0.3 | 0.03 | 0.04 | 0.03 |
| Hg | mg/Nm³ | 0.05 | 0.0013 | 0.0022 | 0.0020 | 0.05 | 0.0004 | 0.0018 | 0.0008 |

(*) The analysis of PAH, dioxins and furans and heavy metals and their composites are four-monthly and discontinuous. The "<" symbol identifies the concentration values that are equal to or below the thresholds that the devices used by the laboratory are capable of measuring.
(**) Reference parameters, Legislative Decree no. 46/2014, 2000/76/EC and IEA, are separate for each waste-to-energy plant.
**NOTE**: for San Vittore del Lazio, over the years the recorded concentrations of the parameters HCl, $SO_2$, dust and HF were close to the instrument's detection limit. Therefore, in these measurement areas deviations are to be considered insignificant for absolute changes in concentrations and masses.

Monitoring carried out on installations at risk[211] has shown **the absence of emissions** in significant quantities **of substances responsible for reducing the ozone layer** (for consumption see the section *Resources used*, in the *Environmental accounts*).

## GREENHOUSE-GAS EMISSIONS

Acea quantifies its $CO_2$ emissions by **monitoring and evaluating the carbon footprint of the individual macro production processes** according to the guidelines of the GHG protocol[212] which requires reporting in the categories of **direct** (**Scope 1**) and **indirect** (**Scope 2** and **Scope 3**).

**Direct Scope 1** emissions **mainly come from** the Group's **two waste-to-energy plants** and the **thermoelectric power stations**. As of 2022, two plants are subject to the **Emission Trading Scheme (ETS)**, specifically the Montemartini and Tor di Valle power stations. As of March 2022 and with retroactive[213] effect, the Terni waste-to-energy plant is no longer included in the scope of application of the ETS Directive.
The allowances assigned under the NAP (National Allocation Plan) are lower every year and in any case small, compared to the actual emissions recorded. Data for the three-year period 2020-2022 is presented Table no. 68.

**Table no. 68 – $CO_2$ emission allowances as per the National Allocation Plan (NAP) and actual emissions by plant (2020-2022)**

| | 2020 | | 2021 | | 2022 | |
|---|---|---|---|---|---|---|
| **plant** | (t) | | | | | |
| | **assigned by NAP** | **actual** | **assigned by NAP** | **actual** | **assigned by NAP** | **actual** |
| Tor di Valle (*) (**) | 3,782 | 44,227 | 3,564 | 51,839 | 3,472 | 54,386 (***) |
| Montemartini | 0 | 1,546 | 0 | 1,712 | 0 | 2,338 |

(*) As with previous years, in 2022 the applicable legislative framework allowed the Tor di Valle plant to benefit from free of charge emission allowances (3,472 t) as it serves a district-heating network.
(**) The 2021 figures for actual emissions have been updated with the certified figures.
(***) Estimated emissions, pending certification by the responsible body.

211 This is primarily air conditioning equipment using refrigerant gases subject to the 1987 Montreal protocol, particularly chlorofluorocarbons.

212 See www.ghgprotocol.org for more information.

213 In March 2022, following an exemption request submitted to the MISE, with Resolution 66/22 the National Committee for the management of Directive 2003/87/EC and for support in the management of project activities of the Kyoto Protocol, determined, with retroactive effect, the exclusion of the Terni plant as of 31 December 2020.

**Scope 1** emissions include other components deriving from certain processes of plants in the Environment Segment (composting, treatment and disposal of liquid waste), from drying at treatment plants, from petrol and diesel vehicles in the fleet, from leaks of sulphur hexafluoride ($SF_6$) that may arise at Areti plants, from combustion processes for heating of premises and offices, and finally from leaks of freon gases from air-conditioning units.
The amount of $CO_2$ emitted by the waste-to-energy plants in 2022 **increased slightly compared to 2021** (see Table no. 69). This was mainly due to **less biodegradable waste** entering and processed for waste-to-energy at the Terni plant (renewable energy fell from 43.4% to around 41%).
The increase in $CO_2$ emissions from Acea Produzione's thermoelectric power stations is attributable to a higher production of thermoelectric energy and consequent increase in fuel use, while the higher emissions related to the integrated water service processes are mainly due to occasional work by Acea Ato 2 at a specific water centre.

**Scope 2** greenhouse gas emissions from electricity consumption in 2022 were in line with 2021 (+1%). Efficiency gains in the water sector, for example, offset the increased consumption caused by the use of pumps as a result of low rainfall. For more details see the paragraph on Energy Saving. Emissions from electricity grid losses increased (by about 4%) due to the increase in electricity demand on the distribution grid (+2%).

**Scope 3** emissions include those deriving from the gas and electricity sales, electricity consumption by suppliers of purchased goods, services and works, business travel and, from 2022, main subsidiaries[214] (scope 3 category "investments") (see Table no. 69).
**Emissions from business travel rose** in 2022 due to the end of restrictions caused by the pandemic and the resumption of **normal business travel.**
**Scope 3** emissions associated with the purchase of goods, services and labour are calculated using monitoring data for energy consumption outside the Group, requested from a **representative panel of suppliers** using a questionnaire (see the section *Energy consumption outside the Group)*. In particular, the data requested regards energy (primarily consumption of fuels, electricity and vehicle fuels) and data for refrigerant gases used at supplier premises, which contribute to this category of **Scope 3**.
To reduce emissions from **electricity sales** (calculated in the table using both the location-based and market-based methods), **Acea Energia** offers customers GO-certified green electricity commercial rates. **Since 2021**, **all new retail customers on the free market** are offered exclusively GO-certified green energy, with the gradual roll-out to contracts signed before this date. The "sustainable" rate also covers gas thanks to offsetting through the purchase of VER (Verified Emission Reduction) certified carbon credits. For more details, see the section on Customer Care in the Customers chapter. **Green energy sold** by Acea Energia to free market customers in 2022 totalled 2,536 GWh (2,196 GWh in 2021), corresponding to 42% of total energy sold to free market customers (see also the *Environmental Accounts*). The **sale of electricity with GO certification** has therefore led to a saving of approximately 799,000 t of $CO_2$ **in the Scope 3 category.** For gas sales in 2022, offsetting measures are expected to cover approximately **54 MSm³** (estimated figure; 3.3 $MSm^3$ in 2021 according to the updated figure), corresponding to approximately **107,000 t of $CO_2$.**

## INTENSITY INDICES FOR GREENHOUSE GAS EMISSIONS

**Scope 2 carbon dioxide emissions**, deriving from **leaks on electricity distribution networks**, **relative to total electricity distributed**, is one of the intensity indices for greenhouse gas emissions monitored. The index is **in line with 2021, rising from 0.0099 t/MWh** (updated figure after consolidation) to 0.0101[215]. However, performance of the **Scope 1 emissions index on energy produced**[216] fell. The indicator stands at 462.1 g/kWh (413.8 g/kWh considering also the photovoltaic production of the subsidiary not consolidated on a line-by-line basis), with an increase due mainly to the reduction in electricity production from hydroelectric (-23% compared to 2021 production) and waste-to-energy (-5%) sources. Finally, the **emissions intensity index linked to value added improved**, decreasing by 4% compared to 2021. Total Scope 1 plus Scope 2 emissions remained almost stable (+0.8%), while value added increased by 5% (see Table no. 69).

**Table no. 69 – Environmental indicators: $CO_2$ emissions, intensity indices for greenhouse gas emissions (2020-2022)**

| $CO_2$ EMISSIONS | | | | |
|---|---|---|---|---|
| *SCOPE 1* EMISSIONS | | | | |
| FROM ENERGY PRODUCTION PLANTS | | | | |
| | **u. m.** | **2020** | **2021** | **2022** |
| $CO_2$ emissions from Acea Produzione thermoelectric power stations (*) | t | 45,773 | 53,551 | 56,724 |
| $CO_2$ emissions from the Ecogena plants | t | 9,607 | 7,829 | 5,191 |
| $CO_2$ emissions from Acea Ambiente waste-to-energy plants (*) | t | 341,763 | 325,684 | 327,426 |

214 Acque, Publiacqua and Umbra Acque.

215 The figure is estimated.

216 The index is calculated using emissions from production (Acea Produzione's thermoelectric power stations, Ecogena plants, waste-to-energy plants) as numerator and total energy produced by the Group's plants as denominator.

| FROM WASTE MANAGEMENT, ENERGY DISTRIBUTION, HEATING PLANTS AND VEHICLE FLEET | | | | |
|---|---|---|---|---|
| $CO_2$ emissions from waste-management plants (**) | t | 1,582 | 1,895 | 2,028 |
| $CO_2$ emissions from water-plant processes of the IWS (***) | t | 6,979 | 7,486 | 8,309 |
| $CO_2$ emissions from heating (***) | t | 872 | 881 | 755 |
| $CO_2$ emissions from vehicle fleet | t | 9,705 | 10,533 | 11,065 |
| $CO_2$ emissions from Areti and Acea Produzione plants (from $SF_6$) (****) | t | 8,695 | 7,045 | 4,959 |
| $CO_2$ emissions from refrigerants (HCFCs) (*****) | t | 1 | 0 | 2 |
| **TOTAL SCOPE 1 EMISSIONS** | **t** | **424,977** | **414,904** | **416,458** |
| ***SCOPE 2* EMISSIONS** | | | | |
| location-based Scope 2 emissions (market based) (******) | t | **384,323 (284,433)** | **357,669 (271,973)** | **362,211 (299,385)** |
| *of which $CO_2$ emissions from network leaks* | t | *100,489* | *97,301* | *101,596* |
| ***SCOPE 3* EMISSIONS** (*******) | | | | |
| $CO_2$ emissions deriving from the purchase of goods/services and works (********) | t | 11,642 | 31,701 | 26,674 |
| $CO_2$ emissions from business travel | t | 46 | 38 | 143 |
| $CO_2$ emissions from volumes of gas sold | t | 276,284 | 346,567 | 337,895 |
| $CO_2$ emissions from the sale of electricity, location based (market based) | t | 2,200,491 (2,382,384) | 2,447,005 (2,555,276) | 2,323,676 (2,210,141) |
| $CO_2$ emissions from Investee operating companies ("investments") | t | 39,793 | 38,224 | 38,927 |

| INTENSITY INDICES FOR GREENHOUSE-GAS EMISSIONS | | | | |
|---|---|---|---|---|
| **intensity indices of the GHG emissions** | **u. m.** | **2020** | **2021** | **2022** |
| $CO_2$ emissions (Scope 1 + Scope 2)/Acea Group added value (*********) | (t/k€) | 568.3 | 504.3 | 483.6 |
| Scope 1 $CO_2$ emissions/gross production (**********) | (g/kWh) | 428.7 | 381.1 | 462.1 |
| Scope 2 $CO_2$ emissions deriving from losses on the electrical energy distribution network/issued MWh | (t/MWh) | 0.0104 | 0.0099 | 0.0101 |

(*) The 2021 figures for the Tor di Valle and Terni plants have been adjusted after the ETS certification, while the 2022 figure is estimated pending certification by a third-party body for Tor di Valle and the definitive analyses for Terni.
(**) The figure includes the emissions of the ancillary services of the waste-to-energy plants, not strictly related to the production of electricity, of Acque Industriali, Aquaser, Berg and Demap.
(***) Data refers to uses of dryers and generators. The increase in 2022 was mainly due to occasional works by Acea Ato 2 at a water centre in Albano Laziale.
(****) These are the tonnes of equivalent $CO_2$ corresponding to the emissions of insulating $SF_6$ present in Areti's HV equipment (1 t of $SF_6$ equates to 23,500 t of $CO_2$, GHG Protocol-5th Assessment Report- AR5).
(*****) In the last three years, the replenishment of HCFC fluids in the Group's plants was so small that it did not lead to significant $CO_2$ emissions.
(******) The indirect emissions (*Scope 2*) include all the Companies within the NFS scope. As an emission factor per unit of electricity consumed (t $CO_2$/MWh), for the location-based calculation the value of 0.315 was used for 2021 and 2022 (0.336 for 2020), as per Terna's "International Comparisons" document. For the calculation of *Scope 2* emissions using the market-based method, the residual mix coefficients are the following for 2020, 2021 and 2022, respectively: 0.466 t/MWhe, 0.459 and 0.457 (Source: AIB document "European Residual Mixes 2021"). Emissions due to technical network losses in 2021 were calculated on the basis of the corresponding adjusted figure in 2022.
(*******) As of 2022 emissions from commuting are not calculated as the values are negligible.
(********) This value, estimated, refers to suppliers of goods, services and works. The 2022 figure is broken down as follows: 21,871 tonnes of $CO_2$ for suppliers of services and works and 4,803 tonnes of $CO_2$ for suppliers of goods.
(*********) Data for the 2020-2021 two-year period have been recalculated, excluding from the numerator the emissions of the investee companies Acque, Publiacqua and Umbra Acque. From 2022, these are reported as Scope 3 emissions under the Investments category.
(**********) *Scope 1* emissions included are those from power generation plants, including Ecogena. If the photovoltaic production of the investee company not consolidated on a line-by-basis were also taken into account, the indicator for the year would be 413.8 g/kWh. In any case, the indicator rose in 2022 mainly due to the increased $CO_2$ emissions from waste-to-energy processes (due to plant downtime), while energy production fell.
**NOTE** Emission factors for *Scope 1* emissions are taken from the standard parameters – ISPRA data 2021, DEFRA 2022 and GHG Protocol-5th Assessment Report-AR5.

# WASTE

**47%** of waste recovered on the total waste produced **(177,983/376,578 t)**

**83%** ash recovered against total produced in waste-to-energy plants **(52,782/ 63,645 t)**

**66%** of sludge recovered against total sludge produced by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa **(106,087/160,293 t)**

With regard to the **waste produced**, each company has defined streams for **process and non-process waste**. The latter category includes waste that does not derive from production activity in a strict sense, and generally represents a minimal part of total waste, also having a very variable composition determined by non-recurring events.

**Table no. 70 – Total waste produced (2020-2022)**

| waste produced | 2020 | 2021 | 2022 |
|---|---|---|---|
| | | t | |
| **total waste** | **306,060** | **353,137** | **376,578** |
| *hazardous* | *70,669* | *73,139* | *72,588* |
| *non-hazardous* | *235,391* | *279,997* | *303,989* |
| **detail by type of processing** | | | |
| **entirely recovered waste** (*) (**) | **111,534** | **157,771** | **177,983** |
| **entirely disposed of waste** (***) | **194,526** | **189,854** | **198,594** |
| *incineration (with energy recovery)* | *3,769* | *2,962* | *5,580* |
| *incineration* | *16,948* | *5,242* | *5,486* |
| *landfill and other disposal operations* | *173,815* | *181,650* | *187,528* |

(*) Waste sent for recovery in 2022 was divided as follows: 139,654 t for preparation for reuse, 33,809 t for recycling 4,520 t for other recovery operations.
(**) In 2022, hazardous waste sent for recovery amounted to 54,656 t; non-hazardous waste amounted to 123,328 t.
(***) In 2022, no hazardous waste was sent to waste-to-energy plants or incineration. Non-hazardous waste sent to waste-to-energy plants was 5,580 t, while 5,486 t was sent for incineration. 17,933 t of hazardous waste and approximately 169,596 t of non-hazardous waste was sent to landfill and other disposal operations.

## WASTE FROM THE INTEGRATED WATER SYSTEM

In the Water Segment, production of waste largely corresponds with the production of **sludge from the treatment process**, with a minimal portion from **sand and screens** used in the same process. The former is essentially composed of water, biomass and a portion of chemical substances used for conditioning during drying, which helps to reduce the volumes of waste outputs. Sand and screens derive from pre-treatment of wastewater and contain plastic, aggregates and paper materials. The remainder is composed of residual material from cleaning to maintain systems. This may include sludge from regeneration of cation-exchange resins. Chart no. 58 shows an example of waste streams for the water sector. The Companies are all committed to recovering sludge, with 66% of all sludge produced recovered. For example, in 2022 AdF recovered 99%, Acea Ato 2 recovered 80%, Gori recovered 60% and Acea Ato 5 recovered 23%.

**Chart no. 58 – Waste streams for the Water Segment Companies**

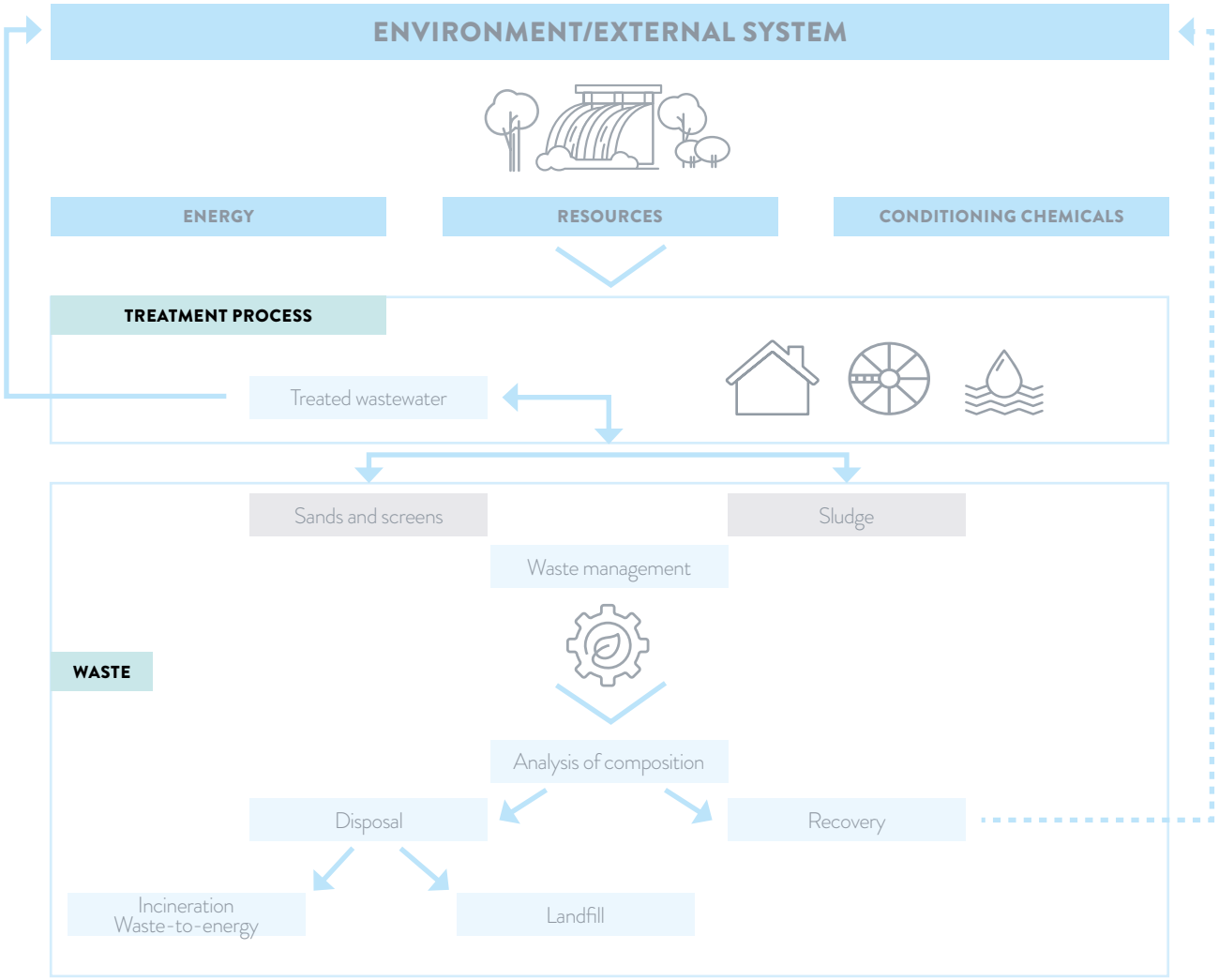



**Table no. 71 – Waste produced by Companies in the Water Segment (2020-2022)**

| Water Segment waste | 2020 | 2021 | 2022 |
|---|---|---|---|
| | t | | |
| **total waste** | **152,285** | **176,438** | **183,637** |
| *hazardous* | *239* | *379* | *449* |
| *non-hazardous* | *152,046* | *176,059* | *183,189* |
| *of which sludge, sand and screens* | *138,756* | *166,969* | 175,570 |
| **detail by type of processing** | | | |
| **entirely recovered waste** | **63,570** | **110,019** | **115,167** |
| *of which sludge, sand and screens for recovery (*)* | *59,884* | *108,620* | 113,561 |
| **entirely disposed of waste (*)** | **88,715** | **66,419** | **68,470** |
| *of which sludge, sand and screens for disposal (**)* | *78,872* | *58,349* | 62,209 |
| *incineration (with energy recovery)* | *2,759* | 2,962 | 1,304 |
| *incineration* | *16,660* | *5,242* | *5,486* |
| *landfill and other disposal operations* | *69,296* | *58,215* | *61,680* |

(*) In 2022, 106,087 t of sludge and 7,474 t of sand and screens were sent for recovery.
(**) In 2022, the following was sent for disposal: 54,206 t of sludge and 8,004 t of sand and screens.

Aquaser acts as a broker **for certain Group water companies** (Acea Ato 2, Acea Ato 5 and AdF), carrying out the pick-up, transport

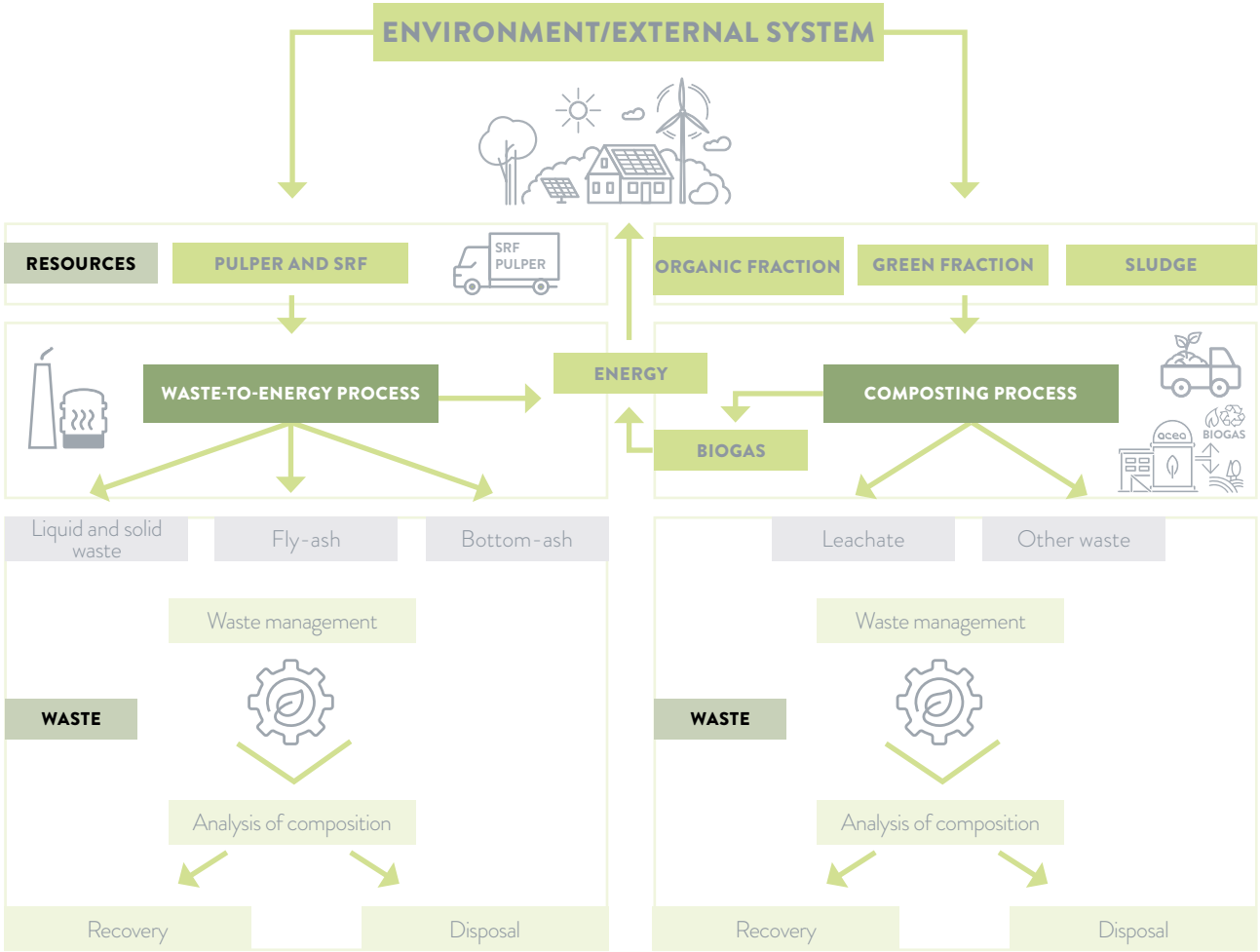
and recovery/disposal of waste (solid and liquid), with identification of final-destination sites for special waste with regard to solid materials, and providing logistical services (pick-up, transport and discharge) for liquid waste that is handed over to authorised plants.

## WASTE FROM THE ENVIRONMENT SEGMENT

Waste streams in the Environment sector are extremely diverse due to the range of types of plants and the broad spectrum of services provided by the Companies. Business activities can be grouped in the four macro categories: waste-to-energy, composting, treatment of liquid and solid waste and brokerage/transport. Below are details for the first three, while transport and brokerage are handled under *Waste-to-energy, composting, disposal of solid and liquid waste and related services* in the *Environment Segment* section.

Waste-to-energy activity, with the plants of San Vittore del Lazio and Terni, produces the greatest quantity of waste, totalling 93,821 t in 2022. The majority of waste produced by these plants is fly-ash, bottom-ash and water from the buffer tank[217]. In 2022, **52,782 tonnes of ash were recovered** (approximately 83% of the total). The Orvieto hub, the Deco sites and the composting plants (Aprilia and Monterotondo Marittimo) produce leachate as their primary waste in terms of quantity, derived from stabilisation of waste and primarily sent for disposal (93%). As an example, streams of treatment, disposal and recovery for waste-to-energy and composting sites are illustrated in Chart no. 59. The treatment plants handling liquid waste of the Companies Acque Industriali, Berg and the plant of Bio Ecologia[218], which primarily produce sludge.

**Chart no. 59 – Main waste streams in the Environment Segment (waste-to-energy and compost sites)**




217 Water from buffer tanks or "water for technical purposes", refers to liquid solutions used as a buffer for acidic components that develop during combustion of waste.

218 The waste from the Bio Ecologia plant derive both from treatment of liquid waste and treatment of wastewater.

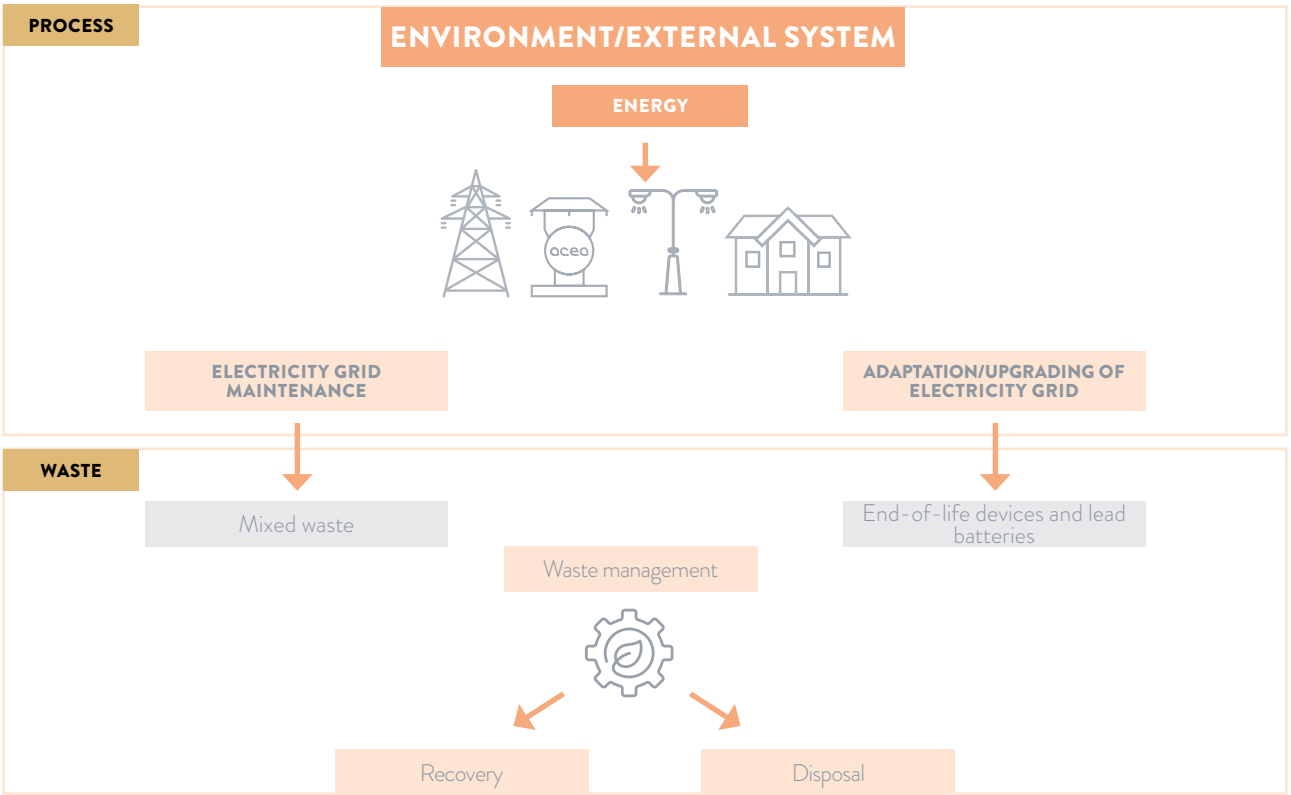
**Table no. 72 – Waste produced by companies in the Environment Segment (2020-2022)**

| Environment Segment waste | 2020 | 2021 | 2022 |
|---|---|---|---|
| | | t | |
| **total waste** | **151,966** | **173,674** | **190,038** |
| *hazardous* | 69,560 | 71,038 | 70,098 |
| *of which ash* | *59,435* | *59,142* | *63,645* |
| *non-hazardous* | 82,407 | 102,636 | 119,940 |
| *of which liquid waste (leachate and buffer water)* | *51,426* | *57,669* | *61,702* |
| **detail by type of processing** | | | |
| **entirely recovered waste** | **46,570** | **46,033** | **60,414** |
| *of which ash* | *42,584* | *43,425* | *52,782* |
| **entirely disposed of waste (*)** | **105,396** | **122,129** | **129,624** |
| *of which ash* | *16,852* | *15,717* | *10,863* |
| *of which sent to landfill and subject to other disposal operations* | *104,098* | *122,129* | *125,348* |

## WASTE FROM DISTRIBUTION OF ELECTRICITY

Areti manages the distribution of electricity and primarily produces waste derived from maintenance or replacement of infrastructure. No non-process waste is generally produced. Special waste, produced during activity performed by contractors, is considered under the responsibility of the same and its collection and management is also their responsibility[219]. The waste flow generated by Areti's business are illustrated in Chart no. 60.

**Chart no. 60 – Waste streams in Areti**




219 This management occurs according to procedure (PRO00.11QAS "Waste Management") and the quantities produced are handed over for recovery or disposed of by authorised third parties.

**Table no. 73 – Waste produced by the Areti Company (2020-2022)**

| Areti waste | 2020 | 2021 | 2022 |
|---|---|---|---|
| | t | | |
| **total waste** | **1,106** | **2,153** | **2,454** |
| *hazardous* | 841 | 1,645 | 1,996 |
| *non-hazardous* | 265 | 508 | 459 |
| **detail by type of processing** | | | |
| **entirely recovered waste** | **747** | **902** | **1,992** |
| **entirely disposed of waste** | **359** | **1,251** | **463** |

## MANAGEMENT AND MINIMISATION OF WASTE PRODUCED

The **circular economy** concept drives the shared goal pursued by all Group companies, who together contribute to the effort **to reduce waste**.
For example, the water companies aim to reduce the volume of sludge produced by implementing new drying lines, latest-generation centrifuges and other specific systems. These initiatives have a major impact in terms of the circular economy: reducing the water content of the sludge optimises opportunities to use it in material and/or energy processes and reduces disposal costs. The economic, environmental and social costs of transporting sludge are also lessened.
At **AdF**, in 2022, a thermochemical hydrolysis system was used at the San Giovanni treatment plant in Grosseto, with the aim of treating the dewatered sludge produced in the other plants as well as the sludge produced at the plant itself, reducing the total amount of sludge produced; in 2022, the company achieved **a 21% reduction in the total volume of sludge produced compared to the previous year.**
For several years, **Acea Ato 2** has defined and implemented the **Sludge Management Plan**, a series of structural and strategic actions with the dual objective of reducing volumes of treatment sludge produced and exploiting the solid components both as a material and for energy, through a range of different actions, rationalising the entire treatment segment and transforming large treatment plants into hubs for centralised sludge processing (a number of small treatment plants were decommissioned in the year as part of the centralisation measures). In 2022 Acea Ato 2 achieved a **5% reduction** in the volume of sludge produced. It is hoped that, by 2024, the largest plants (Roma Est, Roma Nord, Roma Sud, Ostia and Co.Bis) will be able to dry the sludge produced directly.

Waste from the majority of Group Companies is sent to external sites[220]. Finally, for all Companies, waste is managed by companies outside the Group, with the exception of Acea Ato 2, Acea Ato 5 and AdF, which, as mentioned, handover their waste to Aquaser, in the role of broker with identification of final-destination sites[221]. The reliability of brokers is guaranteed by the mandatory **authorisation required by the specific regulations** for performance of activities and by periodic checks on documentation.
The data and information on waste for the main Companies is managed with dedicated management software[222]. Quantitative data on waste disposed of derives from direct measurements taken using weighing systems, which are periodically calibrated and certified. For the Companies of the Environment Segment, in almost all cases there is a difference between the outgoing weights and incoming weights, due to the scales used for approximation in the systems adopted, in any case documented using the forms applicable by law. In addition, for these Companies and for Acea Produzione, which are equipped with plants mainly certified in accordance with standard UNI EN ISO 14001, systematic checks are carried out on legislative compliance of compliance in terms of environmental factors.
In 2022, there were no significant releases of pollutants into the environment, such as mineral oils, fuels or chemical products[223].

220 The Orvieto plants and the Deco sites, which are plant hubs with internal waste streams and destinations, are exceptions.

221 Liquid waste from the plants of Acea Ato 2 are assigned to Aquaser solely for logistical services, being transported and discharged at plants authorised pursuant to art. 110 of Italian Legislative Decree 152/2006 managed by Acea Ato 2 itself.

222 With the exception of Gesesa and Areti, all companies have dedicated management software.

223 In 2022, there were two minor leaks of mineral oil into the environment at a substation due to theft. No leaks of other pollutants such as fuels or chemicals were recorded.

# WATER COMPANIES DATA SHEETS AND OVERSEAS ACTIVITIES

This chapter illustrates the activities of some Group companies not included in the scope of the *Consolidated Non-Financial Statement* (see *Disclosing sustainability: methodological note*). In particular, data and information are provided relating to the main operating Companies for the water sector in Umbria and Tuscany, consolidated using the equity method in the statutory financial statements, and to the companies that are active abroad in the same sector.

## Water activities in Umbria and Tuscany

### UMBRA ACQUE

Umbra Acque SpA is a company with predominantly public capital, 40% owned by Acea SpA, which manages the Integrated Water Service in the area of Optimal Territorial Conference – Umbria 1 consisting of 38 Municipalities, of which 37 in the province of Perugia and 1 in the province of Terni, with a total population of around 490,000 inhabitants served.

#### MANAGEMENT SYSTEMS

Umbra Acque has an **Integrated Quality, Environment and Safety Management System** (QAS), in compliance with the **UNI ISO 9001:2015**, **UNI ISO 14001:2015 and ISO 45001:2018** standards. It also holds the **SOA certification** for the **OG6** (in class III)[224] and **OS22** (in class II)[225] categories and **qualification for design and construction** (up to the 8th classification). The analysis laboratory is accredited according to the **UNI ISO/IEC 17025:2018** standard and for the purposes **of monitoring drinking water**.

#### QUALITY DELIVERED: MAIN INTERVENTIONS ON THE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTE WATER

**SIZE OF NETWORK, MAIN WORKS, METERS AND CHECKS ON DRINKING WATER AND NETWORKS (2022)**

| | |
|---|---|
| **size of drinking-water network** - *data in GIS* | **6,372 km** (**1,388** km of supply network, **4,984** km of distribution) |
| **type of work** | |
| interventions due to network failure/leak detection | **18,343 interventions** (18,160 due to faults, 183 leak detection) |
| meter installations (new installation and replacement) | **36,514 interventions** (5,941 new installation, 30,573 replacements) |
| network extension | **18.2 km** of expanded network |
| network reclamation | **24 km** of reclaimed network |
| drinking water quality control | **6,514 samples** collected and **116,419 tests** performed |

**SIZE OF NETWORK, WORKS AND CHECKS ON SEWERAGE WATER AND NETWORKS (2022)**

| | |
|---|---|
| **size of sewerage network** - *data in GIS* | **1,912** km |
| **type of work** | |
| interventions due to network failure | **1,073 interventions** |
| planned interventions | **55 interventions** |
| network extension | **9 km** of expanded network |
| network reclamation | **20 km** of network under video inspection with in-house equipment and personnel |
| quality control on wastewater for sewerage networks | **203 samples** collected and **5,502 tests** performed |

#### HUMAN RESOURCES IN FIGURES

**GENERAL DATA ON PERSONNEL (2021-2022)**

| | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|
| **(no.)** | men | women | **total** | men | women | **total** |
| **composition of the staff** | | | | | | |
| executives | 5 | 0 | **5** | 5 | 0 | **5** |
| managers | 10 | 2 | **12** | 14 | 2 | **16** |
| clerical workers | 72 | 92 | **164** | 77 | 93 | **170** |
| workers | 209 | 0 | **209** | 212 | 1 | **213** |
| **total** | **296** | **94** | **390** | **308** | **96** | **404** |
| **contract type** | | | | | | |
| staff with permanent contract | 280 | 89 | **369** | 288 | 92 | **380** |
| *of which part-time staff* | *0* | *7* | ***7*** | *0* | *7* | ***7*** |
| permanent staff | 12 | 4 | **16** | 19 | 4 | **23** |
| staff under apprenticeship contracts | 4 | 1 | **5** | 1 | 0 | **1** |
| **total** | **296** | **94** | **390** | **308** | **96** | **404** |
| **changes** | | | | | | |
| **incoming staff** | **9** | **3** | **12** | **20** | **6** | **26** |
| **outgoing staff** | **9** | **2** | **11** | **8** | **4** | **12** |
| **turnover rate (%)** | **6.1** | **5.3** | **5.9** | **9.1** | **10.4** | **9.4** |
| incoming rate (%) | 3.0 | 3.2 | **3.1** | 6.5 | 6.3 | **6.4** |
| outgoing rate (%) | 3.0 | 2.1 | **2.8** | 2.6 | 4.2 | **3.0** |

224 Aqueducts, gas pipelines, oil pipelines, irrigation and evacuation systems.

225 Drinking water and water treatment plants.

**INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2021-2022)**

| | 2021 | 2022 |
|---|---|---|
| accidents (no.) | 5 | 13 |
| total days of absence | 234 | 8,072 |
| hours worked (*) | 659,520 | 664,753 |
| **frequency index (FI) (number of accidents per 1,000,000/working hours) (*)** | **7.58** | **19.56** |
| **severity index (SI) (days of absence per 1,000/working hours) (*)** | **0.35** | **12.14** |

(*) The 2022 figure is estimated.

**TRAINING 2021-2022**

**course type, hours provided and costs**

| | courses (no.) | | training (hours) | | costs (€) | |
|---|---|---|---|---|---|---|
| **course type** | **2021** | **2022** | **2021** | **2022** | **2021** | **2022** |
| advanced training | 1 | 1 | 6 | 42 | 310 | 0 |
| technical-specialised | 77 | 120 | 7,842 | 4,849 | 82,211 | 115,935 |
| legal | 2 | 8 | 8 | 65 | 538 | 2,495 |
| managerial | 10 | 9 | 149 | 71 | 2,689 | 3,125 |
| safety | 20 | 31 | 1,780 | 2,802 | 16,716 | 36,752 |
| **total** | **110** | **169** | **9,785** | **7,829** | **102,464** | **158,307** |

**employees trained**

| | 2021 (*) | | | 2022 | | |
|---|---|---|---|---|---|---|
| **(no.)** | men | women | **total** | men | women | **total** |
| | 303 | 96 | **399** | 308 | 96 | **404** |
| **breakdown of training hours by qualification** | | | | | | |
| executives | 219 | 0 | **219** | 216 | 0 | **216** |
| managers | 359 | 61 | **420** | 313 | 74 | **387** |
| clerical workers | 2,396 | 3,309 | **5,705** | 1,468 | 2,029 | **3,497** |
| workers | 3,441 | 0 | **3,441** | 3,725 | 4 | **3,729** |

(*) The figures are higher than the number of employees as they include employees who provided services only for a few months of the year.

Training provided during the year covered a variety of topics, such as anti-corruption and privacy, and **safety** training continued in accordance with current regulations.

## ENVIRONMENTAL ACCOUNTS

| **PRODUCTS AND ANALYTICAL TESTS** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
|---|---|---|---|---|---|
| WATER BALANCE | | | | | |
| **drinking water from the environment** | **Mm³** | **58.6** | **56.3** | **56.0** | **-0.5** |
| *from the surface* | *Mm³* | *0* | *0* | *0* | - |
| *from wells* | *Mm³* | *44.82* | *42.80* | *45.16* | *5.6* |
| *from springs* | *Mm³* | *10.61* | *10.20* | *8.14* | *-20.6* |
| *of which water from other aqueduct systems* | *Mm³* | *3.17* | *3.34* | *2.65* | *-18.2* |
| **total drinking water leaving the aqueduct system (c) = (a+b)** | **Mm³** | **31.3** | **31.0** | **31.7** | **2.3** |
| **total drinking water dispensed and billed in the network (a)** | **Mm³** | **28.7** | **28.6** | **28.7** | **0.3** |
| *measured volume of water delivered to users* | *Mm³* | *28.7* | *28.6* | *28.6* | *0.3* |
| *volume consumed by users and not measured* | *Mm³* | *0* | *0* | *0* | - |
| **total drinking water authorised and not billed in the network (b)** | **Mm³** | **2.6** | **2.4** | **3.0** | **25.0** |
| *measured unbilled authorised consumption* | *Mm`* | *1.2* | *0.7* | *0.5* | *-28.6* |
| *unmeasured unbilled authorised consumption* | *Mm³* | *1.4* | *1.7* | *2.5* | *47.1* |
| LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR | | | | | |
| water leaks | Mm³ | 27.3 | 25.3 | 24.3 | **-4.0** |
| water loss percentages | % | 46.6 | 44.9 | 43.3 | **-3.6** |
| TREATED WASTE WATER | | | | | |
| **water treated in the main treatment plants (*)** | **Mm³** | **56.8** | **59.3** | **45.5** | **-23.3** |
| ANALYTICAL TESTS ON DRINKING WATER AND WASTE WATER | | | | | |
| **no. analytical tests on drinking water** | **no.** | **107,257** | **116,891** | **116,419** | **-0.4** |
| *of which no. analytical tests on surface water* | *no.* | *7,209* | *7,350* | *6,822* | *-7.2* |
| **no. analytical tests on wastewater (**)** | **no.** | **35,610** | **42,404** | **42,160** | **-0.6** |

(*) two-year data for 2020-2021 are estimated; 2022 data are partially measured (for treatment plants above 10,000 PE). The sharp decline is due in part to the new reporting method and in part to the modest precipitation in 2022, which reduced the quantity of mixed water input.
(**) The figure includes analyses carried out at treatment plants and industrial waste.

| RESOURCES USED | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER | | | | | |
| **materials** | | | | | |
| sodium hypochlorite | t | 92 | 93 | 87 | -6.5 |
| sodium chloride | t | 214 | 222 | 217 | -2.3 |
| hydrochloric acid | t | 207 | 210 | 214 | 1.9 |
| aluminium polychloride | t | 12 | 11 | 9 | -18.2 |
| phosphoric acid (10%) | t | 0 | 0 | 0 | - |
| WASTE WATER TREATMENT | | | | | |
| **materials** | | | | | |
| polyelectrolyte emulsion | t | 123 | 95 | 138 | 45.3 |
| ferric chloride (40%) | t | 62 | 114 | 201 | 76.3 |
| mineral oil and fats | t | 0 | 0 | 0 | - |
| OTHER CONSUMPTION | | | | | |
| **drinking water (*)** | **m³** | **20,222** | **53,178** | ***32,438*** | **-45.2** |
| *drinking water consumed for non-industrial water uses (offices, outside showers, etc.)* | *m³* | *1,597* | *10,416* | *6,270* | -39.8 |
| *drinking water consumed for process water uses (washing machinery and bays, etc.)* | *m³* | *18,625* | *42,762* | *26,168* | -38.8 |

(*) The figures for 2020 and 2021 are estimated considering the partial closure of offices and the different organisation of work following the health emergency.

There are no active internal water reuse processes, but the Company has supplied 273,940 m³ of non-potable water for industrial use to two local businesses.

| ENERGY CONSUMPTION | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| FUELS | | | | | |
| **vehicle fuels** | | | | | |
| diesel | l | 410,000 | 456,600 | 444,900 | -2.6 |
| petrol | l | 7,000 | 5,800 | 4,900 | -15.5 |
| ELECTRICITY | | | | | |
| **total electricity for drinking water** | **GWh** | **69.2** | **69.4** | **74.9** | **7.9** |
| *electricity for water pumping stations* | *GWh* | *68.8* | *69.1* | *74.5* | *7.8* |
| *electricity for offices* | *GWh* | *0.4* | *0.3* | *0.4* | *33.3* |
| **total electricity for waste water** | **GWh** | **22.7** | **23.1** | **22.5** | **-2.6** |
| *electricity for treatment* | *GWh* | *17.9* | *17.9* | *17.8* | *-0.6* |
| *electricity for pumping stations* | *GWh* | *4.8* | *5.2* | *4.7* | *-9.6* |
| *electricity for offices* | *GWh* | *0.1* | *0.1* | *0.1* | - |

**ENERGY EFFICIENCY (2020-2022)**

| action | energy savings achieved (kWh) | | |
|---|---|---|---|
| | 2020 | 2021 | 2022 |
| extraordinary maintenance on plants | 75,000 | 150,000 | 415,000 |

The completion of extraordinary maintenance on the Raggio water plant in the municipality of Gubbio (one of the primary water lifts) and extraordinary maintenance on the oxidative systems of five treatment plants in 2022 resulted in an estimated energy savings of 415,000 kWh.

| WASTE | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| SPECIFIC WASTE FROM TREATMENT OF WASTE WATER | | | | | |
| treatment sludge (*) | t | 14,941 | 13,868 | 17,356 | 25.2 |
| sand and sediment from treatment | t | 1,057 | 1,353 | 1,548 | 14.4 |
| WASTE EXCLUDING SLUDGE AND SAND | | | | | |
| hazardous waste (**) | t | 20.2 | 8.0 | 16.2 | 102.5 |
| non-hazardous waste | t | 4,940 | 3,767 | 3,255 | -13.6 |

(*) The item includes liquid sludge transported to other plants for the dewatering process, for a value of 4,940 t in 2020, 2,525 t in 2021 and 5,253 t in 2022.
(**) The increase in 2020 and 2022 is due to the exceptional disposal of vehicles and company cars.

**TOTAL COD IN INPUT AND OUTPUT (2020-2022)**

| (t/year) | 2020 | 2021 | 2022 |
|---|---|---|---|
| $COD_{in}$ | 17,135 | 13,401 | 11,086 |
| $COD_{out}$ | 2,288 | 1,556 | 960 |

**OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS (2020-2022)**

| parameter | average values (mg/l) 2020 | average values (mg/l) 2021 | average values (mg/l) 2022 |
|---|---|---|---|
| $BOD_5$ (*) | 18.6 | 12.3 | 12.9 |
| COD | 40.3 | 21.0 | 21.0 |
| SST | 30.8 | 12.0 | 13.7 |
| $NH_4^+$ | 5.0 | 2.0 | 2.0 |
| phosphorous | 2.0 | 2.0 | 1.9 |

(*) The output $BOD_5$ value is expressed with the value of the limit of quantification (LOQ) equal to 12.3, resulting in all analytical calculations being lower than this value.

**PURIFICATION EFFICIENCY OF THE MAIN TREATMENT PLANTS (2020-2022)**

| parameter | average values (%) 2020 | average values (%) 2021 | average values (%) 2022 |
|---|---|---|---|
| $100x(COD_{in} - COD_{out})/COD_{in}$ | 87.0 | 88.4 | 91.3 |
| 100x(SSTin - SSTout)/SSTin | 89.4 | 95.7 | 93.4 |
| $100x(NH_4^+in - NH_4^+out)/NH_4^+in$ (*) | 86.4 | 93.8 | 93.1 |
| $100x(P_{in} - P_{out})/ P_{in}$ (*) | 33.0 | 35.0 | 27.8 |

(*) Umbra Acque does not detect phosphates leaving treatment plants, as the standard does not establish a limit, but rather total phosphorus as specified in Table no. 2 of Annex 5 to Part III of the Consolidated Environmental Law (TUA), with more stringent monitoring of the nutrient discharged into surface water bodies.

## PUBLIACQUA

Publiacqua SpA is a mixed ownership Company with a majority public interest, owned by Acea through Acque Blu Fiorentine SpA, which manages the Integrated Water Service in the area of Optimal Territorial Conference no. 3 – Medio Valdarno, with a total population of over 1.2 million citizens served.

### MANAGEMENT SYSTEMS

Publiacqua has implemented the **Integrated Quality, Environment, and Safety (QAS) Management System**, which complies with **UNI EN ISO 9001:2015, 14001:2015 and 45001:2018** standards for the primary operating activities. It is certified for the **Anti-bribery Management System UNI ISO 37001:2016**, and the analysis laboratory is accredited in accordance with **UNI ISO/IEC 17025:2005**.

### QUALITY DELIVERED: MAIN INTERVENTIONS ON THE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTE WATER

**SIZE OF NETWORK, MAIN WORKS, METERS AND CHECKS ON DRINKING WATER AND NETWORKS (2022)**

| | |
|---|---|
| **size of drinking-water network** - *data in GIS* | **6,923 km** (**1,397** km of supply network, **5,526** km of distribution) |
| TYPE OF WORK | |
| interventions due to network failure/leak detection | **5,252 interventions** (3,886 due to fault reporting, 1,366 due to leak detection activities) |
| meter installations (new installation and replacement) | **6,237 interventions** (2,913 new installations and 3,324 replacements due to breakdowns/breakage) and **28,641** mass replacements under contract |
| network extension | **7.6 km** of expanded network |
| network reclamation | **35.1 km** of reclaimed network |
| drinking water quality control | **10,477 samples** collected and **319,572 tests** performed |

**SIZE OF NETWORK, WORKS AND CHECKS ON SEWERAGE WATER AND NETWORKS (2022)**

| | |
|---|---|
| **size of sewerage network** - *data in GIS* | **3,772** km |
| TYPE OF WORK | |
| interventions due to network failure | **3,908 interventions** |
| planned interventions | **1,442 interventions** |
| network extension | **10.1 km** of expanded network |
| network reclamation | **8.9 km** of reclaimed network |
| quality control on wastewater for sewerage networks | **3,343 samples** collected and **55,794 tests** performed |

## HUMAN RESOURCES IN FIGURES

### GENERAL DATA ON PERSONNEL (2021-2022)

| | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|
| **(no.)** | men | women | **total** | men | women | **total** |
| **composition of the staff** | | | | | | |
| executives | 3 | 1 | **4** | 3 | 1 | **4** |
| managers | 15 | 7 | **22** | 14 | 8 | **22** |
| clerical workers | 187 | 142 | **329** | 184 | 156 | **340** |
| workers | 259 | 5 | **264** | 269 | 3 | **272** |
| **total** | **464** | **155** | **619** | **470** | **168** | **638** |
| **contract type** | | | | | | |
| staff with permanent contract | 421 | 153 | **574** | 425 | 160 | **585** |
| *of which part-time staff* | 3 | 7 | ***10*** | *3* | *8* | ***11*** |
| permanent staff | 6 | 2 | **8** | 10 | 7 | **17** |
| staff under apprenticeship contracts | 37 | 0 | **37** | 35 | 1 | **36** |
| **total** | **464** | **155** | **619** | **470** | **168** | **638** |
| **changes** | | | | | | |
| **incoming staff** | **29** | **7** | **36** | **44** | **25** | **69** |
| **outgoing staff** | **22** | **10** | **32** | **39** | **11** | **50** |
| **turnover rate (%)** | **10.99** | **10.97** | **10.99** | **17.66** | **21.43** | **18.65** |
| incoming rate (%) | 6.3 | 4.5 | 5.8 | 9.4 | 14.9 | 10.8 |
| outgoing rate (%) | 4.7 | 6.5 | 5.2 | 8.3 | 6.5 | 7.8 |

### INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2021-2022) (*)

| | 2021 | 2022 |
|---|---|---|
| accidents (no.) (**) | 9 | 10 |
| total days of absence (***) | 323 | 267 |
| hours worked (****) | 1,034,611 | 1,073,177 |
| **frequency index (FI) (number of accidents per 1,000,000/working hours)** | **8.70** | **9.32** |
| **severity index (SI) (days of absence per 1,000/working hours)** | **0.31** | **0.25** |

(*) Some figures for 2021 have been updated following consolidation.
(**) Accidents with effects lasting for more than one day are considered.
(***) The value also excludes days of absence related to persistent or reopened injuries from previous years.
(****) This is the sum of ordinary and overtime hours. As a result of consolidation, the figure for 2021 was amended, requiring a recalculation of the severity and frequency indices as well.

### TRAINING (2021-2022) (*)

**course type, hours provided and costs**

| | courses (no.) | | training (hours) | | costs (€) | |
|---|---|---|---|---|---|---|
| **course type** | **2021** | **2022** | **2021** | **2022** | **2021** | **2022** |
| advanced training (**) | 2 | 0 | 182 | 0 | 2,641 | 0 |
| IT | 3 | 2 | 398 | 24 | 3,962 | 2,100 |
| technical-specialised | 44 | 112 | 4,298 | 5,593 | 58,104 | 61,250 |
| legal | 5 | 4 | 809 | 490 | 6,603 | 27,290 |
| managerial | 54 | 30 | 2,249 | 1,924 | 71,309 | 95,300 |
| safety | 46 | 40 | 4,102 | 2,725 | 60,745 | 50,823 |
| **total** | **154** | **188** | **12,038** | **10,756** | **203,364** | **236,763** |

**employees trained**

| | 2021 | | | 2022 (***) | | |
|---|---|---|---|---|---|---|
| **(no.)** | men | women | **total** | men | women | **total** |
| | 464 | 154 | **618** | 485 | 172 | **657** |
| **breakdown of training hours by qualification** | | | | | | |
| executives | 68 | 10 | **78** | 104 | 21 | **125** |
| managers | 309 | 71 | **380** | 217 | 191 | **408** |
| clerical workers | 2,333 | 1,583 | **3,916** | 1,635 | 1,325 | **2,960** |
| workers | 7,612 | 52 | **7,664** | 7,220 | 43 | **7,263** |

(*) Some figures for 2021 have been updated following consolidation.
(**) The advanced training courses provided to employees are managed by Acea SpA, which bears the costs.
(***) Figures are higher because they also include employees who left before the year.

Throughout the year, numerous courses on **safety, regulations under Legislative Decree no. 231/2001, preventing corruption**, and **specific technical and operational training** were offered.
The first course on **diversity and inclusion** was provided to the entire HR structure, along with an experiential pilot *team-building day*.
The entire corporate population was trained on *cybersecurity* and *data protection*, and specialized training on regulatory updates was provided for various organisational structures.
In addition, the *Reconnect People* course for managers was introduced, emphasizing managerial management, organisational conflict, and internal and external communication.

## ENVIRONMENTAL ACCOUNTS

| PRODUCTS AND ANALYTICAL TESTS (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| WATER BALANCE | | | | | |
| **drinking water from the environment** | **Mm³** | **148.7** | **147.0** | **144.0** | **-2.0** |
| *from the surface* | *Mm³* | *95.4* | *93.5* | *92.1* | *-1.5* |
| *from wells* | *Mm³* | *41.9* | *43.5* | *42.8* | *-1.6* |
| *from springs* | *Mm³* | *10.7* | *9.3* | *9.1* | *-2.2* |
| *of which water from other aqueduct systems* | *Mm³* | *0.7* | *0.66* | *0.74* | *12.1* |
| **total drinking water leaving the aqueduct system (e) = (a+b+c+d)** | **Mm³** | **84.5** | **87.9** | **87.4** | **-0.6** |
| **total drinking water dispensed and billed in the network (a)** | **Mm³** | **76.6** | **78.8** | **80.7** | **2.4** |
| *measured volume of water delivered to users* | *Mm³* | *76.6* | *78.1* | *80.0* | *2.4* |
| *volume consumed by users and not measured* | *Mm³* | *0* | *0.66* | *0.74* | *12.1* |
| **total drinking water authorised and not billed in the network (b)** | **Mm³** | **0.4** | **0.4** | **0.4** | **-** |
| *measured unbilled authorised consumption* | *Mm³* | *0* | *0* | *0* | - |
| *unmeasured unbilled authorised consumption* | *Mm³* | *0.4* | *0.4* | *0.4* | - |
| **drinking water exported (sub-distributors) (c)** | **Mm³** | **0.7** | **0.9** | **0.005** | **-99.4** |
| **measured process losses (d)** | **Mm³** | **6.8** | **7.8** | **6.3** | **-19.2** |
| LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR | | | | | |
| water leaks (**) | Mm³ | 64.2 | 59.1 | 57.3 | -3.0 |
| water loss percentages | % | 43.2 | 40.2 | 39.6 | -1.5 |
| TREATED WASTE WATER | | | | | |
| **water treated in the main treatment plants** | **Mm³** | **97.4** | **98.3** | **93.4** | **-5.0** |
| ANALYTICAL TESTS ON DRINKING WATER AND WASTE WATER | | | | | |
| **no. analytical tests on drinking water** | **no.** | **288,298** | **296,620** | **319,572** | **7.7** |
| *of which no. analytical tests on surface water (***)* | *no.* | *26,665* | *24,949* | *29,435* | *18.0* |
| **no. analytical tests on waste water** | **no.** | **38,293** | **38,676** | **55,794** | **44.2** |

(*) Some figures for the 2020-2021 two year period have been updated following consolidation. The 2022 figures are estimated.
(**) The value of the water losses coincides with the "total lost volume (WLtot)" and includes the unmeasured treatment losses, the supply losses and the total distribution water losses.
(***) Analysis of crude surface water (untreated).

| RESOURCES USED (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER | | | | | |
| **materials** | | | | | |
| sodium hypochlorite | t | 1,117 | 1,097 | 1,102 | 0.5 |
| sodium chloride | t | 347 | 349 | 376 | 7.7 |
| hydrochloric acid | t | 403 | 402 | 392 | -2.5 |
| flocculant | t | 5,055 | 5,015 | 3,883 | -22.6 |
| purate | t | 349 | 414 | 344 | -16.9 |
| sulphuric acid | t | 523 | 608 | 515 | -15.3 |
| oxygen | t | 90 | 76 | 19 | -75.0 |
| acetic acid | t | 113 | 112 | 63 | -43.8 |
| carbon dioxide (excluding drinking fountains) | t | 634 | 648 | 838 | 29.3 |
| ferrous chloride | t | 45 | 37 | 22 | -40.5 |
| phosphoric acid | t | 13 | 18 | 15 | -16.7 |
| WASTE WATER TREATMENT | | | | | |
| **materials** | | | | | |
| polyelectrolyte emulsion | t | 158 | 307 | 275 | -10.4 |
| sodium hypochlorite | t | 61 | 64 | 45 | -29.7 |
| peracetic acid, caustic soda, polyamine/anti-foaming agent | t | 13 | 12 | 12 | - |
| polyaluminium chloride (PAC) | t | 4,382 | 4,122 | 3,903 | -5.3 |
| lime | t | 527 | 693 | 523 | -24.5 |
| acetic acid 80% | t | 712 | 684 | 743 | 8.6 |
| OTHER CONSUMPTION | | | | | |
| **drinking water** | **m³** | **182,775** | **275,109** | **191,432** | **-30.4** |

(*) Some figures for 2021 have been updated following consolidation.

| ENERGY CONSUMPTION | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| FUELS (*) | | | | | |
| **process fuels - wastewater** | | | | | |
| methane | $Sm^3$ | 84,214 | 90,195 | 93,889 | 4.1 |
| biogas produced | $m^3$ | 609,120 | 593,478 | 562,421 | -5.2 |
| **heating fuels** | | | | | |
| methane | $Sm^3$ | 60,429 | 60,641 | 63,125 | 4.1 |
| diesel fuel | l | 4,500 | 5,000 | 4,125 | -17.5 |
| lpg | l | 0 | 1,750 | 2,170 | 24.0 |
| **vehicle fuels** | | | | | |
| diesel | l | 349,724 | 360,131 | 363,564 | 1.0 |
| petrol | l | 26,913 | 26,172 | 28,515 | 9.0 |
| ELECTRICITY (*) | | | | | |
| **total electricity for drinking water** | **GWh** | **72.6** | **71.2** | **73.5** | **3.2** |
| *electricity for water pumping stations* | *GWh* | *71.1* | *69.6* | *71.1* | *2.2* |
| *electricity for offices* | *GWh* | *1.5* | *1.6* | *2.4* | *50.0* |
| **total electricity for waste water** | **GWh** | ***34.6*** | ***35.0*** | ***34.9*** | **-0.3** |
| *electricity for treatment* | *GWh* | *30.5* | *30.5* | *30.4* | *-0.3* |
| *electricity for pumping stations* | *GWh* | *4.0* | *4.4* | *4.4* | - |
| *electricity for offices* | *GWh* | *0.1* | *0.1* | *0.1* | - |

(*) Some figures for the 2020-2021 two year period have been updated following consolidation.

**ENERGY EFFICIENCY (2020-2022)**

| | energy savings achieved (kWh) | | |
|---|---|---|---|
| **action** | **2020** | **2021** | **2022** |
| network efficiency improvement | 4,110,000 | 3,195,000 | 1,500,000 |
| Soa Coverciano – *Power quality* management | - | - | 3,990 |
| Anconella - New pump impellers #3 and #6 | - | - | 250,000 |
| offices *relamping* | - | 6,700 | - |

Approximately 1.5 GWh of energy reductions are attributed to **optimisation actions in the water distribution network**. New impellers that permit reduced dissipative adjustments at low flow rates have also helped to improve the efficiency of the final thrust section of the Anconella potable water treatment facility. The electronic device test to optimise the Coverciano power plant's input power management (SOA) was also successful, albeit with modest absolute values for the installation situation, but with a 7.5% reduction in consumption.

| WASTE | u.m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| SPECIFIC WASTE FROM TREATMENT OF WASTEWATER (*) | | | | | |
| treatment sludge | t | 28,760 | 30,873 | 29,978 | -2.9 |
| sand and sediment from treatment | t | 1,328 | 1,296 | 1,199 | -7.5 |
| WASTE PURSUANT TO ITALIAN LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND (*) | | | | | |
| hazardous waste | t | 32.6 | 83.6 | 26.8 | -67.9 |
| non-hazardous waste | t | 12,054 | 8,009 | 7,726 | -3.5 |

(*) Some figures for the 2020-2021 two year period have been updated following consolidation.

**TOTAL COD IN INPUT AND OUTPUT - SAN COLOMBANO TREATMENT PLANT (2020-2022)**

| (t/year) | 2020 | 2021 | 2022 |
|---|---|---|---|
| $COD_{in}$ | 14,536 | 14,851 | 13,084 |
| $COD_{out}$ | 1,321 | 1,691 | 1,415 |

**OUTPUT PARAMETERS – SAN COLOMBANO TREATMENT PLANT (2020-2022) (*)**

| parameter | average values (mg/l) 2020 | average values (mg/l) 2021 | average values (mg/l) 2022 |
|---|---|---|---|
| $BOD_5$ | 2.2 | 2.1 | 2.3 |
| COD | 13.8 | 15.6 | 15.8 |
| SST | 4.8 | 4.9 | 4.9 |
| $NH_4^+$ | 0.5 | 1.0 | 0.8 |
| phosphorous | 0.8 | 0.7 | 0.8 |

(*) The San Colombano waste water treatment plant (600,000 population equivalent) treats about half of Publiacqua's global waste water.

**OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS (2020-2022) (*)**

| parameter | average values (mg/l) 2020 | average values (mg/l) 2021 | average values (mg/l) 2022 |
|---|---|---|---|
| $BOD_5$ | 2.2 | 2.1 | 2.3 |
| COD | 14.3 | 17.1 | 16.0 |
| SST | 4.9 | 4.7 | 4.7 |
| $NH_4^+$ | 0.7 | 1.1 | 1.0 |
| phosphorous | 0.9 | 0.8 | 0.9 |

(*) The figures include 39 treatment plants, including San Colombano, which treat a total of 98% of wastewater and 96% of the organic load (COD) of Publiacqua.

**PURIFICATION EFFICIENCY SAN COLOMBANO TREATMENT PLANT (2020-2022)**

| parameter | average values (%) 2020 | average values (%) 2021 | average values (%) 2022 |
|---|---|---|---|
| $100x(COD_{in} - COD_{out})/COD_{in}$ | 89.4 | 93.2 | 87.4 |
| $100x(SST_{in}-SST_{out})/SST_{in}$ | 95.1 | 92.3 | 91.2 |
| $100x(NH_4^+{}_{in} - NH_4^+{}_{out})/ NH_4^+{}_{in}$ | 97.9 | 95.8 | 97.3 |
| $100x(PO_4^{-3}{}_{in} -PO_4^{-3}{}_{out})/ PO_4^{-3}{}_{in}$ | 74.0 | 72.7 | 73.7 |

**PURIFICATION EFFICIENCY OF THE MAIN TREATMENT PLANTS (2020-2022) (*)**

| parameter | average values (%) 2020 | average values (%) 2021 | average values (%) 2022 |
|---|---|---|---|
| $100x(COD_{in} - COD_{out})/COD_{in}$ | 90.9 | 88.4 | 89.2 |
| $100x(SST_{in}-SST_{out})/SST_{in}$ | 96.1 | 93.9 | 92.6 |
| $100x(NH_4^+{}_{in} - NH_4^+{}_{out})/ NH_4^+{}_{in}$ | 97.4 | 95.8 | 96.9 |
| $100x(PO_4^{-3}{}_{in} -PO_4^{-3}{}_{out})/ PO_4^{-3}{}_{in}$ | 73.3 | 73.0 | 73.4 |

(*) The figures include 39 treatment plants, including San Colombano, which treat a total of 98% of wastewater and 96% of the organic load (COD) of Publiacqua.

## ACQUE

Acque SpA manages the Integrated Water Service in the area of Optimal Territorial Conference 2 Lower Valdarno on the basis of the concession agreement issued by the Autorità Idrica Toscana (AIT), consisting of 55 Municipalities in the provinces of Pisa, Lucca, Florence, Pistoia and Siena, with a total population of approximately 735,000 user accounts served.

### MANAGEMENT SYSTEMS

Acque has implemented and certified an **Integrated Management System based on Quality, Environment, Safety, Energy Efficiency and Social Responsibility, Road Safety and the Prevention of Corruption**. In addition, the laboratory is accredited pursuant to the **UNI CEI EN ISO/IEC 17025:2018** standard and the Pagnana treatment plant in Empoli has **EMAS IV registration**.

### QUALITY DELIVERED: MAIN INTERVENTIONS ON THE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTE WATER

**SIZE OF NETWORK, MAIN WORKS, METERS AND CHECKS ON DRINKING WATER AND NETWORKS (2022)**

| | |
|---|---|
| **size of drinking-water network** (*) - *data in GIS* | **6,067 km** |
| TYPE OF WORK | |
| interventions due to network failure/leak detection | **25,915 interventions** (25,278 due to faults, 637 leak detection) |
| meter installations (new installation and replacement) | **15,640 interventions** (6,620 new installation, 9,020 replacements) |
| network extension | **12.4 km** of expanded network |
| network reclamation | **51.8 km** of reclaimed network |
| drinking water quality control | **11,356 samples** collected and **326,759 tests** performed |

**SIZE OF NETWORK, WORKS AND CHECKS ON SEWERAGE WATER AND NETWORKS (2022)**

| | |
|---|---|
| **size of sewerage network**(*) - *data in GIS* | **3,095** km |
| TYPE OF WORK | |
| interventions due to network failure | **4,802 interventions** |
| planned interventions | **2,223 interventions** |
| network extension | **5.3 km** of expanded network |
| network reclamation | **7.4 km of** reclaimed network |
| quality control on wastewater for sewerage networks | **7,924 samples** collected and **116,775 tests** performed |

(*) Estimated figure equal to the final figure for 2021.

## HUMAN RESOURCES IN FIGURES

### GENERAL DATA ON PERSONNEL (2021-2022)

| | 2021 | | | 2022 | | |
|---|---|---|---|---|---|---|
| **(no.)** | men | women | **total** | men | women | **total** |
| **composition of the staff** | | | | | | |
| executives | 2 | 2 | **4** | 2 | 2 | **4** |
| managers | 7 | 4 | **11** | 8 | 4 | **12** |
| clerical workers | 95 | 159 | **254** | 103 | 167 | **270** |
| workers | 150 | 0 | **150** | 157 | 1 | **158** |
| **total** | **254** | **165** | **419** | **270** | **174** | **444** |
| **contract type** | | | | | | |
| staff with permanent contract | 249 | 163 | **412** | 259 | 173 | **432** |
| *of which part-time staff* | *1* | *30* | ***31*** | *2* | *34* | ***36*** |
| permanent staff | 0 | 2 | **2** | 1 | 1 | **2** |
| staff under apprenticeship contracts | 5 | 0 | **5** | 10 | 0 | **10** |
| **total** | **254** | **165** | **419** | **270** | **174** | **444** |
| **changes** | | | | | | |
| **incoming staff** | **11** | **2** | **13** | **30** | **15** | **45** |
| **outgoing staff** | **10** | **1** | **11** | **14** | **6** | **20** |
| turnover rate (%) | 8.3 | 1.8 | **5.8** | 16.3 | 12.1 | **14.6** |
| incoming rate (%) | 4.3 | 1.2 | **3.1** | 11.1 | 8.6 | **10.1** |
| outgoing rate (%) | 3.9 | 0.6 | **2.6** | 5.2 | 3.5 | **4.5** |

The company's workforce increased significantly from 419 in 2021 to 444 in 2022 as a consequence of the internalization of some areas formerly managed by the associated company Ingegnerie Toscane and the incorporation of new facilities formerly managed by other companies.

### INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2021-2022)

| | 2021 | 2022 |
|---|---|---|
| accidents (no.) | 7 | 7 |
| total days of absence (*) | 359 | 317 |
| hours worked | 654,851 | 667,351 |
| **frequency index (FI) (number of accidents per 1,000,000/working hours)** | **10.69** | **10.49** |
| **severity index (SI) (days of absence per 1,000/working hours)** | **0.55** | **0.48** |

(*) The value also excludes days of absence related to persistent or reopened injuries from previous years.

### TRAINING 2021-2022

**course type, hours provided and costs (*)**

| | courses (no.) | | training (hours) | | costs (€) | |
|---|---|---|---|---|---|---|
| **course type** | **2021** | **2022** | **2021** | **2022** | **2021** | **2022** |
| IT | 2 | 4 | 403 | 1,000 | 0 | 1,320 |
| new hires | 1 | 1 | 1,001 | 2,162 | 0 | 0 |
| technical-specialised | 33 | 35 | 1,766 | 1,857 | 12,488 | 29,600 |
| managerial | 3 | 4 | 97 | 311 | 270 | 2,800 |
| safety | 36 | 27 | 4,105 | 3,325 | 9,891 | 21,208 |
| environment | 1 | 3 | 8 | 50 | 0 | 2,701 |
| cross-cutting | 4 | 9 | 148 | 311 | 0 | 6,386 |
| training pursuant to Legislative Decree no. 231/01 | 1 | 1 | 250 | 41 | 0 | 0 |
| e-learning training | 7 | 11 | 386 | 77 | 0 | 0 |
| **total** | **88** | **95** | **8,164** | **9,134** | **22,649** | **64,015** |

**employees trained**

| | 2021 (**) | | | 2022 | | |
|---|---|---|---|---|---|---|
| **(no.)** | men | women | **total** | men | women | **total** |
| | 286 | 174 | **460** | 274 | 161 | **435** |
| **breakdown of training hours by qualification** | | | | | | |
| executives | 116 | 32 | **148** | 99.5 | 70.5 | **170** |
| managers | 161 | 43 | **204** | 229.5 | 112.5 | **342** |
| clerical workers | 1,933 | 3,314 | **5,247** | 3,251 | 3,610 | **6,861** |
| workers | 2,565 | 0 | **2,565** | 1,740 | 21 | **1,761** |

(*) Emergency tests are excluded; by new hires, we mean the coaching of new staff by more experienced workers. E-learning training is training on the usable integrated management system through SAP Success Factor.
(**) The figures are higher than the number of employees, as they include employees of other companies, posted workers and workers who provided services only for a few months of the year.

## ENVIRONMENTAL ACCOUNTS

| PRODUCTS AND ANALYTICAL TESTS | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| WATER BALANCE (*) | | | | | |
| **drinking water from the environment** | **Mm³** | **74.8** | **74.4** | **74.4** | **-** |
| *from the surface* | *Mm³* | *3.3* | *3.1* | *3.1* | - |
| *from wells* | *Mm³* | *57.3* | *57.5* | *57.5* | - |
| *from springs* | *Mm³* | *6.3* | *6.3* | *6.3* | - |
| *of which water from other aqueduct systems* | *Mm³* | *7.9* | *7.5* | *7.5* | - |
| **total drinking water leaving the aqueduct system (e) = (a+b+c+d)** | **Mm³** | **46.3** | **47.3** | **47.3** | **-** |
| **total drinking water dispensed and billed in the network (a)** | **Mm³** | **43.9** | **44.2** | **44.2** | **-** |
| *measured volume of water delivered to users* | *Mm³* | *43.7* | *43.9* | *43.9* | - |
| *volume consumed by users and not measured* | *Mm³* | *0.2* | *0.3* | *0.3* | - |
| **total drinking water authorised and not billed in the network (b)** | **Mm³** | **0.3** | **0.3** | **0.3** | **-** |
| *measured unbilled authorised consumption* | *Mm³* | *0.1* | *0.1* | *0.1* | - |
| *unmeasured unbilled authorised consumption* | *Mm³* | *0.2* | *0.2* | *0.2* | - |
| **drinking water exported to other systems (c)** | **Mm³** | **1.0** | **1.2** | **1.2** | **-** |
| **measured process losses (d)** | **Mm³** | **1.1** | **1.6** | **1.6** | **-** |
| LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR | | | | | |
| water leaks | Mm³ | 28.5 | 27.1 | 27.1 | - |
| water loss percentages | % | 38.1 | 36.4 | 36.4 | - |
| TREATED WASTE WATER | | | | | |
| **water treated in the main treatment plants** | **Mm³** | **46.4** | **44.6** | **41.9** | **-6.0** |
| ANALYTICAL TESTS ON DRINKING WATER AND WASTE WATER | | | | | |
| **no. analytical tests on drinking water (including analytical tests on surface water)** | **no.** | **357,585** | **297,342** | **362,759** | **22.0** |
| **no. analytical tests on waste water** | **no.** | **122,766** | **122,803** | **116,775** | **-4.9** |

(*) The 2021 figures have been restated following consolidation and differ from those previously published. The 2022 figures are estimated to be equal to those for 2021.

| RESOURCES USED | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER (*) | | | | | |
| **materials** | | | | | |
| laboratory reagents (chemical section and microbiological section) | t | 2 | 2 | 2 | 0.0 |
| sodium hypochlorite | t | 180 | 231 | 240 | 3.9 |
| hydrochloric acid | t | 478 | 339 | 343 | 1.2 |
| potassium permanganate | t | 4 | 4 | 5 | 25.0 |
| aluminium polychloride | t | 209 | 194 | 210 | 8.2 |
| DREFLO 908 PG powder | t | 0 | 0 | 1 | - |
| salt in bags | t | 1 | 1 | 0 | -100 |
| sodium chloride | t | 367 | 362 | 341 | -5.8 |
| caustic soda | t | 2 | 1 | 2 | 100 |
| citric acid | t | 3 | 1 | 0 | -100 |
| alifons L | t | 0.13 | 0 | 0.05 | - |
| oxalic acid | t | 0 | 0 | 0.025 | - |
| sodium hydroxide sol. 30% | t | 0 | 0 | 0.25 | - |
| DRYFLOC™ Polyelectrolyte EM494SFC | t | 0 | 0 | 0.10 | - |
| WASTE WATER TREATMENT | | | | | |
| **materials** | | | | | |
| polyelectrolyte emulsion | t | 234 | 194 | 194 | - |
| aluminium polychloride | t | 20 | 8 | 6 | -25.0 |
| ferric chloride for sludge dehydration | t | 528 | 546 | 570 | 4.4 |
| sodium hypochlorite for final disinfection | t | 29 | 11 | 42 | 281.8 |
| acetic acid | t | 0 | 0.05 | 0 | -100.0 |
| sulphuric acid | t | 1 | 0 | 0 | - |
| caustic soda (sodium hydroxide) - Solvay | t | 2 | 1 | 0 | -100.0 |
| citric acid removed | t | 0 | 0.05 | 0.15 | 200.0 |
| biotek base L - biological reactivator | t | 0.04 | 0 | 0 | - |
| biotek clar – biological reactivator | t | 0.3 | 0.3 | 0 | -100.0 |
| desmell Bio L – odorogenic emissions treatment | t | 0 | 0.1 | 0.1 | - |
| nutrients | t | 1,136 | 1,320 | 867 | -34.3 |
| hydrochloric acid 9% | t | 0 | 0 | 0.5 | - |

| OTHER CONSUMPTION | | | | | |
|---|---|---|---|---|---|
| **drinking water (*)** | **m³** | **284,305** | **295,508** | **295,508** | **-** |
| *drinking water consumed for non-industrial water uses (offices, outside showers, etc.)* | *m³* | *215,604* | *225,835* | *225,835* | - |
| *drinking water consumed for process water uses (washing machinery and bays, etc.)* | *m³* | *68,701* | *69,673* | *69,673* | - |

(*) Due to consolidation, figures for 2021 have been revised. It is estimated that figures for 2022 will be identical to those for 2021.

In 2022, Acque **reused** approximately **201,501 m³ of recovered water** for washing the sheets of sludge dehydration equipment (belt presses).

| **ENERGY CONSUMPTION** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
|---|---|---|---|---|---|
| FUELS | | | | | |
| **process fuels - drinking water/non-drinking water** | | | | | |
| diesel fuel | l | 1,500 | 2,050 | 1,100 | -46.3 |
| **process fuels - wastewater** | | | | | |
| diesel fuel | l | 0 | 500 | 550 | 10.0 |
| **heating fuels** | | | | | |
| methane | $Sm^3$ | 50,743 | 55,583 | 49,576 | -10.8 |
| lpg | l | 15,419 | 17,847 | 11,130 | -37.6 |
| **vehicle fuels** | | | | | |
| diesel | l | 228,802 | 240,882 | 247,012 | 2.5 |
| petrol | l | 15,373 | 26,950 | 44,215 | 64.1 |
| methane | kg | 23,884 | 15,308 | 9,589 | -37.4 |
| ELECTRICITY | | | | | |
| **total electricity for drinking water** | **GWh** | **51.1** | **51.0** | **53.3** | **4.5** |
| *electricity for water pumping stations* | *GWh* | *50.7* | *50.3* | *52.6* | *4.6* |
| *electricity for offices* | *GWh* | *0.4* | *0.7* | *0.7* | - |
| **total electricity for waste water** | **GWh** | **32.3** | **31.9** | **30.3** | **-5.0** |
| *electricity for treatment* | *GWh* | *24.7* | *24.5* | *23.9* | *-2.4* |
| *electricity for pumping stations* | *GWh* | *7.4* | *7.0* | *6.0* | *-14.3* |
| *electricity for offices* | *GWh* | *0.2* | *0.4* | *0.4* | *2.4* |

**ENERGY EFFICIENCY (2020-2022)**

| | **energy savings achieved (kWh)** | | |
|---|---|---|---|
| **action** | **2020** | **2021** | **2022** |
| Pieve a Nievole (PT) inter-municipal treatment plant: implementation of microbubbles oxidative section Line 2 | - | 303,095 | 324,517 |
| treatment plant via Hangar Pontedera (PI): implementation of microbubbles oxidative section | 252,650 | 208,020 | 198,328 |
| La Fontina (PI) treatment plant: replacement of air distribution plates lines 1 and 2 | 577,230 | 472,605 | 589,760 |

Acque has implemented energy efficiency improvements, such as the replacement of the oxygenation system on the Pieve a Nievole and Pontedera (PI) treatment plants, which led to the 2022 energy savings indicated in the table.

| **WASTE** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
|---|---|---|---|---|---|
| SPECIFIC WASTE FROM TREATMENT OF WASTE WATER | | | | | |
| treatment sludge | t | 19,880 | 20,247 | 18,660 | -7.8 |
| sand and sediment from treatment | t | 1,982 | 1,413 | 1,359 | -3.8 |
| WASTE EXCLUDING SLUDGE AND SAND | | | | | |
| hazardous waste | t | 25.0 | 16.8 | 20.2 | 20.2 |
| non-hazardous waste (*) | t | 72,920 | 63,778 | 59,025 | -7.5 |

**TOTAL COD IN INPUT AND OUTPUT (2020-2022) (*)**

| (t/year) | 2020 | 2021 | 2022 |
|---|---|---|---|
| $COD_{in}$ | 22,808 | 22,021 | 16,860 |
| $COD_{out}$ | 1,268 | 1,212 | 988 |

(*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

**OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ACQUE (2020-2022) (*)**

| parameter | average values (mg/l) 2020 | average values (mg/l) 2021 | average values (mg/l) 2022 |
|---|---|---|---|
| $BOD_5$ | 5.5 | 4.7 | 7.2 |
| COD | 25.5 | 24.3 | 32.0 |
| SST | 5.0 | 5.9 | 8.3 |
| $NH_4^+$ | 3.0 | 3.3 | 3.9 |
| phosphorous | 2.0 | 2.2 | 2.6 |

(*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

**TREATMENT EFFICIENCY OF THE MAIN TREATMENT PLANTS MANAGED BY ACQUE (2020-2022) (*)**

| parameter | average values (%) 2020 | average values (%) 2021 | average values (%) 2022 |
|---|---|---|---|
| $100x(COD_{in} - COD_{out})/COD_{in}$ | 95.0 | 95.4 | 94.1 |
| $100x(SST_{in}-SST_{out})/SST_{in}$ | 97.8 | 98.2 | 97.3 |
| $100x(NH_4^+{}_{in} - NH_4^+{}_{out})/ NH_4^+{}_{in}$ | 92.7 | 92.7 | 91.9 |
| $100x(PO_4^{-3}{}_{in} -PO_4^{-3}{}_{out})/ PO_4^{-3}{}_{in}$ | 73.0 | 68.3 | 71.3 |

(*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

## Overseas activities

Acea operates abroad, in the water sector[226], with regards to **technical aspects or the commercial management of the service**. In particular, it is present in Honduras, Dominican Republic and Peru through companies created **in partnership with local and international stakeholders**, in an area with approximately 10 million people.

### AGUAS DE SAN PEDRO

Aguas de San Pedro SA holds a 30-year contract and operates the integrated water service in San Pedro Sula in Honduras, which began in 2001, and, in 2022, it continued with the projects for the **expansion, treatment and improvement of the water service and sewerage network** in the city. The water network stretches 2,186 km and the sewerage network 1,281 km.
The Company has a **Quality Management System** certified according to the **UNI ISO 9001:2008** standard and the laboratories are accredited according to the **UNI ISO/IEC 17025:2005** standard. In 2022, it also obtained a certificate for the **Anti-bribery Management System** according to the **UNI ISO 37001:2016** standard.

**AGUAS DE SAN PEDRO SA – MAIN COMPANY AND OPERATING DATA**

| | |
|---|---|
| **country (area)** | Honduras (San Pedro Sula) |
| **users** | 123,433 |
| **inhabitants served** | 801,000 (estimated figure) |
| **customer** | municipal administration |
| **duration of the contract** | 01.02.2001 – 01.02.2031 |
| **purpose of the project** | concession of the integrated water service for the town of San Pedro de Sula |
| **shareholders** | Acea SpA 60.65%, Ireti SpA 39.35% |
| **no. of employees** | 410 |
| **turnover (in € thousand)** | 43,332 |

226 Overseas activities have a limited incidence from an economic and financial viewpoint, in terms of consolidation percentage, but a brief description of them is given here because of their social importance.

The company has provided **65 training seminars** in a variety of areas, such as Quality Management Systems, gender equality, anti-bribery management, environmental sustainability, and climate change, with the goal of enhancing and developing people's skills. In addition, **occupational health and safety** training continued, with 70 courses on timely medical care, mental health, and occupational health. All employees were vaccinated and updated on **Biosafety and Personnel Protection Measures and Biosafety Protocols** as part of a **vaccination programme** that included specific **training** on **COVID-19 risks**.

In addition, during the period under review, the Company supported community and environmental initiatives, especially in the **El Merendón Nature Reserve**, which has been designated a protected area for water production in San Pedro Sula. In this area, the Company has implemented the **reforestation** project *Un millón de árboles para el Merendón* (One Million Trees for el Meredón), which was initiated in 2006 to restore degraded areas of the reserve, with the aim of planting 1 million fruit and timber trees on 876 hectares by 2022. In addition, **fire prevention and suppression** activities continued. Due to the watch towers constructed over the past few years, a dedicated team is able to intercept and extinguish numerous fires before they spread (3 cases in 2022). Finally, **guidance was provided on the 6 Sectoral Committees for Water Management**, including support in preparing reports and plans to preserve supply micro-basins.

With a focus on the **rural communities of Merendón**, Aguas de San Pedro organised **24 workshops** dedicated to **health and environmental protection** and, in particular, hygiene in the communities of the Rio Manchaguala, Rio Frio and El Palmar micro-basins, with sessions dedicated to children belonging to the Children's Health Committees.

### ACEA DOMINICANA SA

Acea Dominicana deals with the commercial management of the water service **in the northern and eastern areas of Santo Domingo** in the **Dominican Republic**. The activities include the management of customer relations, the billing cycle and cost estimates, the installation of new meters, maintenance of existing meters and directing the works for new connections.
The Company implemented a **Quality Management System** certified according to the **UNI ISO 9001:2015** standard, which covers all activities performed.

**ACEA DOMINICANA SA – MAIN CORPORATE AND OPERATING DATA**

| | |
|---|---|
| **country (area)** | Dominican Republic (north and east Santo Domingo) |
| **users served** | 194,378 |
| **customers** | Corporación del Acueducto y Alcantarillado de Santo Domingo (CAASD) and Corporación de Acueducto y Alcantarillado de Boca Chica (CORAABO) |
| **duration of the contract** | 01.10.2003 – 30.09.2023 |
| **purpose of the project** | commercial management of the water service |
| **shareholders** | Acea SpA 100% |
| **no. of employees** | 148 |
| **turnover (in € thousand)** | 5,512 |

Through the implementation of an educational campaign, Acea Dominicana is **educating** elementary school students in the municipality of Boca Chica about the importance of **water conservation**. The Company conducts **reforestation** activities to **restore and protect forest ecosystems**, which resulted in the planting of 1,050 native and endemic trees in 2022. Taking into account the reforestation activities conducted in previous years, the Company has planted a total of 6,350 trees.
**Skill development** for employees continued during the year, with courses on customer service, risk assessment, occupational safety, stress management, and on social aspects such as raising awareness about violence against women, for a total of 1,864 hours of training.

### OPERATING COMPANIES IN PERU

The Consortia operating in Lima (Peru) manage part of the water services on behalf of the local, publicly owned water company SEDAPAL (drinking water and sewerage service in Lima) with projects defined in their calls for tenders. These are **Consorcio Agua Azul**, **Consorcio Acea**, **Consorcio Acea Lima Norte**, and **Consorcio Acea Lima Sur**, while **Consorcio Servicio Sur**, which was responsible for the extraordinary maintenance necessary for the operation of the water and sewerage service, improving sanitation and environmental conditions, ended operations in August 2022 and is currently being liquidated.

**MAIN CORPORATE AND OPERATING DATA**

| | |
|---|---|
| **country (area)** | Peru (Lima) |
| **customer** | Sedapal (Drinking water and sewerage service in Lima, state owned) |
| **duration of the contracts** | **Consorcio Agua Azul:** 07.04.2000 – 18.06.2027<br>**Consorcio Acea:** 5.12.2020 – 5.12.2023<br>**Consorcio ACEA Lima Norte:** 7.01.2021 – 7.01.2024<br>**Consorcio Acea Lima Sur:** 18.12.2021 – 18.12.2024 |
| **shareholders** | **Consorcio Agua Azul:** Acea SpA (44%), Marubeni Co. (29%), Inversiones Liquidas S.A.C (27%)<br>**Consorcio Acea**: Acea Peru SAC (99%), Acea Ato 2 (1%)<br>**Consorcio ACEA Lima Norte:** Acea Peru SAC (99%), Acea Ato 2 (1%)<br>**Consorcio Acea Lima Sur:** Acea Peru SAC (99%), Acea Ato 2 (1%) |
| **no. of employees** | **Consorcio Agua Azul:** 31<br>**Consorcio Acea:** 987<br>**Consorcio ACEA Lima Norte:** 645<br>**Consorcio Acea Lima Sur:** 241 |
| **turnover (in € thousand)** | **Consorcio Agua Azul:** 15,309<br>**Consorcio Acea**: 8,323<br>**Consorcio ACEA Lima Norte:** 13,342<br>**Consorcio Acea Lima Sur:** 7,868 |

Specifically:

- **Consorcio Agua Azul**, a subsidiary of **Acea SpA**, manages the treatment and supply of drinking water in the **northern area of Lima**. To this end, using the surface and underground waters of the Chillón river it built a water treatment plant capable of satisfying the drinking water needs of the area, which it will manage until 2027, when it will be transferred to the State;
- **Consorcio Acea**, controlled by **Acea Peru** manages 253 pumping stations for drinking water serving the **Ate, Breña and San Juan de Lurigancho areas in the central area of Lima**;
- The **Consorcio Acea Lima Norte**, owned by **Acea Peru**, manages maintenance for the drinking water and sewerage infrastructure for the **Comas and Callao areas in the northern part of Lima**;
- the **Consorcio Acea Lima Sur**, a subsidiary of **Acea Peru**, carries out maintenance activities on the drinking water and sewerage systems for the **Surquillo area in the southern area of Lima.**

Below is some significant information from the standpoint of sustainability relating to the various Consortia operating in Peru.

The **Consorcio Agua Azul** has adopted an **Integrated Quality and Environment System** according to **UNI ISO 9001:2015** and **UNI ISO 14001:2015** aimed at optimising production processes and reducing the environmental impact through energy efficiency and the limited use of materials.

The Consortium has continued its **occupational safety and first aid training programme**, which has made it possible to **maintain the result of zero accidents at work** in 2022. In addition, specialised staff training continued, including support for the **undergraduate and graduate education** of two employees.

Because of the improvement in the pandemic situation, Consorcio Agua Azul has been allowed to restart operations aimed at strengthening ties with the community, such as finishing the installation of **new toilette facilities** in the area's seven schools. In the same institutions, 2,182 **educational kits** were delivered with the goal of **boosting school attendance and contributing to education**. For the Christmas holidays, children at local schools and the children of employees were delivered toys and Christmas packages.

**Consorcio Acea**, **Consorcio Acea Lima Norte** and **Consorcio Acea Lima Sur** follow the standards of the Certified Management Systems obtained from the parent company Acea Peru. Specifically, Acea Peru has an **Anti-bribery Management System** according to the **UNI ISO 37001:2016** standard, a **Quality System** according to the **UNI ISO 9001:2015** standard, and a **Occupational Health and Safety Management System** according to the **UNI ISO 45001:2018** certification. The first two certificates cover the activities of Consorcio Acea Lima Norte and Consorcio Acea Lima Sur, while the third covers the activities of Consorcio Acea Lima Norte and Consorcio Acea.

In 2022, the three Consortia began **employee training initiatives on inclusion and organisational wellness**, covering subjects such as gender equality and healthy nutrition, as well as **occupational health and safety**.

To protect the land, the three consortia have taken measures to lower **environmental impact** by disposing of 100% of electromechanical, uniform, and PPE waste appropriately.

# GRI CONTENT INDEX: REPORTING PRINCIPLES, UNIVERSAL STANDARDS, SPECIFIC STANDARDS AND MATERIAL TOPICS

The Sustainability Report has been prepared **in accordance with the GRI Standards**. The Index incorporates the news of the 2021 edition of the **Universal Standards** and contains:

- the "Statement of use";
- reference to the **GRI 1: Foundation 2021, i.e. to the reporting principles**;
- definition of the **30 general disclosures (GRI 2: General Disclosures 2021)**, the **3 disclosures on material topics (GRI 3: Material Topics 2021)** and the **71 specific disclosures of the GRI** (also including the GRI 306-3 of GRI 306: Effluents and waste 2016, as required by the framework, which therefore appears twice in the index), selected, as part of the respective Specific Standards, for their **correlation with Acea's material topics**, with evidence of the sections and pages of the document, where it is possible to consult the requested contents or the feedback directly reported in the index.

The GRI content index, in accordance with the specific Standards, contains the list of related material topics of the Acea Group; for details on the compliance of Acea's material topics of high relevance and the GRI specific disclosures, please refer to Table no. 1 (see *Disclosing sustainability: methodological note*).

## GRI CONTENT INDEX

| | | |
|---|---|---|
| **Statement of use** | Acea has reported in accordance with the GRI Standards for the period from 1 January 2022 to 31 December 2022. | |
| **GRI standard** | **definition of GRI standards notes (replies or reporting of omissions) sections and reference pages** | **Alignment with Legislative Decree no. 254/2016** |
| **UNIVERSAL STANDARDS** | | |
| **GRI 1: FOUNDATION 2021** | | |
| **GRI 2: GENERAL DISCLOSURES 2021** | | |
| | **THE ORGANIZATION AND ITS REPORTING PRACTICES** | |
| | **2-1 Organizational details.**<br>Acea SpA<br>Piazzale Ostiense 2, 00154 Rome<br>*Disclosing sustainability: methodological note*, pages 15-17 and Tables nos. 2 and 3; *Corporate identity* pages 20-21 and Chart no. 2, 30. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| | **2-2 Entities included in the organization's sustainability reporting (specify the differences between the list of entities included in its financial reporting and the list included in its sustainability reporting).**<br>In addition to the data requested, highlighted in the *Methodological note*, sometimes the scope varies by default. This change, again reported in the text, is primarily correlated to the different business sectors (and companies that belong to them) reported, or, in residual cases, the centralised management of certain data, which, on the basis of the activities managed under service, does not cover the entire scope of reporting.<br>*Disclosing sustainability: methodological note*, pages 15-17 and Tables nos. 2 and 3 and note 23; *Relations with stakeholders* pages 96, 149; *Relations with the environment* pages 206, 210, 214; *Environmental Accounts* pages 268, 272, 275. | **Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries |
| | **2-3 Reporting period, frequency and contact point.**<br>*Disclosing sustainability: methodological note* pages 10-11, 17; *GRI Content index* page 250.<br>Questions and information can be requested at the email address RSI@aceaspa.it | **Art. 2 paragraph 1**: public interest bodies prepare a disclosure for each financial year<br>**Art. 3 paragraph 3**: the information (...) is provided with a comparison with the information provided in previous years |
| | **2-4 Restatements of information.**<br>Any recalculation or groupings that require changes to the data published in 2021 are appropriately flagged and justified in the report.<br>*Disclosing sustainability: methodological note* page 11; *Relations with stakeholders* page 142; *Relations with the environment* pages 229-230 Table no. 69. | **Art. 3 paragraph 3**: the information (...) is provided with a comparison with the information provided in previous years |

| | |
|---|---|
| **2-5 External assurance (current policy and practice for seeking external assurance, etc.).**<br>*Disclosing sustainability: methodological note* pages 10-11; *Opinion Letter* pages 303-305. | **Art. 3 paragraph 10**: (...) verification of the non-financial statement |
| **ACTIVITIES AND WORKERS** | |
| **2-6 Activities, value chain and other business relationships (activities, products, services, markets served, supply chain, etc.).**<br>*Corporate identity* pages 20-21 and Chart no. 2, 22-25, 30 and Table no. 5; *Relations with stakeholders* pages 96-99 and Table no. 18, 114, 129, 149-150, 179. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-7 Employees (no. of employees for employment contract – permanent, temporary, full-time, part-time – broken down by gender and by region).**<br>Over 99% (6,713 employees out of 6,763) of the Company population has Italian citizenship; the rest is equally distributed between other citizenships of EU countries (24) and non-EU countries (26).<br>*Corporate identity* pages 20, Table no. 4, 46-47; *Relations with stakeholders* pages 139, 157-161 and Tables nos. 41-42. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |
| **2-8 Workers who are not employees (n. of workers who are not employees and whose work is controlled by the organization, describying the most common types of contractual relationship with the organization and the type of work they perform).**<br>In 2022, 191 non-employees (130 men and 61 women) worked for Acea with a temporary contract activated through specialized agencies (temporary).<br>*Relations with stakeholders* pages 139, 157 and Table no. 41. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **paragraph 2, letter d)**: aspects relating to staff management |
| **GOVERNANCE** | |
| **2-9 Governance structure and composition (including committees of the highest governance body, executive and non-executive members, etc.).**<br>*Corporate identity* pages 70 and Chart no. 13, 71 and Table no. 10, 72. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-10 Nomination and selection of the highest governance body (describing the criteria used, independence and competencies, etc.).**<br>In the composition of corporate bodies, Acea ensures balanced representation of genders, as set out in Law, and guarantees the presence of Independent Directors, governed by the By-laws and current regulations.<br>Gender diversity of the Governance Body and the Committees is an important element, in tempering "single-mindedness" as well as for the different ways in which men and women exercise their leadership. Selection processes involve shareholders who, in accordance with the recommendations of the *Corporate Governance Code*, are guided in the choice of candidates to propose in the lists by the guidelines provided by the Board of Directors of Acea, having received the opinion of the Appointments Committee and taking into account the results of self-assessment, on the size and composition of the administrative body.<br>*Corporate identity* page 71. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-11 Chair of the highest governance body (report whether the chair of the highest governance body is also a senior executive, if the chair is also a senior executive, explain their function with the organization's management, the reasons for this arrangement, and how conflicts of interest are prevented and mitigated).**<br>*Corporate identity* page 71 and Table no. 10. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-12 Role of the highest governance body in overseeing the management of impacts (including the role of the highest governance body and of senior executives in developing, approving, and updating the organization's strategies, policies, and goals related to sustainable development, etc.).**<br>*Disclosing sustainability: methodological note* pages 11-17; *Corporate identity* pages 46-49 and Chart no. 12, 50, 70 and Chart no. 13, 71-74, 78-85; *Relations with stakeholders* page 179. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **lettera c)**: l'impatto, ove possibile sulla base di ipotesi o scenari realistici anche a medio termine, sull'ambiente nonché sulla salute e la sicurezza |
| **2-13 Delegation of responsibility for managing impacts (process for delegating responsibility for managing the organization's impacts on the economy, the environment and people, etc.).**<br>The Board of Directors confers management powers to the Chief Executive Officer, who, in the context of the corporate macrostructure established by the same Board, confers powers and proxies to management, in accordance with the missions and responsibilities of the different structures. The standard practice for any type of assignment of powers, and therefore for economic, environmental and social areas, is based on analysis of the requirement/need for such assignment. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **lettera c)**: l'impatto, ove possibile sulla base di ipotesi o scenari realistici anche a medio termine, sull'ambiente nonché sulla salute e la sicurezza |
| **2-14 Role of the highest governance body in sustainability reporting.**<br>*Disclosing sustainability: methodological note* page 11; *Corporate identity* page 72. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **paragraph 7**: the responsibility to ensure that the report is drawn up and published in accordance with the provisions of this legislative decree lies with the directors of the public interest body |

| | |
|---|---|
| **2-15 Conflicts of interest (describe the processes for the highest governance body to ensure that conflicts of interest are prevented and mitigate, etc.).**<br>The risk of conflicts of interest in Acea is monitored employing corporate governance systems and procedures (Management, Organisation and Control Model, Code of Ethics, and Independent Directors). These tools act in different contexts where conflicts of interest could arise: in relations between controlling shareholders and minority shareholders, between Acea and Related Parties, and between Acea and the Public Administration.<br>*Corporate identity* pages 70-71. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-16 Communication of critical concerns (whether and how critical concerns are communicated to the highestgovernance body, etc.**).<br>The Board of Directors (BoD) receives constant information on potentially critical situations, primarily through the work performed by the Control and Risks Committee, to which the Internal Audit Function manager periodically reports, which interacts with BoD. The activities performed and results of activity of the Supervisory Body (pursuant to Italian Legislative Decree no. 231/01), which may identify the risk of liability for the Company, are subject to information flows to the BoD. The Chief Executive Officer, also in his role as Director in Charge of the Internal Control and Risk Management System, provides constant updates to the Board on developments in management and the existence of any potentially critical situations.<br>*Corporate identity* pages 72-73, 77-84 and Table no. 12, 86. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **paragraph 2, letter e)**: regarding human rights, the measures adopted to prevent breaches thereof and measures to avoid conduct and actions that are in any case discriminatory |
| **2-17 Collective knowledge of the highest governance body (measures taken to advance the collective knowledge, skills, and experience on sustainable development).**<br>*Disclosing sustainability: methodological* note page 11; *Corporate identity* pages 46, 70 and Chart no. 13, 71-72. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-18 Evaluation of the performance of the highest governance body (overseeing the management of the organization's impacts on the economy, environment, and people).**<br>Non-executive Directors receive a fixed fee, set by the Shareholders' Meeting on the basis of the commitment requested of them.<br>*Corporate identity* pages 71-72, 86; *Relations with stakeholders* pages 175. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-19 Remuneration policies (of the highest governance body and senior executives).**<br>For Top Management, Executives Holding Key Positions and other executives with roles of particular impact on the Acea Group's business, the clawback clause applies: i.e. the right to request the return of variable components of remuneration, short and medium-long term linked to performance and results, if these do not prove to be effective or are the result of intentional and/or gross negligence. There are no agreements that provide for fixed indemnities or clauses aimed at safeguarding Group Managers in the event of termination of the employment relationship, referring, on this subject, to the institutions provided for by the CCNL for Executives of Public Utility Service Companies and the "Executive Exodus Management". This "Executive Exodus Management" policy refers to the collective agreement and takes into account the monthly payments in terms of fixed and variable short and long term. The long-term incentive system (LTIP) and the short-term annual incentive system (MBO) are linked, in addition to economic and financial objectives, also to environmental objectives and with an impact on sustainability, including a composite sustainability indicator. For details, please refer to the Report on the remuneration policy and remuneration paid.<br>*Corporate identity* pages 70 and Chart no. 13, 71, 73; *Relations with stakeholders* page 175. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-20 Process to determine remuneration.**<br>In 2022, no external consulting companies were involved in processes for the determination of remuneration.<br>*Corporate identity* pages 70 and Chart no. 13, 71, 73; *Relations with stakeholders* pages 162-163, 174-175. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-21 Annual total compensation ratio (ratio of the annual total compensation for the highest-paid individual to the average annual total compensation for all employees - excluding the highest-paid individual; ratio of the percentage increase in annual total compensation for the highest-paid individual to the average percentage increase in annual total compensation for all employees).**<br>The ratio between the total annual salary of the person who received, in 2022, the maximum salary and the average salary of employees is equal to 12.26. There was no increase in the remuneration of the highest paid person between 2021 and 2022, a circumstance partly attributable to the departure of the previous CEO in September 2022.<br>*Corporate identity* page 73. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **STRATEGY, POLICIES AND PRACTICES** | |
| **2-22 Statement on sustainable development strategy (statement from the highest governance body or most senior executive about the relevance of sustainable development to the organization and its strategy for contributing to this).**<br>*Letter to the stakeholders* page 4; *Corporate identity* pages 22-25, 44-49; *Relations with stakeholders* pages 139-140, 143-144, 186-187, 189. | **Art. 3 paragraph 7**: the responsibility to guarantee that the report is (...) compliant rests with the directors |

| | |
|---|---|
| **2-23 Policy commitments.**<br>*Corporate identity* pages 44, 46-49, 50-69, 70, 74, 77, 80-81 Table no. 12, 85, 86 Table no. 14; *Relations with stakeholders* page 147, 167, 169, 175-176, 188; *Relations with the environment* pages 211, 227. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company |
| **2-24 Embedding policy commitments.**<br>*Corporate identity* pages 46, 70 Chart no. 13, 80-81 Table no. 12; *Relations with stakeholders* pages 147-149, 174 Table no. 47, 175-176; *Relations with the environment* pages 211, 227. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company |
| **2-25 Processes to remediate negative impacts.**<br>*Corporate identity* pages 78, 80-81 Table no. 12; *Relations with stakeholders* page 128. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company; **letter c)**: the impact, where possible on the basis of realistic assumptions or scenarios also in the medium term, on the environment as well as on health and safety |
| **2-26 Mechanisms for seeking advice and raising concerns (describe the mechanisms for individuals to seek advice on implementing the policies and practices for responsible business conduct; raise concerns about the business conduct).**<br>*Corporate identity* pages 70 Chart no. 13, 77-78. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **paragraph 2, letter e)**: regarding human rights, the measures adopted to prevent breaches thereof and measures to avoid conduct and actions that are in any case discriminatory |
| **2-27 Compliance with laws and regulations (including the total number of significant instances of non-compliance with laws and regulations; the total number and the monetary value of fines for instances of non-compliance).**<br>*Corporate identity* pages 46-49, 77-78, 84; *Relations with stakeholders* pages 111-114, 121, 128-129, 134, 143, 148, 165, 182; *Relations with the environment* page 198; *Environmental accounts* page 290. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them |
| **2-28 Membership associations (industry, category and other associations in which it participates in a significant role).**<br>*Relations with stakeholders* pages 186-193; *Relations with the environment* page 196. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **STAKEHOLDER ENGAGEMENT** | |
| **2-29 Approach to stakeholder engagement (including a description of the categories of stakeholders engaged and how they are identified; the purpose of the engagement and how the organization seeks to ensure their meaningful engagement).**<br>*Disclosing sustainability: methodological note* pages 12-17 and Table no. 1; *Corporate identity* pages 22-29, 44, 73, 76-77, 87-90; *Relations with stakeholders* pages 100-106 and Tables nos. 19-20, 109, 111, 115, 118-121, 128-134, 138-146, 148, 152-156, 164-167, 169-171, 174, 175-178, 180-181, 184-193; *Relations with the environment* pages 196, 198. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model |
| **2-30 Collective bargaining agreements (report the percentage of total employees covered by collective bargaining agreements; indicate how working conditions are determined for workers not covered by collective bargaining agreements).**<br>*Relations with stakeholders* page 164. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |
| **GRI 3: MATERIAL TOPICS 2021** | |
| **3-1 Process to determine material topics.**<br>*Disclosing sustainability: methodological note* pages 12-17; *Corporate identity* pages 22-25, 34-39; *Indice dei contenuti GRI* pages 250-263. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **lettera c)**: **the impact, where possible on the basis of realistic assumptions or scenarios also in the medium term, on the environment as well as on health and safety**;<br>**Art. 4 paragraph 1**: to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **3-2 List of material topics.**<br>*Disclosing sustainability: methodological note* pages 13-14, Table no. 1, 90-93 and Table no.15. *Environmental accounts* pages 250-263. | **Art. 4 paragraph 1**: to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |

| SPECIFIC STANDARDS AND MATERIAL TOPICS | | |
|---|---|---|
| TOPIC | **ECONOMIC PERFORMANCE**<br>**(related material topics: 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 30, 44-49, 50, 75, 77-84 and Table no. 12, 90-93 and Table no. 15. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 201: Economic Performance 2016** | **201-1 Direct economic value generated and distributed (including revenues, operating costs, employee wages and benefits, payments to providers of capital, payments to government and community investments).**<br>*Corporate identity* pages 30 and Table no. 5, 87-90, 93; *Relations with stakeholders* pages 162-163, 179, 181. | **Art. 3 paragraph 1, letter d)**: social aspects and aspects relating to staff management |
| | **201-2 Financial implications and other risks and opportunities due to climate change.**<br>*Corporate identity* pages 22-25, 82; *Relations with the environment* pages 198, 223-225. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **201-3 Defined benefit plan obligations and other retirement plans.**<br>*Relations with stakeholders* pages 163-164 and Table no. 45. | **Art. 3 paragraph 1, letter d)**: social aspects and aspects relating to staff management |
| | **201-4 Financial assistance received from government.**<br>*Corporate identity* pages 75 note 20. | - |
| TOPIC | **INDIRECT ECONOMIC IMPACTS**<br>**(related material topics: 3, 4, 5, 8, 10, 11, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 24-26, 45-49, 50, 78-84 and Table no. 12, 87-90, 90-93 and Table no. 15; *Relations with stakeholders* pages 106-127, 144-146, 148-149. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 203: Indirect Economic Impacts 2016** | **203-1 Infrastructure investments and services supported (the organization shall report: the extent of development of significant infrastructure investments; current or expected impacts on communities, including positive and negative impacts where relevant; whether these investments and services are commercial, in-kind, or pro bono engagements, etc.).**<br>*Corporate identity* pages 87-90; *Relations with stakeholders* pages 106-127 and Tables nos. 21 and 28, 144-146, 187-188 and Chart no. 47; *Relations with the environment* page 204. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment as well as on health and safety |
| | **203-2 Significant indirect economic impacts (examples of significant identified indirect economic impacts of the organization, including positive and negative impacts, etc.).**<br>*Corporate identity* pages 87-90; *Relations with stakeholders* pages 97-98, 106-127 and Table no. 21, 141-142, 144-146, 147-151 and Tables nos. 39-40; *Relations with the environment* page 207. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment as well as on health and safety |
| TOPIC | **PROCUREMENT PRACTICES**<br>**(related material topics: 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 147-149. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |

| | | |
|---|---|---|
| **GRI 204: Procurement Practices 2016** | **204-1 Proportion of spending on local suppliers (in relation to the significant locations of operation).**<br>There is no specific preferential strategy for local suppliers, although, particularly for sourcing of works, the prevalence of local suppliers arises naturally.<br>*Relations with stakeholders* pages 150-151 and Table no. 40. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them |
| TOPIC | **ANTI-CORRUPTION**<br>**(related material topics: 2, 9, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 75, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* page 172. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through the<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 205: Anti-corruption 2016** | **205-1 Operations assessed for risks related to corruption (report the total number and percentage of operations assessed for risks related to corruption).**<br>*Corporate identity* pages 77-78. | **Art. 3 paragraph 1, letter c)**: the main risks generated or suffered; **paragraph 2, letter f)**: anti-corruption and bribery measures |
| | **205-2 Communication and training about anti-corruption policies and procedures (report the total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to).**<br>*Corporate identity* page 25; *Relations with stakeholders* pages 172, 173 Table no. 47. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **paragraph 2, letter f)**: anti-corruption and bribery measures |
| | **205-3 Confirmed incidents of corruption and actions taken (total number and nature of confirmed incidents of corruption, etc.).**<br>No instances of corruption were recorded. | **Art. 3 paragraph 2, letter f)**: anti-corruption and bribery measures |
| TOPIC | **ANTI-COMPETITIVE BEHAVIOR**<br>**(related material topics: 2, 11)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 46-49, 50, 74-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 172, 182. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 206: Anti-competitive Behavior 2016** | **206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices (number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation).**<br>*Relations with stakeholders* page 182. | **Art. 3 paragraph 1, letter b)**: fundamental indicators of non-financial performance |
| TOPIC | **MATERIALS**<br>**(related material topics: 1, 5, 6, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with the environment* pages 196, 198, 222; *Environmental accounts*page 268. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |

| | | |
|---|---|---|
| **GRI 301: Materials 2016** | **301-1 Materials used by weight or volume (materials that are used to produce and package the organization's primary products and services, by non-renewable and renewable materials used).** *Relations with the environment* pages 222 and Table no. 61, 226 and Table no. 65; *Environmental accounts* pages 279-281. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **301-2 Recycled input materials used.** *Relations with the environment* page 222 and Table no. 61. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| TOPIC | **ENERGY** **(related material topics: 1, 3, 4, 5, 10, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.** *Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 45-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 172, 154, 175-176; *Relations with the environment* pages 196-198, 206-211-213, 221-224. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them **Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 302: Energy 2016** | **302-1 Energy consumption within the organization.** *Relations with the environment* pages 211-212, 222-224 and Table no. 62. | **Art. 3 paragraph 2, letter a)**: use of energy resources |
| | **302-2 Energy consumption outside of the organization.** *Relations with the environment* page 224. | **Art. 3 paragraph 2, letter a)**: use of energy resources |
| | **302-3 Energy intensity.** *Relations with the environment* pages 223 and Table no. 63, 224-225. | **Art. 3 paragraph 2, letter a)**: use of energy resources |
| | **302-4 Reduction of energy consumption.** *Relations with the environment* pages 210-212, 224-225 and Table no. 64. | **Art. 3 paragraph 2, letter a)**: use of energy resources |
| | **302-5 Reductions in energy requirements of products and services.** *Relations with the environment* pages 224-225. | **Art. 3 paragraph 2, letter a)**: use of energy resources |
| TOPIC | **WATER AND EFFLUENTS** **(related material topics: 1, 3, 5, 8, 10, 11, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.** *Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 24-26, 45-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 115, 118-119, 121, 175-176; *Relations with the environment* pages 196-198, 203-206, 214, 217-221, 225-226. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them **Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 303: Water and effluents 2018** | **303-1 Interactions with water as a shared resource.** *Relations with stakeholders* pages 115, 118-119, 121, 140; *Relations with the environment* pages 196, 203-206 and Table no. 50, 214, 217-220 and Table no. 59, 225-226 and Table no. 65; *Environmental accounts* pages 274-276. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **303-2 Management of water discharge-related impacts.** *Relations with stakeholders* pages 119, 121; *Relations with the environment* pages 215-217, 219-221, 225-226; *Environmental accounts* pages 274-276. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **303-3 Water withdrawal.** *Relations with the environment* pages 203-206 and Table no. 50, 214, 225-226 and Table no. 65; *Environmental accounts* page 279. | **Art. 3 paragraph 2, letter a)**: use of water resources |
| | **303-4 Water discharge.** *Relations with stakeholders* pages 121; *Relations with the environment* pages 215, 219-221 and Tables nos. 57 and 59, 225-226; *Environmental accounts* pages 277-278. | **Art. 3 paragraph 2, letter a)**: use of water resources; **letter c)**: the impact (...) on the environment |
| | **303-5 Water consumption.** *Relations with the environment* pages 217-219, 225-226; *Environmental accounts* pages 274-276. | **Art. 3 paragraph 2, letter a)**: use of water resources |

| | | |
|---|---|---|
| TOPIC | **BIODIVERSITY**<br>**(related material topics: 1, 3, 8, 10)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-17; *Corporate identity* pages 24-26, 33, 46-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 121, 175-176; *Relations with the environment* pages 198, 199-206, 219-221. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 304: Biodiversity 2016** | **304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.**<br>*Relations with the environment* pages 199-206 and Chart no. 48. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **304-2 Significant impacts of activities, products, and services on biodiversity.**<br>*Relations with stakeholders* page 119; *Relations with the environment* pages 199-206, 210. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **304-3 Habitats protected or restored.**<br>*Relations with the environment* pages 202-206. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.**<br>*Relations with the environment* pages 199-206 and Chart no. 49. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| TOPIC | **EMISSIONS**<br>**(related material topics: 3, 4, 11, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 24-26, 45-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders pages* 129-130, 142, 172, 175-176; *Relations with the environment* pages 196-198, 211-213, 222-224, 227-230. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 305: Emissions 2016** | **305-1 Direct (Scope 1) GHG emissions.**<br>Biogenic $CO_2$ was calculated for Environment Operations and Water Operations and in 2022 equalled 322,970 t.<br>*Relations with the environment* pages 228-230 and Table no. 69; *Environmental accounts* pages 282-283, 286. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |
| | **305-2 Energy indirect (Scope 2) GHG emissions.**<br>*Relations with the environment* pages 229-230 and Table no. 69; *Environmental accounts* pages 282-283. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |
| | **305-3 Other indirect (Scope 3) GHG emissions.**<br>*Relations with the environment* pages 229-230 and Table no. 69. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |
| | **305-4 GHG emissions intensity.**<br>*Relations with the environment* pages 229-230 and Table no. 69. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |
| | **305-5 Reduction of GHG emissions as a direct result of reduction initiatives.**<br>*Relations with the environment* pages 210, 224-225 and Table no. 64, 229-230 and Table no. 69. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |
| | **305-6 Emissions of ozone-depleting substances (ODS).**<br>*Relations with the environment* page 228; *Environmental accounts* pages 257, 279, 281. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |
| | **305-7 Nitrogen oxides ($NO_x$), sulfur oxides ($SO_x$), and other significant air emissions.**<br>*Relations with the environment* page 227 Table no. 66; *Environmental accounts* pages 282-283. | **Art. 3 paragraph 2, letter b)**: Greenhouse-gas emissions |

| | | |
|---|---|---|
| TOPIC | **WASTE**<br>**(related material topics: 3, 6, 10, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity pages* 22-25, 45-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15, 175-176; *Relations with the environment* pages 196-198, 210-214, 221, 231-235; *Environmental accounts* page 268. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 306: Effluents and waste 2016** | **306-3 Significant spills.**<br>During the reporting period, there were no cases of significant spills. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| **GRI 306: Waste 2020** | **306-1 Waste generation and significant waste-related impacts.**<br>*Relations with the environment* pages 231-235. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **306-2 Management of significant waste-related impacts.**<br>*Relations with the environment* pages 231-235; *Environmental accounts* pages 282-285. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **306-3 Waste generated.**<br>*Relations with the environment* pages 231-235 and Tables nos. 70-73. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **306-4 Waste diverted from disposal.**<br>*Relations with the environment* pages 214, 231-235 and Tables nos. 70-73. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| | **306-5 Waste directed to disposal.**<br>*Relations with the environment* page 231-235 and Tables nos. 70-73. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment |
| TOPIC | **SUPPLIER ENVIRONMENTAL ASSESSMENT**<br>**(related material topics: 8, 10, 12)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 147, 149, 152-156; *Relations with the environment* pages 224, 229. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 308: Supplier Environmental Assessment 2016** | **308-1 New suppliers that were screened using environmental criteria (indicate the percentage).**<br>*Relations with stakeholders* pages 149, 152-156; *Relations with the environment* page 224. | **Art. 3 paragraph 1, letter c)**: the main risks generated or suffered (...) deriving from the business, its products, services or commercial relations, including, where relevant, supply and subcontracting chains |
| | **308-2 Actual and potential negative environmental impacts in the supply chain and actions taken.**<br>*Relations with stakeholders* pages 152-156; *Relations with the environment* pages 224, 229. | **Art. 3 paragraph 1, letter c)**: the main risks generated or suffered (...) deriving from the business, its products, services or commercial relations, including, where relevant, supply and subcontracting chains; **paragraph 2, letter c)**: the impact (...) on the environment |
| TOPIC | **EMPLOYMENT**<br>**(related material topics: 8, 9, 13)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 147, 152-156, 157, 162-163, 169-176, 178. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |

| | | |
|---|---|---|
| GRI 401: Employment 2016 | **401-1 New employee hires and employee turnover (report the total number and rate of new employee hires and employee turnover, broken down by age group, gender and region).**<br>*Relations with stakeholders* pages 157-161 and Table no. 43. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |
| | **401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees.**<br>*Relations with stakeholders* page 175. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |
| | **401-3 Parental leave (including return-to-work rate and retention rates of employees that took parental leave, by gender).**<br>Acea operates in accordance with the Consolidated Law on supporting maternity and paternity (Italian Legislative Decree 151/2001 as amended), which governs leave, rest days, days off for specific reasons and economic support for female and male workers connected with maternity, paternity of children, adopted children and fostered children.<br>The law prohibits any discrimination for reasons related to gender, with particular reference to any less favourable treatment on the basis of being pregnant, maternity and paternity. It establishes mandatory maternity leave for a period of five months and guarantees the work post during this period, imposing a prohibition on dismissal. It also establishes the reintegration of the employee into the activities performed prior to the leave period or equivalent activities, with fines applicable for employers contravening these rules. Therefore, 100% of employees making use of this type of leave maintain their post and return to work.<br>The employees who took leave for parenthood in 2022 numbered 388, of which 164 were men and 224 women. All of these, after the leave period, returned to work and are still employed. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management; **lettera e)**: actions taken to prevent attitudes and conduct that are in any case discriminatory |
| TOPIC | **LABOR/MANAGEMENT RELATIONS**<br>**(related material topics: 9)** | |
| GRI 3: Material Topics 2021 | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 46-49, 50, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 164-165, 152. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| GRI 402: Labor/Management Relations 2016 | **402-1 Minimum notice periods regarding operational changes (report whether the notice period and provisions for consultation and negotiation are specified in collective agreements).**<br>*Relations with stakeholders* page 165. | **Art. 3 paragraph 2, letter d)**: methods of dialogue with trade unions |
| TOPIC | **OCCUPATIONAL HEALTH AND SAFETY**<br>**(related material topics: 2, 7, 8, 12, 13)** | |
| GRI 3: Material Topics 2021 | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders pages* 147-148, 152-156, 166-169, 172. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| GRI 403: Occupational Health and Safety 2018 | **403-1 Occupational health and safety management system.**<br>*Corporate identity* page 85; *Relations with stakeholders* pages 154-156, 165-169. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company |

| | | |
|---|---|---|
| GRI 403: Occupational Health and Safety 2018 | **403-2 Hazard identification, risk assessment, and incident investigation.**<br>*Relations with stakeholders* pages 155, 166-169 and Table no. 46. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company; **letter c)**: the main risks generated or suffered (...) deriving from the business, its products, services or commercial relations, including, where relevant, supply and subcontracting chains<br>**Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| | **403-3 Occupational health services.**<br>*Relations with stakeholders* pages 166-169. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company<br>**Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| | **403-4 Worker participation, consultation, and communication on occupational health and safety.**<br>Acea observes the indications of Italian Legislative Decree no. 81/2008 on health and safety in the workplace. 100% of workers are represented in formal health and safety commissions (composed of representatives from management and workers), through appointed figures.<br>*Relations with stakeholders* pages 148, 155, 164-166. | **Art. 3 paragraph 1, letter a)**: the corporate management and organisation model; **letter b)**: the policies implemented by the company<br>**Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management (...) methods of dialogue with trade unions |
| | **403-5 Worker training on occupational health and safety.**<br>*Relations with stakeholders* pages 154-156, 167. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| | **403-6 Promotion of worker health.**<br>*Relations with stakeholders* pages 164-165, 177-178. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| | **403-8 Workers covered by an occupational health and safety management system.**<br>*Relations with stakeholders* pages 166-169. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| | **403-9 Work-related injuries.**<br>*Relations with stakeholders* pages 156, 166-167 and Chart no. 45. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| | **403-10 Work-related ill health.**<br>*Relations with stakeholders* pages 156, 169. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety; **letter d)**: aspects relating to staff management |
| TOPIC | **TRAINING AND EDUCATION**<br>**(related material topics: 9)** | |
| GRI 3: Material Topics 2021 | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 169-176. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| GRI 404: Training and Education 2016 | **404-1 Average hours of training per year per employee (by gender and employee category).**<br>*Relations with stakeholders* page 173 and Table no. 47. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |

| | | |
|---|---|---|
| **GRI 404: Training and Education 2016** | **404-2 Programs for upgrading employee skills and transition assistance programs.**<br>*Relations with stakeholders* pages 153, 154, 156, 157, 159. | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |
| | **404-3 Percentage of employees receiving regular performance and career development reviews.**<br>In 2022, in the context of the Human Resources Management System in force, all personnel of Group Companies within the scope of reporting (100%) were subject to evaluation.<br>*Relations with stakeholders* page 175 | **Art. 3 paragraph 2, letter d)**: aspects relating to staff management |
| TOPIC | **DIVERSITY AND EQUAL OPPORTUNITY**<br>**(related material topics: 13, 14)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity pages* 22-25; 46-49, 50, 78-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 147, 162-163, 175-176, 178. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 405: Diversity and Equal Opportunity 2016** | **405-1 Diversity of governance bodies and employees (reporting the percentage of individuals of governance bodies and employees by gender, age group and other diversity indicators if relevant).**<br>Regarding representation of the different age brackets for members of the governance bodies, considering these to include the BoD and the Board of Statutory Auditors, it is noted that 27% of members are in the 30-50 years bracket, and the remaining 73% are in the over-50 bracket.<br>*Corporate identity* page 71; *Relations with stakeholders* pages 161 Tables nos. 42 and 44, 176-178. | **Art. 3 paragraph 2, letter d)**: social and staff management aspects |
| | **405-2 Ratio of basic salary and remuneration of women to men (for each employee category, by significant locations of operation).**<br>The overall incidence of women's pay on men in 2022 is 98%. The data broken down by category are shown in the chapter *Staff*.<br>*Relations with stakeholders* pages 162-163. | **Art. 3 paragraph 2, letter d)**: social and staff management aspects |
| TOPIC | **NON DISCRIMINATION**<br>**(related material topics: 2, 8, 13)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 33, 46-49, 50, 75, 77-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 172, 175-176. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 406: Non discrimination 2016** | **406-1 Incidents of discrimination and corrective actions taken.**<br>*Corporate identity* pages 78, 87-90; *Relations with stakeholders* page 178. | **Art. 3 paragraph 2, letter d)**: social and staff management aspects; **letter e)**: actions taken to prevent attitudes and conduct that are in any case discriminatory |
| TOPIC | **LOCAL COMMUNITIES**<br>**(related material topics: 2, 8, 10)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 46-49, 50, 78-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 100-127, 138-146, 181, 184-185. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |

| | | |
|---|---|---|
| **GRI 413: Local Communities 2016** | **413-1 Operations with local community engagement, impact assessments, and development programs (indicate the percentage).**<br>100% of the main Group Companies have initiatives in place for stakeholder engagement.<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 85-87 and Table no. 14, 87-90; *Relations with stakeholders* pages 100-106, 109, 115, 118, 121, 132, 138-146, 147-149, 152-156, 187; *Relations with the environment* page 196. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment as well as on health and safety |
| | **413-2 Operations with significant actual and potential negative impacts on local communities.**<br>*Corporate identity* pages 87-90; *Relations with stakeholders* pages 199-206. | **Art. 3 paragraph 2, letter c)**: the impact (...) on the environment as well as on health and safety |
| TOPIC<br>**GRI 3: Material Topics 2021** | **SUPPLIER SOCIAL ASSESSMENT**<br>**(related material topics: 7, 8, 10, 12)**<br>**3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 22-25, 46-49, 50, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 147-149, 152-156. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 414: Supplier Social Assessment 2016** | **414-1 New suppliers that were screened using social criteria (indicate the percentage).**<br>*Relations with stakeholders* pages 149, 152-156. | **Art. 3 paragraph 1, letter c)**: the main risks generated or suffered (...) deriving from the business, its products, services or commercial relations, including, where relevant, supply and subcontracting chains; **paragraph 2, letter c)**: the impact (...) on health and safety |
| | **414-2 Negative social impacts in the supply chain and actions taken.**<br>*Relations with stakeholders* pages 148, 152-156. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety |
| TOPIC<br>**GRI 3: Material Topics 2021** | **CUSTOMER HEALTH AND SAFETY**<br>**(related material topics: 2, 8, 10, 11)**<br>**3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 46-49, 50, 78-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 119, 121; *Relations with the environment* pages 215-217. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 416: Customer Health and Safety 2016** | **416-1 Assessment of the health and safety impacts of product and service categories (report the percentage of significant product and service categories for which impacts are assessed).**<br>*Corporate identity* pages 85-87 and Table no.14; *Relations with stakeholders* pages 116 Table no. 29, 119, 121, 141; *Relations with the environment* pages 215-217. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety |
| | **416-2 Incidents of non-compliance concerning the health and safety impacts of products and services (specifying whether they have generated a fine, penalty or warning).**<br>*Relations with the environment* page 198. | **Art. 3 paragraph 2, letter c)**: the impact (...) on health and safety |
| TOPIC<br>**GRI 3: Material Topics 2021** | **MARKETING AND LABELING**<br>**(temi materiali corrlati: 2, 11)**<br>**3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 46-49, 78-84 and Table no. 12, 85-87 and Table no.14, 90-93 and Table no.15; *Relations with stakeholders* pages 100-127 and Tables nos. 25-27, 128-134, 156, 181-182. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |

| | | |
|---|---|---|
| **GRI 417: Marketing and Labeling 2016** | **417-1 Requirements for product and service information and labeling.**<br>The GRI international indicator, on the basis of the reference to "services" in addition to products, is indicated, adapting it to the national situation and operations of a multiutility company, both in terms of the main parameters of quality of water distributed and in relation to performance of a commercial, contractual and technical nature for the services managed in the water and energy sector, which are subject to regulation by the national industry authority (ARERA).<br>*Relations with stakeholders* pages 106-127 and Tables nos. 24-27 e 30-35, 128, 130-134, 142; *Relations with the environment* pages 215-217. | **Art. 3 paragraph 1, letter b)**: fundamental indicators of non-financial performance |
| | **417-2 Incidents of non-compliance concerning product and service information and labeling (specifying whether they have generated a fine, penalty or warning).**<br>*Relations with stakeholders pages 106-128 and Tables nos. 24-27 and 30-35, 134, 182.* | **Art. 3 paragraph 1, letter b)**: fundamental indicators of non-financial performance |
| | **41417-3 Incidents of non-compliance concerning marketing communications (specifying whether they resulting in a fine, penalty or in a warning).**<br>*Relations with stakeholders* pages 156, 182. | **Art. 3 paragraph 1, letter b)**: fundamental indicators of non-financial performance |
| TOPIC | **CUSTOMER PRIVACY**<br>**(related material topics: 2, 11)** | |
| **GRI 3: Material Topics 2021** | **3-3 Management of material topics.**<br>*Disclosing sustainability: methodological note* pages 12-13; *Corporate identity* pages 46-49, 50, 74, 76, 78-84 and Table no. 12, 90-93 and Table no.15; *Relations with stakeholders* pages 131, 172. | **Art. 3 paragraph 1, letter b)**: the policies implemented by the company (...) and the results achieved through them<br>**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. (...) to the degree necessary to ensure the understanding of the group's business, its performance, results, and the impact it generated |
| **GRI 418: Customer Privacy 2016** | **418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data (received from outside parties and/or received from regulatory bodies).**<br>During the year 2022, the office of the DPO received 189 new requests regarding utilisation of rights pursuant to Arts 15-22 of Regulation (EU) 679/2016 - GDPR (requests for updating, erasure, modification and refusal of consent etc.), for which a dedicated procedure has been launched. 4 instances have seen the involvement of the Antitrust Authority made known in the communications by the interested party and for none has received verification intervention. In the aftermath of an investigation dating back to 2021, for which there was an inspection activity directed by the Guarantor Authority during 2022, a Group company was subjected to technical adaptation measures of the application software dedicated to the management of arrears, with the burden of a significant economic sanction. The Group has not recorded any events involving the theft of information on customer data, nor has it received any news of violations of significant personal data. | **Art. 3 paragraph 1, letter b)**: fundamental indicators of non-financial performance |

# INDEX OF CHARTS AND TABLES

## CHARTS

no. 1 – Relevant topics for the company and its stakeholders: Acea materiality matrix – 2022 13
no. 2 – The businesses of the main Acea companies in the territory 21
no. 3 – Acea's Business Model 26
no. 4 – Acea SpA organisation chart as at 31.12.2022 28
no. 5 – Ownership structure as at 31.12.2022 30
no. 6 – Geographical representation of Acea institutional investors 30
no. 7 – Contribution of the industrial segments to overall EBITDA (2021-2022) 31
no. 8 - Percentage turnover, CapEx and OpEx attributable to Group activities that are aligned, eligible but not aligned, not eligible and not assessed 34
no. 9 - Percentage turnover, CapEx and OpEx aligned to the Taxonomy, by Business Area 35
no. 10 – Sustainability tools 44
no. 11 – The 2020-2024 Sustainability Plan in numbers 48
no. 12 – The sustainability strategy guidelines 49
no. 13 – Activities of the Corporate Governance Committees 70
no. 14 – The architecture of the SCIGR 74
no. 15 – The key players of the SCIGR 75
no. 16 – The ERM Unit and the corporate focal points 79
no. 17 – The certified integrated management system 85
no. 18 – Stakeholders and their involvement 87
no. 19 – Stakeholder map 88
no. 20 – Overall opinion and on aspects of electricity service – sale and distribution of energy - 2022 101
no. 21 – Overall opinion and on aspects of the public lighting service in Rome and Formello - 2022 102
no. 22 – Overall opinion and on aspects of the water service – sale and distribution of water in Rome and Fiumicino - 2022 102
no. 23 – Overall opinion and on aspects of the water service – sale and distribution of water in Frosinone and its province - 2022 103
no. 24 – Overall opinion and on aspects of the water service – sale and distribution of water in Sarnese Vesuviano - 2022 103
no. 25 – Overall opinion and on aspects of the water service – sale and distribution of water in Territorial Conference no. 6 Ombrone - 2022 103
no. 26 – Overall opinion and on aspects of the water service – sale and distribution of water in Benevento and its province - 2022 103
no. 27 – Types of public lighting faults out of total reports received (2022) 111
no. 28 – Electricity price trend for a standard domestic customer (€ cent/kWh) (2021-2022) 127
no. 29 – Total telephone calls to Acea toll-free numbers (2021-2022) 133
no. 30 – Percentage breakdown of inbound calls to Acea toll-free numbers (2022) 133
no. 31 – Acea corporate website 2022: access methods 142
no. 32 – Value of ordered goods, services and works and percentage on total (2022) 149
no. 33 – Orders (goods, services, works) by business area (2021-2022) 150
no. 34 – Geographical distribution of the amounts for goods and services in Italy and abroad (2022) 150
no. 35 – Geographical distribution of the amounts of works in Italy (2022) 150
no. 36 - Certified management systems and policies of suppliers evaluated by Ecovadis (2022) 154
no. 37 – Composition of the staff: gender, age and category (2022) 158
no. 38 – Contract types and length of the employment relationship (2022) 158
no. 39 – Types of entries and age of the staff (2022) 158
no. 40 – Types of exits and age of the staff (2022) 159
no. 41 – The distribution of the staff from a gender perspective (2022) 159
no. 42 – Women in the corporate governance bodies (2020-2022) 159
no. 43 – Hours worked by the staff and absences (2022) 162
no. 44 – Women's pay as a percentage of men's pay by qualification and age group (2022) 163
no. 45 – Accidents and indices by gender and business area (2022) 167
no. 46 – Members that have used CRC services (2022) 178
no. 47 – Investment breakdown by macroarea (2021-2022) 188
no. 48 – Acea sites/plants analysed, with potential impacts on biodiversity and protected areas intersected 200
no. 49 – Number of species listed in the IUCN Red List with habitat in the protected areas intersected 201
no. 50 – Installed power of Companies included in the NFS divided by energy source (MW) (2022) 208
no. 51 – Electricity produced subdivided by primary energy source (TJ) (2022) 208
no. 52 – Incoming volumes of waste managed by type of plant/activity (t) (2022) 211
no. 53 – The water distribution network of the main Group Companies in Italy (2022) 215

no. 54 – Tests of drinking water, total and by Company (2022) 215
no. 55 – Water loss accounting model 218
no. 56 – Sewerage networks of the main Group Companies in Italy (2022) 220
no. 57 – Analytical checks on wastewater, total and by Company (2022) 221
no. 58 – Waste streams for the Water Segment Companies 232
no. 59 – Main waste streams in the Environment Segment (waste-to-energy and compost sites) 233
no. 60 – Waste streams in Areti 234

## TABLES

no. 1 – List of the Acea "material topics" in order of significance and GRI "specific disclosures" related to topics of high significance 14
no. 2 – Companies included in the Parent Company's full consolidation area (2022) 15
no. 3 – Scope of the Acea Group Consolidated Non-Financial Statement for 2022 (pursuant to Italian Legislative Decree no. 254/2016 and the GRI Standards) 16
no. 4 – Acea Group in numbers, 2022 20
no. 5 – The main economic and equity data of the Acea Group (2021-2022) 30
no. 6 - Percentage turnover of the Acea Group from products or services associated with Taxonomy-aligned economic activities - disclosure for 2022 37
no. 7 - Percentage CapEx of the Acea Group from products or services associated with Taxonomy-aligned economic activities - disclosure for 2022 39
no. 8 - Percentage OpEx of the Acea Group, considered pursuant to the Disclosures Delegated Act, from products or services associated with Taxonomy-aligned economic activities - disclosure for 2022 41
no. 9 -Taxonomy-eligible but not aligned nuclear and fossil gas related economic activities 43
no. 10 – Structure of the Board of Directors and Committees of Acea SpA (as at 31.12.2022) 71
no. 11 – Models and controls 75
no. 12 – Acea material topics, risks and management methods 80
no. 13 – Risks and opportunities related to climate change: CDP evidence 82
no. 14 – Certified management systems in the Acea Group (as at 31.12.2022) 86
no. 15 - Main impacts perceived by stakeholders, associated with 2022 material issues with high and medium significance 91
no. 16 – Economic value directly generated and distributed (2021-2022) 93
no. 17 – Breakdown of value generated by stakeholder (2021-2022) 93
no. 18 – Acea Group customers (energy and water sectors) (2020-2022) 99
no. 19 – Results of customer satisfactions surveys: sales and distribution of energy, public lighting service (2021-2022) 104
no. 20 – Results of customer satisfactions surveys: water service (2021-2022) 105
no. 21 – Main interventions for the management and development of electricity grids and substations (2022) 108
no. 22 – Public lighting in Rome in figures (2022) 109
no. 23 – Main interventions for improved efficiency, safety, repairs and maintenance (2022) 110
no 24 – Public lighting fault recovery: penalties, standards and Acea performance (2021-2022) 110
no. 25 – Main specific and general levels of commercial quality – energy-distribution (2021-2022) 112
no. 26 – Main specific and general levels of commercial quality – energy sales (2021-2022) 113
no. 27 – Service continuity data – energy distribution (2020-2022) 114
no. 28 – Water mains areas 2022 (georeferenced data) 115
no. 29 – Main interventions on the drinking water and sewerage networks and controls on drinking water and wastewater (2022) 116
no. 30 – Number, type and duration of disruptions in the supply of water (2020-2022) 118
no. 31 – Main specific and general levels of contractual quality in the water segment (2021-2022) - Acea Ato 2 122
no. 32 – Main specific and general levels of contractual quality in the water segment (2021-2022) - Acea Ato 5 123
no. 33 – Main specific and general levels of contractual quality in the water segment (2021-2022) - Gori 124
no. 34 – Main specific and general levels of contractual quality in the water segment (2021-2022) – Gesesa 125
no. 35 – Main specific and general levels of contractual quality in the water segment (2021-2022) - AdF 126
no. 36 – Average water prices applied (2022) 128
no. 37 – Energy: toll-free number and branch performance (2021-2022) 135
no. 38 – Water: toll-free number and branch performance (2021-2022) 136
no. 39 – Procurement data (2021-2022) 150
no. 40 – Procurement nationwide (2021-2022) 151
no. 41 – Evolution of employees by macro-area (2020-2022) 157
no. 42 – General data on personnel (2020-2022) 160
no. 43 – Movements of personnel (2020-2022) 161
no. 44 – Age groups, employment contract length (2020-2022) 161
no. 45 – Hours worked, absences, remuneration and members of the supplemental pension fund (2020-2022) 163
no. 46 – Health and safety (2020-2022) 168

no. 47 – Training (2021-2022) 173
no. 48 – Performance of stock exchange indexes and Acea shares (2022) 179
no. 49 – 2022 Rating 180
no. 50 – The principal sources under protection 205
no. 51 – Installed power of the electric power stations of Acea Produzione 207
no. 52 – Electricity produced (by primary energy source) (2020-2022) 208
no. 53 – Number of plants and overhead and underground distribution lines (2020-2022) 209
no. 54 – San Vittore del Lazio waste-to-energy plant: operating data (2020-2022) 211
no. 55 – Terni waste-to-energy plant: operating data (2020-2022) 212
no. 56 – Analyses in Rome (2020-2022) and main quality parameters of the drinking water distributed in Lazio, in Campania and in Tuscany (2022) 216
no. 57 – Volumes of wastewater treated by Water Companies operating in Lazio, in Campania and in Tuscany (2020-2022) ($Mm^3$) 219
no. 58 – Percentage coverage of the sewer and purification services over the total user accounts of the Water Companies in NFS (2020-2022) 220
no. 59 – Hydrographic basins affected by discharges of Companies within the scope of NFS 220
no. 60 – Output parameters of the main treatment plants managed by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa (2022) 221
no. 61 – Type and consumption of materials by the main Group Companies (2020-2022) 222
no. 62 – Energy consumption by source (2020-2022) 223
no. 63 – Energy intensity indices (2020-2022) 224
no. 64 – Energy efficiency in Areti (2020-2022) 225
no. 65 – Water withdrawal and recovery (2020-2022) 226
no. 66 – Total atmospheric emissions of pollutants from the main Group plants (2020-2022) 227
no. 67 – Concentrations of atmospheric emissions generated by waste-to-energy plants (2020-2022) 228
no. 68 – $CO_2$ emission allowances as per the National Allocation Plan (NAP) and actual emissions by plant (2020-2022) 228
no. 69 – Environmental indicators: $CO_2$ emissions, greenhouse gas intensity indices (2020-2022) 229
no. 70 – Total waste produced (2020-2022) 231
no. 71 – Waste produced by Companies in the Water Segment (2020-2022) 232
no. 72 – Waste produced by Companies in the Environment Segment (2020-2022) 234
no. 73 – Waste produced by the Areti Company (2020-2022) 235

# ENVIRONMENTAL ACCOUNTS

PRODUCT SYSTEMS 268
PRODUCTS 269
RESOURCES USED 280
EMISSIONS AND WASTE 283
KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) 286
EXPLANATORY NOTES 291

## SCOPE

The scope of the *Environmental Accounts* is consistent with the reporting scope of the *Sustainability Report* (*Consolidated Non-Financial Statement* pursuant to Legislative Decree no. 254/2016/NFS), as defined in the *Methodological Note*. Therefore, as of 2022, data from Deco, which was acquired by the Group in December 2021, and the Grasciano Hub, which was acquired in Acea Ambiente in 2022 and is operated by Deco, are also represented in the Environmental Accounts[227]. The facilities are reported collectively and presented below under the term "Deco sites" (*for further details, see "Relations with the environment - Environment Area"*).
The water Companies in which Acea has an investment: Acque, Publiacqua and Umbra Acque - consolidated in the Financial Statements with the equity method - are marginally included in the Environmental Accounts and only relative to the aspects which are specifically signalled in the text. Please see the chapter *Water companies data sheets and overseas activities* (outside the scope of the NFS).[228]

The *Environmental Accounts*, integral part of the *Sustainability Report*, combines and presents systematically the information and environmental performance data of the principal Companies of the Group.
The data is divided into "product systems" pertaining to the energy, "environment" and "water fields", according to the Life Cycle Assessment approach (standard ISO Series 14040), which assesses the entire life cycle of the systems.
The report comprises **over 500 items and parameters monitored** which quantify the physical flows generated by the activities and some performance indicators.

For the three areas — Energy, Environment, Water — the substances used by the Group over a three-year period — whether natural, like water, or not natural, like chemicals, renewable or not — the products, emissions, effluents and waste related to the activities managed are attributable to **producing and distributing energy**, for **collecting and distributing drinking water**, **treatment**, and all the processes associated with **waste management**, including **waste-to-energy**. Every use of resources is reduced to a minimum in terms of quantity and every substance is selected carefully in terms of quality, safety and environmental sustainability.

In the *Explanatory Notes*, we provide additional information regarding the **quality of the data presented**, in particular, whether it was **measured**, **estimated** or **calculated**, and the principal items of the *Environmental Accounts*, indicated in the tables and in the text by a number in brackets, including a brief description.

## PRODUCT SYSTEMS

### ENERGY SEGMENT

- ENERGY GENERATION (HYDROELECTRIC + THERMOELECTRIC + PHOTOVOLTAIC + FROM WASTE AND BIOGAS)
- DISTRIBUTION OF ELECTRICITY
- PRODUCTION AND DISTRIBUTION OF HEAT
- PUBLIC LIGHTING
- CONTROLS AND MEASUREMENTS

### ENVIRONMENT SEGMENT

- SOLID AND LIQUID WASTE DISPOSED OF
- COMPOST PRODUCTION
- ANALYSIS AND MEASUREMENTS

### WATER SEGMENT

- DRINKING WATER SUPPLY
- WATER DISTRIBUTION
- ADDUCTION/PURIFICATION WASTEWATER
- ANALYSIS AND MEASUREMENTS

The data are provided for the 2020-2022 three-year period and aggregated in three homogeneous categories:

- **the products supplied**,
- **the resources used**,
- **the waste produced**.

The service indicators and the principal environmental performance indicators are explained below for every area.

227 In addition to its own properties, Deco manages an active landfill, a depleted landfill, and an inactive treatment facility for the Grasciano Hub.

228 Demap, Aquaser and Acea Innovation are present in the Environmental Accounts, and precisely in *Resources* (*fuel used by the main Group Companies for transport and heating*) and in *Emissions* (*the emissions of carbon dioxide from transport and packaging*). In fact, they cannot be present in the other product systems (according to ISO 14040) as they do not have a product cycle system that can be reported.

## PRODUCTS – ENERGY AREA

The financial statement data for the generation of electricity refer to Acea Produzione, Ecogena, Acea Ambiente – Waste-to-Energy (San Vittore del Lazio and Terni plants) and Biogas Production (the Orvieto hub, Aprilia and Monterotondo Marittimo plants) and Deco (production of biogas).

The data presented in the tables below reflect two perspectives. The first refers to an expanded reporting scope that includes the photovoltaic plants of Acea Produzione's operating subsidiary, even though they are not fully consolidated[229], and the second refers solely to the reporting scope associated with the NFS.

| SUMMARY POWER GENERATION DATA, INCLUDING PHOTOVOLTAIC SUBSIDIARIES (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total gross electricity produced** | **GWh** | **926.44** | **1,015.56** | **940.91** | **-7.4** |
| **total net electricity produced** | **GWh** | **858.24** | **938.68** | **864.56** | **-7.9** |
| *electricity from fossil fuels (thermoelectric)* | *GWh* | *301.27 32.5% of total gross electricity* | *317.33 31.2% of total gross electricity* | *304.77 32.4% of total gross electricity* | *-4.0* |
| *electricity from renewable sources (hydroelectric, photovoltaic, biodegradable portion of waste and biogas)* | *GWh* | *625.17 67.5% of total gross electricity* | *698.22 68.8% of total gross electricity* | *636.14 67.6% of total gross electricity* | *-8.9* |

(*) Some figures for the 2020-2021 two year period have been adjusted following consolidation.

| SUMMARY POWER GENERATION DATA - NFS SCOPE (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total gross electricity produced** (1)= (5+10+13+16+22) | **GWh** | **926.44** | **1,015.56** | **842.49** | **-17.0** |
| **total net electricity produced** (2) = (9+12+15+18+26) | **GWh** | **858.24** | **938.68** | **767.12** | **-18.3** |
| *from fossil fuels (thermoelectric)* (7 + 0.53x $13_{\text{San Vittore del Lazio}}$ +0.59x $13_{\text{Terni}}$) | *GWh* | *301.27 32.5% of (1)* | *317.33 31.2% of (1)* | *304.77 36.2% of (1)* | *-4.0* |
| *from renewable sources (hydroelectric, photovoltaic, biodegradable portion of waste and biogas)* w(6+10+0,47x$13_{\text{San Vittore del Lazio}}$+0,41 x $13_{\text{Terni}}$ +16) | *GWh* | *625.17 67.5% of (1)* | *696.09 68.8% of (1)* | *537.71 63.8% of (1)* | *-22.8* |

(*) Some figures for the 2020-2021 two year period have been adjusted following consolidation.

| SUMMARY THERMAL POWER GENERATION DATA | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **gross thermal energy produced** (3) = (19+22) | **GWh** | **118.23** | **121.94** | **105.29** | **-13.7** |
| **net thermal energy produced** (4) = (21+27) | **GWh** | **87.61** | **95.42** | **82.34** | **-13.7** |

229 We refer, in particular, to KT 4 Srl, Solaria Real Estate Srl, Acea Sun Capital Srl, Trinovolt Srl, Marche Solar Srl, Fergas Solar Srl, Euroline 3 Srl, IFV Energy Srl, PF Power of Future Srl, JB Solar Srl, M2D Srl, PSL Srl, Solarplant Srl, and Acea Green Srl, which produce photovoltaic energy and left the scope of full consolidation in March 2022, following the transaction described in the *Methodological Note*, and **merged into AE Sun Capital**, a subsidiary of Acea Produzione. The plants in question produced 98.42 GWh in 2022.

| BREAKDOWN OF POWER GENERATION DATA - NFS SCOPE (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **Acea production – hydroelectric and thermoelectric** | | | | | |
| **total gross electricity produced** (5) = (6+7) | **GWh** | **468.41** | **542.44** | **450.18** | **-17.0** |
| **total gross hydroelectric energy** (6) | **GWh** | **376.25** | **434.70** | **335.30** | **-22.9** |
| *A. Volta Castel Madama* | *GWh* | *22.45* | *28.99* | *16.29* | *-43.8* |
| *G. Ferraris Mandela* | *GWh* | *5.02* | *18.42* | *8.50* | *-53.8* |
| *G. Marconi Orte* | *GWh* | *53.72* | *70.31* | *46.81* | *-33.4* |
| *Sant'Angelo* | *GWh* | *116.58* | *146.11* | *91.52* | *-37.4* |
| *Salisano* | *GWh* | *176.84* | *167.62* | *168.98* | *0.8* |
| *Other minor* | *GWh* | *1.65* | *3.26* | *3.21* | *-1.6* |
| **total gross thermoelectric energy** (7) | **GWh** | **92.16** | **107.74** | **114.88** | **6.6** |
| *from diesel fuel - Montemartini power plant (*)* | *GWh* | *1.49* | *1.65* | *2.21* | *33.8* |
| *from natural gas - Tor di Valle power plant - CAR* | *GWh* | *90.67* | *106.09* | *112.67* | *6.2* |
| **total loss of electrical energy** (8) | **GWh** | **12.74** | **13.21** | **12.93** | **-2.1** |
| *self-consumption - hydroelectric plants* | *GWh* | *2.43* | *2.19* | *1.95* | *-10.7* |
| *self consumption thermoelectric plants (Tor di Valle, Montemartini)* | *GWh* | *5.04* | *5.40* | *5.45* | *1.0* |
| *first processing losses* | *GWh* | *5.27* | *5.63* | *5.53* | *-1.7* |
| **total net electricity produced by Acea Produzione** (9) = (5-8) | **GWh** | **455.67** | **529.23** | **437.25** | **-17.4** |
| **Acea Production and other Companies - photovoltaic** | | | | | |
| **gross photovoltaic electrical energy (10)** | **GWh** | **74.96** | **78.61** | **13.51** | **-82.8** |
| *Acea Produzione* | *GWh* | *11.09* | *9.66* | *13.51* | *39.9* |
| *other PV Companies (**)* | *GWh* | *63.87* | *68.95* | - | - |
| **total electricity losses including own consumption (11)** | **GWh** | **3.98** | **3.38** | **1.48** | **-56.2** |
| *Acea Produzione* | *GWh* | *0.11* | *0.10* | *0.14* | *39.9* |
| *other PV Companies (**)* | *GWh* | *0.64* | *0.69* | - | - |
| **net photovoltaic energy (12) = (10-11)** | **GWh** | **74.21** | **77.82** | **13.38** | **-82.8** |
| *Acea Produzione* | *GWh* | *10.98* | *9.57* | *13.38* | *41.1* |
| *other PV Companies (**)* | *GWh* | *63.23* | *68.26* | - | - |
| **Acea Ambiente - waste-to-energy** | | | | | |
| **total gross electricity produced (13)** | **GWh** | **346.15** | **356.41** | **337.08** | **-5.4** |
| *San Vittore del Lazio plant* | *GWh* | *269.38* | *267.74* | *251.26* | *-6.2* |
| *Terni plant* | *GWh* | *76.77* | *88.67* | *85.81* | *-3.2* |
| **self consumption + losses from first processing (14)** | **GWh** | **44.95** | **45.64** | **43.23** | **-5.3** |
| *San Vittore del Lazio plant* | *GWh* | *37.30* | *36.83* | *34.43* | *-6.5* |
| *Terni plant* | *GWh* | *7.65* | *8.81* | *8.79* | *-0.2* |
| **total net electricity produced (15) = (13-14)** | **GWh** | **301.20** | **310.77** | **293.85** | **-5.4** |
| **Acea Environment and Deco - biogas** | | | | | |
| **total gross electricity produced from biogas (16)** | **GWh** | **26.91** | **31.39** | **36.31** | **15.7** |
| *Orvieto plant* | *GWh* | *17.56* | *13.99* | *12.67* | *-9.5* |
| *Aprilia plant* | *GWh* | *4.84* | *12.32* | *15.04* | *22.1* |
| *Monterotondo Marittimo plant* | *GWh* | *4.51* | *5.07* | *5.95* | *17.3* |
| *Deco sites* | *GWh* | - | - | *2.66* | - |
| **self consumption (17)** | **GWh** | **8.20** | **15.43** | **16.07** | **4.2** |
| *Orvieto plant* | *GWh* | *1.09* | *0.89* | *0.89* | *0.1* |
| *Aprilia plant* | *GWh* | *3.48* | *9.59* | *9.98* | *4.1* |
| *Monterotondo Marittimo plant* | *GWh* | *3.63* | *4.94* | *5.19* | *5.1* |
| *Deco sites* | *GWh* | - | - | *0* | - |
| **total electricity transferred in network (18) = (16-17)** | **GWh** | **18.71** | **15.96** | **20.24** | **26.8** |

(*) The Montemartini power plant is maintained operational but in reserve mode.
(**) Figures for the 2020-2021 two-year period pertain to the PV Companies, which left the full consolidation scope in March 2022 due to the transaction described in *the Methodological Note*.

| BREAKDOWN OF GENERATION, DISTRIBUTION AND THERMAL ENERGY SALES DATA | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **Acea Produzione** | | | | | |
| **gross thermal energy produced Tor di Valle power station (19)** | **$GWh_t$** | **94.00** | **98.67** | **87.69** | **-11.1** |
| **total losses of thermal energy (20)** | **$GWh_t$** | **27.71** | **23.94** | **21.29** | **-11.1** |
| *distribution losses* | *$GWh_t$* | *20.90* | *20.37* | *18.96* | *-6.9* |
| *production losses* | *$GWh_t$* | *6.81* | *3.57* | *2.33* | *-34.6* |
| **net thermal energy sold (21) = (19-20) (*)** | **$GWh_t$** | **66.29** | **74.73** | **66.40** | **-11.1** |
| **Ecogena** | | | | | |
| **gross electricity produced (22)** | **GWh** | **10.00** | **6.71** | **5.40** | **-19.4** |
| **gross thermal energy produced (23)** | **$GWh_t$** | **24.23** | **23.27** | **17.60** | **-24.4** |
| **gross refrigeration energy produced (24)** | **$GWh_f$** | **10.95** | **11.07** | **11.60** | **4.8** |
| **total consumption (25)** | **GWh** | **5.50** | **5.46** | **5.88** | **7.6** |
| *self-consumed electricity* | *GWh* | *1.56* | *1.82* | *3.00* | *64.4* |
| *heat dissipated* | *$GWh_t$* | *2.90* | *2.58* | *1.66* | *-35.6* |
| *refrigeration energy consumed* | *$GWh_f$* | *1.04* | *1.06* | *1.22* | *15.3* |
| **net electricity (26)** | **GWh** | **8.44** | **4.88** | **2.41** | **-50.7** |
| **net thermal energy (27)** | **$GWh_t$** | **21.32** | **20.69** | **15.94** | **-23.0** |
| **net refrigeration energy (28)** | **$GWh_f$** | **9.92** | **10.01** | **10.38** | **3.7** |

| ELECTRICITY TRANSPORT AND SALES | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **in Rome and Formello - summary data** | | | | | |
| **supply from Acea Group (29)** | **GWh** | **2.29** | **3.47** | **3.18** | **-8.4** |
| **electricity from the market (30)** | **GWh** | **9,667.68** | **9,826.70** | **10,058.83** | **2.4** |
| *from Single Buyer* | *GWh* | *2,509.36* | *2,230.42* | *2,096.22* | *-6.0* |
| *from importation* | *GWh* | *70.81* | *78.56* | *77.71* | *-1.1* |
| *from wholesalers + other producers* | *GWh* | *7,087.51* | *7,517.72* | *7,884.90* | *4.9* |
| **electricity requested by the network (31) = (29+30) = (32+33+34+35+36)** | **GWh** | **9,669.97** | **9,830.17** | **10,062.01** | **2.4** |
| *distribution, transport and commercial losses (32)* | *GWh* | *563.70 5.8% of (27)* | *593.35 6.0% of (27)* | *653.62 6.5% of (27)* | *10.2* |
| *uses for own transmission and distribution (33)* | *GWh* | *35.80* | *30.71* | *28.94* | *-5.8* |
| *net electricity transferred to third parties (34)* | *GWh* | *94.87* | *102.19* | *103.49* | *1.3* |
| **net electricity conveyed from Acea to clients of the open market (35)** | **GWh** | **6,998.47** | **7,410.22** | **7,884.90** | **6.4** |
| *net electricity sold by Acea Energia to clients of the open market on distribution company grid (Areti)* | *GWh* | *5,594.36* | *5,909.37* | *6,341.77* | *7.3* |
| *net electricity sold by other sellers to clients of the open market on distribution company grid (Areti)* | *GWh* | *1,404.12* | *1,500.85* | *1,543.13* | *2.8* |
| **net electricity sold to managed clients (36)** | **GWh** | **1,977.12** | **1,693.70** | **1,391.06** | **-17.9** |
| **sale in Italy - summary data** | | | | | |
| **net electricity sold by Acea Energia on the open market including sale on Rome (37)** | **GWh** | **4,571.96** | **6,074.57** | **5,985.69** | **-1.5** |
| **net electricity sold by Acea Energia in Italy (free market + greater protection) (38) = (36+37)** | **GWh** | **6,549.08** | **7,768.27** | **7,376.75** | **-5.0** |

| GAS SALES | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **gas sold by Acea Energia in Italy (39)** | **$MSm^3$** | **139.89** | **174.68** | **170.40** | **-2.5** |

| PUBLIC LIGHTING | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **luminous flux to Rome (40)** | **Mlumen** | **2,010** | **2,021** | **1,877** | **-7.1** |

| CONTROLS AND MEASUREMENTS | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **measurement and control activity (41)** | **no.** | **490** | **420** | **226** | **-46.2** |
| *electro-magnetic field measurements* | *no.* | *22* | *41* | *25* | *-39.0* |
| *noise measurements* | *no.* | *21* | *34* | *6* | *-82.4* |
| *PCB chemical analyses* | *no.* | *65* | *69* | *25* | *-63.8* |
| *waste classification* | *no.* | *26* | *23* | *48* | *108.7* |
| *transformer diagnostics* | *no.* | *356* | *253* | *122* | *-51.8* |

## PRODUCTS - ENVIRONMENT AREA

The data refer to the **Acea Ambiente, Acque Industriali** and **Berg** plants **and also include the Deco sites from 2022**. For Acea Ambiente, these are the Orvieto Waste Management Hub, the three composting plants (located in Aprilia, Monterotondo Marittimo and Sabaudia), the chemical/physical and biological treatment plant for non-hazardous liquid waste, the Grasciano2 plant located in Notaresco and operated by Deco, and the treatment plant at Chiusi (Bio Ecologia). For Acque Industriali the data refers to the liquid waste disposal plants located in the Tuscan provinces of Pisa (Pontedera and Pisa-San Jacopo), Florence (Empoli-Pagnana) and Siena (Poggibonsi). Berg only has one facility where waste storage, disposal and treatment is carried out. The Waste Management Hub, owned by Deco, consists of the facilities from the landfills located at Casoni and Colle Cese [230]and an MBT plant.
It should be noted that some facilities **are inactive as at 31/12/2022**. In particular, **the Sabaudia** has been inactive since 2020, the **Poggibonsi** plant has been inactive since June 2021, pending the issuance of a new IEA, the **San Jacopo** plant has been shut down since February 2020 and is being decommissioned, and the **Pontedera** plant was shut down in July 2022.

| ORVIETO HUB - INCOMING WASTE, DISPOSED OF AND RECOVERED | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total incoming waste (42) = (43+44)** | **t** | **106,477** | **108,361** | **97,661** | **-9.9** |
| **waste sent for treatment (43)** | **t** | **73,216** | **67,155** | **45,674** | **-32.0** |
| *waste sent to the anaerobic digester and aerobic treatment* | *t* | *34,200* | *32,855* | *31,193* | *-5.1* |
| *sent for aerobic treatment or just shredding* | *t* | *39,016* | *34,299* | *14,480* | *-57.8* |
| **waste sent directly to landfill (44)** | **t** | **33,261** | **41,207** | **51,988** | **26.2** |
| **waste sent to landfill after treatment (45)** | **t** | **34,427** | **31,239** | **17,549** | **-43.8** |
| **waste recovered (46)** | **t** | **80** | **52** | **28** | **-46.6** |
| **quality compost (47)** | **t** | **4,618** | **3,559** | **3,412** | **-4.1** |
| **reduction due to stabilisation (48) = (42–44+45+46+47)** | **t** | **34,091** | **32,304** | **24,684** | **-23.6** |

| DECO SITES - INCOMING WASTE, DISPOSED OF AND RECOVERED | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total incoming waste (49) = (50+51)** | **t** | **-** | **-** | **243,566** | **-** |
| **waste entering the landfills (Casoni and Grasciano2) (50)** | **t** | **-** | **-** | **1,924** | **-** |
| **waste sent to MBT plant (51)** | **t** | **-** | **-** | **241,642** | **-** |
| *leaving the MBT plant and proceeding to recovery - SRF (52)* | *t* | *-* | *-* | *96,093* | *-* |
| *leaving the MBT plant and proceeding to recovery - metals (53)* | *t* | | | *4,121* | |
| *waste leaving the MBT plant and proceeding to disposal (54)* | *t* | *-* | *-* | *84,162* | *-* |
| **reduction due to stabilisation (55) = (49-50+52+53+54)** | **t** | **-** | **-** | **57,266** | **-** |

**NOTE** Sites owned and operated by Deco have been included in the reporting since 2022.

230 Exhausted landfill site, under post-operational management.

| COMPOST PRODUCTION | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total incoming organic waste (56) = (57+58+59)** | **t** | **115,473.21** | **141,506.00** | **149,184.88** | **5.4** |
| **incoming sludge (57)-** | **t** | **14,945.10** | **26,912.42** | **31,490.46** | **17.0** |
| *Aprilia plant* | *t* | *4,441.74* | *9,005.22* | *13,114.68* | *45.6* |
| *Monterotondo Marittimo plant* | *t* | *10,503.36* | *17,907.20* | *18,375.78* | *2.6* |
| *Sabaudia plant* | *t* | *0.00* | *0.00* | *0.00* | - |
| **incoming green (58)** | **t** | **25,317.15** | **26,184.14** | **26,347.66** | **0.6** |
| *Aprilia plant* | | *12,926.64* | *14,529.62* | *15,799.06* | *8.7* |
| *Monterotondo Marittimo plant* | *t* | *12,390.51* | *11,654.52* | *10,548.60* | *-9.5* |
| *Sabaudia plant* | *t* | *0.00* | *0.00* | *0.00* | - |
| **organic fraction of municipal solid waste and other agrifood waste (59)** | **t** | **75,210.96** | **88,409.44** | **91,346.76** | **3.3** |
| *Aprilia plant* | *t* | *53,395.48* | *60,274.56* | *67,253.54* | *11.6* |
| *Monterotondo Marittimo plant* | *t* | *21,815.48* | *28,134.88* | *24,093.22* | *-14.4* |
| **quality compost (60)** | **t** | **13,869.00** | **24,686.75** | **33,563.68** | **36.0** |
| *Aprilia plant (*)* | *t* | *9,340.00* | *13,001.75* | *17,500.00* | *34.6* |
| *Monterotondo Marittimo plant* | *t* | *4,529.00* | *11,685.00* | *20,449.00* | *75.0* |
| *Sabaudia plant* | *t* | *0.00* | *0.00* | *0.00* | - |
| **non-compostable material for disposal (61)** | **t** | **11,615.87** | **11,813.09** | **5,768.53** | **-51.2** |
| *Aprilia plant* | *t* | *7,807.11* | *7,365.30* | *2,476.90* | *-66.4* |
| *Monterotondo Marittimo and Sabaudia plants* | *t* | *3,808.76* | *4,447.79* | *3,291.63* | *-26.0* |
| **reduction due to stabilisation (62) = (57+58-60-61) (*)** | **t** | **89,988.34** | **105,006.16** | **109,852.67** | **4.6** |

(*) The quantities of compost produced in 2021 were adjusted, as they had estimated for the previous report, and consequently also the figures relating to the reduction due to stabilisation.

| LIQUID WASTE AND WASTE WATER DISPOSAL - BIO ECOLOGIA PLANT | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **liquid waste (63)** | **t** | **68,501** | **92,792** | **98,023** | **5.6** |
| **waste water treated (64)** | **$m^3$** | **284,826** | **148,862** | **81,996** | **-44.9** |

| ANALYTICAL DETERMINATIONS ON WASTE AND ON QUALITY COMPOST | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total analytical determinations (65)** | **no.** | **111** | **125** | **198** | **58.4** |
| *analytical determinations on compost - Orvieto plant* | *no.* | *11* | *10* | *12* | *20.0* |
| *analytical determinations on compost - Aprilia, Monterotondo Marittimo and Sabaudia plants* | *no.* | *41* | *48* | *12* | *33.3* |
| *analytical determinations on waste - Orvieto plant* | *no.* | *59* | *67* | *65* | *-3.0* |
| *analytical determinations on waste - Deco sites* | *no.* | *-* | *-* | *57* | *-* |

| LIQUID WASTE DISPOSAL AND INDUSTRIAL WATER TREATMENT (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total incoming waste (66) = (67+68+69+70)** | **t** | **111,090.5** | **92,381.1** | **49,922.1** | **-46.0** |
| **incoming sludge (67)** | **t** | **34,827.7** | **24,520.8** | **8,741.9** | **-64.3** |
| *Pagnana plant* | *t* | *14,642.6* | *10,574.5* | *5,681.3* | *-46.3* |
| *Pontedera plant* | *t* | *5,915.6* | *8,896.1* | *3,060.6* | *-65.6* |
| *Poggibonsi plant* | *t* | *13,262.3* | *5,050.3* | *0.0* | - |
| *San jacopo plant* | *t* | *1,007.2* | *0.0* | *0.0* | - |

| | | | | | |
|---|---|---|---|---|---|
| **liquid waste (68)** | **t** | **10,379.2** | **10,649.9** | **7,774.0** | **-27.0** |
| *Pagnana plant* | *t* | *3,994.5* | *3,832.0* | *4,129.0* | *7.7* |
| *Pontedera plant* | *t* | *6,384.7* | *6,817.9* | *3,645.0* | *-46.5* |
| **sewage waste and others (69)** | **t** | **12,131.8** | **7,627.2** | **7,796.7** | **2.2** |
| *Pagnana plant* | *t* | *8,700.0* | *1,331.0* | *5,421.0* | *307.3* |
| *Pontedera plant* | *t* | *2,890.5* | *6,156.4* | *2,375.7* | *-61.4* |
| *Poggibonsi plant* | *t* | *531.2* | *139.8* | *0.0* | - |
| *San jacopo plant* | *t* | *10.1* | *0.0* | *0.0* | - |
| **leachate (70)** | **t** | **53,751.8** | **49,583.2** | **25,609.5** | **-48.4** |
| *Pagnana plant* | *t* | *28,048.4* | *30,338.1* | *20,177.6* | *-33.5* |
| *Pontedera plant* | *t* | *25,703.4* | *19,245.1* | *5,431.9* | *-71.8* |
| *Poggibonsi plant* | *t* | *0.0* | *353.7* | *0.0* | - |
| **ammonium sulphate produced (71)** | **kg** | **255,040** | **219,670.0** | **139,040.0** | **-36.7** |
| *Pagnana plant* | *kg* | *57,460* | *141,930.0* | *84,260.0* | *-40.6* |
| *Pontedera plant* | *kg* | *197,580* | *77,740* | *54,780.0* | *-29.5* |

| TREATED AND DISCHARGED WATER - INDUSTRIAL WATER | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **treated and discharged water (72)** | **no.** | **117,789** | **93,916** | **50,998** | **-45.7** |
| *Pagnana plant* | *$m^3$* | *64,685* | *55,655* | *41,730* | *-14.0* |
| *Pontedera plant* | *$m^3$* | *34,576* | *30,483* | *9,268* | *-11.8* |
| *Poggibonsi plant* | *$m^3$* | *17,725* | *7,778* | *0* | - |
| *San Jacopo plant* | *$m^3$* | *803* | *0* | *0* | - |

| LIQUID WASTE AND SOLIDS DISPOSAL - BERG (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total incoming waste (73) = (74+75)** | **t** | **141,865.41** | **133,090.69** | **93,689.15** | **-29.6** |
| **solid waste (74)** | **t** | **384.20** | **226.32** | **123.80** | **-45.3** |
| **liquid waste (75)** | **t** | **141,481.21** | **132,864.37** | **93,565.35** | **-29.6** |

(*) The Berg plant, in addition to waste disposal, brokered almost 6,900 t of waste in 2022.

## PRODUCTS - WATER SEGMENT

Water data **summarized at the national level** include water Companies Acea Ato 2 and Acea Ato 5 (Lazio), Gesesa and Gori (Campania), Umbra Acque (Umbria), Acque, Publiacqua and AdF (Tuscany). The details of the water balances are presented only for the Companies in the reporting scope of the *Consolidated Non-Financial Statement* (NFS, pursuant to Legislative Decree No. 254/2016): Acea Ato 2, Acea Ato 5, Gesesa, Gori and AdF. Please see the chapter *Water companies data sheets and overseas activities* for the water balance sheets of the other Companies of the Group not in the scope of the NFS.
The loss assessment was conducted according to ARERA Resolution 917/17 R/IDR. In particular, ARERA procedures establish that water losses are calculated on the entire scope of the aqueduct system (and not only on the distribution network) and include apparent losses.

| SUMMARY WATER DATA - NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) AND MAIN SUBSIDIARIES (ACQUE, UMBRA ACQUE, PUBLIACQUA) (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total drinking water collected from the environment or from other systems and fed into the aqueduct systems (76)** | **$Mm^3$** | **1,356.0** | **1,317.3** | **1,284.7** | **-2.5** |
| **total drinking water supplied and billed (77)** | **$Mm^3$** | **627.9** | **633.2** | **626.9** | **-1.0** |
| **total drinking water leaving the system (78)** | **$Mm^3$** | **728.4** | **740.0** | **739.2** | **-0.1** |

(*) Some figures for the 2021-2022 two year period have been updated following consolidation. Some 2022 items were estimated and will be consolidated in the months following publication.

| SUMMARY WATER DATA OF THE COMPANIES OPERATING IN THE NFS SCOPE: ACEA ATO 2, ACEA ATO 5, GESESA, GORI, AND ADF (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **total drinking water collected from the environment or from other systems and fed into the aqueduct systems (79)** | **Mm³** | **1,074.0** | **1,039.7** | **1,009.6** | **-2.9** |
| **total drinking water supplied and billed (80)** | **Mm³** | **479.5** | **482.0** | **473.8** | **-1.7** |
| **total drinking water leaving the system (81)** | **Mm³** | **566.5** | **574.0** | **573.0** | **-0.2** |

(*) The figures for the 2020-2021 two year period have been updated following consolidation. The 2022 figures are estimated and will be consolidated with the subsequent reporting.

| SUMMARY WATER BALANCES NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **Acea Ato 2 for OTA 2 – central Lazio (Rome + municipalities acquired as at 31/12/2021)(**)** | | | | | |
| **drinking water collected from the environment or from other systems and fed into the aqueduct systems (82)** | **Mm³** | **691.1** | **667.8** | **656.2** | **-1.7** |
| *surface (lakes and rivers)* | *Mm³* | *0.0* | *0.0* | *0.0* | - |
| *from wells* | *Mm³* | *89.6* | *87.0* | *95.3* | *9.5* |
| *from springs* | *Mm³* | *595.3* | *575.1* | *555.5* | *-3.4* |
| *from other aqueduct systems* | *Mm³* | *6.2* | *5.7* | *5.5* | *-3.5* |
| **total drinking water leaving the aqueduct system (83) = (84+85+86+87)** | **Mm³** | **398.7** | **401.3** | **400.8** | **-0.1** |
| **total drinking water released and invoiced into the OTA 2 network (84)** | **Mm³** | **332.4** | **331.6** | **323.8** | **-2.4** |
| *measured volume of water delivered to users* | *Mm³* | *307.3* | *306.6* | *305.7* | *-0.3* |
| *volume consumed by users and not measured* | *Mm³* | *25.1* | *25.0* | *18.1* | *-27.6* |
| **total drinking water authorised and not billed in the network (85)** | **Mm³** | **18.8** | **21.9** | **29.2** | **33.3** |
| *measured unbilled authorised consumption* | *Mm³* | *0.4* | *0.5* | *0.3* | *-40.0* |
| *unmeasured unbilled authorised consumption* | *Mm³* | *18.4* | *21.4* | *28.9* | *35.0* |
| **drinking water exported to other systems (86)** | **Mm³** | **46.8** | **46.4** | **46.2** | **-0.4** |
| **measured drinking water losses (87)** | **Mm³** | **0.7** | **1.4** | **1.7** | **21.4** |
| **loss assessment according to ARERA Resolution 917/17 R/IDR** | | | | | |
| **water losses (88)-** | **Mm³** | **292.5** | **266.5** | **255.4** | **-4.2** |
| **water loss percentages (89)-** | **%** | **42.3** | **39.9** | **38.9** | -2.5 |
| **Acea Ato 5 for OTA 5 – Southern Lazio - Frosinone (86 municipalities)** | | | | | |
| **drinking water collected from the environment or from other systems and fed into the aqueduct systems (90)** | **Mm³** | **119.8** | **115.8** | **109.8** | **-5.2** |
| *from wells* | *Mm³* | *59.3* | *55.6* | *54.4* | *-2.2* |
| *from springs* | *Mm³* | *44.8* | *46.0* | *42.1* | *-8.5* |
| *from other aqueduct systems* | *Mm³* | *15.7* | *14.2* | *13.2* | *-7.0* |
| **total drinking water leaving the aqueduct system (91) = (92+93+94)** | **Mm³** | **37.9** | **38.8** | **39.1** | **0.8** |
| **total drinking water dispensed and billed in the network (92)** | **Mm³** | **24.6** | **26.5** | **26.8** | **1.1** |
| *measured volume of water delivered to users* | *Mm³* | *18.6* | *19.4* | *24.7* | *27.3* |
| *volume consumed by users and not measured* | *Mm³* | *6.0* | *7.1* | *2.1* | *-70.4* |
| **total drinking water authorised and not billed in the network (93)** | **Mm³** | **6.8** | **6.9** | **7.1** | **2.9** |
| *measured unbilled authorised consumption* | *Mm³* | *0.0* | *0.0* | *0.0* | - |
| *unmeasured unbilled authorised consumption* | *Mm³* | *6.8* | *6.9* | *7.1* | *2.9* |
| **drinking water exported to other systems (94)** | **Mm³** | **6.6** | **5.4** | **5.1** | **-5.6** |
| **loss assessment according to ARERA Resolution 917/17 R/IDR** | | | | | |
| **water losses (95)** | **Mm³** | **81.9** | **77.1** | **70.7** | **-8.3** |
| **water loss percentages (96)** | **%** | **68.4** | **66.5** | **64.4** | **-3.2** |

| | | | | | |
|---|---|---|---|---|---|
| **Gesesa – OTA Calore Irpino - Benevento (21 municipalities)** | | | | | |
| **drinking water collected from the environment or from other systems and fed into the aqueduct systems (97)** | **Mm³** | **19.0** | **19.4** | **17.8** | **-8.2** |
| *from wells* | *Mm³* | *7.4* | *6.0* | *5.1* | *-15.0* |
| *from springs* | *Mm³* | *2.1* | *3.2* | *2.4* | *-25.0* |
| *drinking water collected from other aqueduct systems* | *Mm³* | *9.5* | *10.2* | *10.4* | *2.0* |
| **total drinking water leaving the aqueduct system (98) = (99+100+101)** | **Mm³** | **7.7** | **8.2** | **7.9** | **-3.7** |
| **total drinking water dispensed and billed in the network (99)** | **Mm³** | **7.6** | **8.0** | **7.7** | **-3.8** |
| *measured volume of water delivered to users* | *Mm³* | *6.0* | *7.4* | *7.2* | *-2.7* |
| *volume consumed by users and not measured* | *Mm³* | *1.6* | *0.6* | *0.5* | *-16.7* |
| **total drinking water authorised and not billed in the network (100)** | **Mm³** | **0.0** | **0.0** | **0.0** | **-** |
| **drinking water exported to other systems (101)** | **Mm³** | **0.1** | **0.1** | **0.1** | **-** |
| **loss assessment according to ARERA Resolution 917/17 R/IDR** | | | | | |
| **water losses (102)-** | **Mm³** | **11.3** | **11.2** | **10.0** | **-10.7** |
| **water loss percentages (103)-** | **%** | **59.4** | **57.8** | **55.9** | **-3.3** |
| **Gori – Sarnese-Vesuviano District (74 municipalities)** | | | | | |
| **drinking water collected from the environment or from other systems and fed into the aqueduct systems (104)** | **Mm³** | **184.0** | **176.0** | **166.9** | **-5.2** |
| *from wells* | *Mm³* | *59.6* | *50.4* | *50.0* | *-0.8* |
| *from springs* | *Mm³* | *2.4* | *2.0* | *1.7* | *-15.0* |
| *drinking water collected from other aqueduct systems* | *Mm³* | *121.9* | *123.6* | *115.2* | *-6.8* |
| **total drinking water leaving the aqueduct system (105) = (106+107+108)** | **Mm³** | **87.6** | **88.7** | **88.2** | **-0.6** |
| **total drinking water dispensed and billed in the network (106)** | **Mm³** | **86.9** | **87.2** | **86.8** | **-0.5** |
| *measured volume of water delivered to users* | *Mm³* | *80.6* | *81.4* | *81.0* | *-0.5* |
| *volume consumed by users and not measured* | *Mm³* | *6.3* | *5.7* | *5.8* | *1.8* |
| **total drinking water authorised and not billed in the network (107)** | **Mm³** | **0.4** | **1.2** | **1.0** | **-16.7** |
| *measured unbilled authorised consumption* | *Mm³* | *0.0* | *0.0* | *0.0* | *-* |
| *unmeasured unbilled authorised consumption* | *Mm³* | *0.4* | *1.2* | *1.0* | **-16.7** |
| **drinking water exported to other systems (108)** | **Mm³** | **0.3** | **0.4** | **0.5** | **25.0** |
| **loss assessment according to ARERA Resolution 917/17 R/IDR** | | | | | |
| **water losses (109)-** | **Mm³** | **96.3** | **87.3** | **78.6** | **-10.0** |
| **water loss percentages (110)-** | **%** | **52.4** | **49.6** | **47.1** | **-5.0** |
| **AdF - Optimal Territorial Conference 6 Ombrone (55 Municipalities)** | | | | | |
| **drinking water collected from the environment or from other systems and fed into the aqueduct systems (111)** | **Mm³** | **60.0** | **60.7** | **58.9** | **-3.0** |
| *surface water (***)* | *Mm³* | *1.0* | *1.1* | *1.0* | *-9.1* |
| *from wells* | *Mm³* | *17.9* | *17.4* | *19.2* | *10.3* |
| *from springs* | *Mm³* | *40.5* | *41.6* | *38.0* | *-8.7* |
| *from other aqueduct systems* | *Mm³* | *0.6* | *0.6* | *0.7* | *16.7* |
| **total drinking water leaving the aqueduct system (112) = (113+114+115+116)** | **Mm³** | **34.5** | **37.0** | **37.0** | **-** |
| **total drinking water dispensed and billed in the network (113)** | | **28.1** | **28.7** | **28.7** | **-** |
| *measured volume of water delivered to users* | *Mm³* | *28.1* | *28.7* | *28.7* | *-* |
| *volume consumed by users and not measured* | *Mm³* | *0.0* | *0.0* | *0.0* | *-* |
| **total drinking water authorised and not billed in the network (114)** | **Mm³** | **2.7** | **4.2** | **4.2** | **-** |
| *measured unbilled authorised consumption* | *Mm³* | *0.0* | *0.00* | *0.00* | *-* |
| *unmeasured unbilled authorised consumption* | *Mm³* | *2.7* | *4.2* | *4.2* | *-* |
| **drinking water exported to other systems (115)** | **Mm³** | **1.6** | **1.7** | **1.6** | **-5.9** |
| **measured drinking water losses (116)** | **Mm³** | **2.1** | **2.4** | **2.5** | **4.2** |
| **loss assessment according to ARERA Resolution 917/17 R/IDR** | | | | | |
| **water losses (117)-** | **Mm³** | **25.5** | **23.7** | **21.9** | **-7.6** |
| **water loss percentages (118)-** | **%** | **42.5** | **39.0** | **37.2** | **-4.6** |

(*) Some figures for the 2020-2021 two year period have been updated following consolidation. The 2022 figures are estimated and will be consolidated with the subsequent reporting.
(*) the 2022 data are consistent with the calculation methods indicated by the Authority and do not include the municipalities of Civitavecchia and Percile in order to maintain the reporting scope compared to the previous two-year period and to allow for verification of achievement of the improvement targets.
(***) This is fresh water, apart from the 1% of the amount drawn from marine sources.

| TOTAL WASTEWATER TREATED - NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) AND MAIN INVESTEE COMPANIES (ACQUE, UMBRA ACQUE, PUBLIACQUA) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| wastewater treated in the main Group companies' main treatment plants in Italy (119) (*) | $Mm^3$ | 914.3 | 980.9 | 940.0 | -4.2 |

(*) The 2021 figures for Publiacqua have been adjusted following consolidation.

| SUMMARY TOTAL WASTEWATER TREATED DATA - NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| waste water treated in the principal treatment plants of Acea Ato 2, Acea Ato 5, Gesesa, Gori and AdF (120) (*) | $Mm^3$ | 713.7 | 778.7 | 759.2 | -2.5% |

(*) Gesesa company estimated the figure for the first time in 2020, having started to install the first flow meters during the same year.

| WASTE WATER TREATED BY ACEA ATO 2 | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| waste water treated in the main treatment plants (121) | $Mm^3$ | 512.2 | 516.4 | 510.2 | -1.2 |
| *Rome South* | *$Mm^3$* | *284.9* | *290.1* | *287.2* | *-1.0* |
| *Rome North* | *$Mm^3$* | *93.7* | *88.5* | *90.0* | *1.7* |
| *Rome East* | *$Mm^3$* | *92.8* | *97.2* | *98.9* | *1.7* |
| *Rome Ostia* | *$Mm^3$* | *30.6* | *29.5* | *24.6* | *-16.8* |
| *CoBIS* | *$Mm^3$* | *6.7* | *6.8* | *5.7* | *-16.8* |
| *Fregene* | *$Mm^3$* | *3.5* | *4.2* | *3.9* | *-8.2* |
| other – Municipality of Rome | $Mm^3$ | 8.7 | 9.2 | 8.2 | -10.9 |
| other – outside the Municipality of Rome | $Mm^3$ | 76.0 | 75.9 | 71.1 | -6.4 |
| total waste water treated by Acea Ato 2 (122) | $Mm^3$ | 596.9 | 601.5 | 589.5 | -2.0 |

| WASTE WATER TREATED BY ACEA ATO 5 | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| waste water treated in the main treatment plants (123) | $Mm^3$ | 21.2 | 25.0 | 24.8 | -0.8 |

| WASTE WATER TREATED BY GESESA | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| waste water treated in the main treatment plants (124) | $Mm^3$ | 2.2 | 2.3 | 1.8 | -18.6 |

| WASTE WATER TREATED BY GORI | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| Total waste water treated (125) | $Mm^3$ | 70.1 | 124.0 | 117.5 | -5.3 |

| WASTE WATER TREATED BY ADF | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| waste water treated in the main treatment plants (126) | $Mm^3$ | 16.3 | 16.6 | 16.5 | -0.7 |
| waste water treated in other plants | $Mm^3$ | 7.0 | 9.3 | 9.1 | -2.0 |
| total waste water treated by AdF (127) | $Mm^3$ | 23.3 | 25.9 | 25.6 | -1.2 |

| ANALYTICAL DETERMINATIONS ON DRINKING WATER AND WASTEWATER - NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) AND MAIN SUBSIDIARIES (ACQUE, UMBRA ACQUE, PUBLIACQUA) (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| analytical determinations on total drinking water (128) | no. | 1,523,028 | 1,449,341 | 1,538,299 | 6.1 |
| analytical determinations on total waste water - main Group Companies (129) | no. | 448,829 | 478,361 | 514,724 | 7.6 |

(*) The 2021 figures for Publiacqua have been adjusted following consolidation.

| ANALYTICAL DETERMINATIONS ON DRINKING WATER AND WASTEWATER OF OPERATING COMPANIES IN THE NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) - SUMMARY DATA | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| analytical determinations on drinking water of Acea Ato 2, Acea Ato 5, Gesesa, Gori and AdF (130) | no. | 769,888 | 738,488 | 739,549 | 0.1 |
| analytical determinations on waste water of Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF (131) | no. | 252,160 | 274,478 | 299,995 | 9.3 |
| **ANALYTICAL DETERMINATIONS ACEA ATO 2** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
| analytical determinations on Acea Ato 2 drinking water (132) | no. | 365,633 | 346,164 | 365,546 | 5.6 |
| analytical determinations on Acea Ato 2 waste water (133) | no. | 124,625 | 127,417 | 135,906 | 6.7 |
| **ANALYTICAL DETERMINATIONS ACEA ATO 5** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
| analytical determinations on Acea Ato 5 drinking water (134) | no. | 116,327 | 105,430 | 107,420 | 1.9 |
| analytical determinations on Acea Ato 5 waste water (135) | no. | 43,812 | 40,636 | 67,810 | 66.9 |
| **GESESA ANALYTICAL DETERMINATIONS** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
| analytical determinations on Gesesa drinking water (136) | no. | 9,372 | 11,955 | 12,307 | 2.9 |
| analytical determinations on Gesesa waste water (137) | no. | 5,736 | 11,448 | 12,234 | 6.9 |
| **GORI ANALYTICAL DETERMINATIONS** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
| analytical determinations on Gori drinking water (138) | no. | 141,288 | 136,156 | 132,538 | -2.7 |
| analytical determinations on Gori waste water (139) | no. | 25,499 | 43,270 | 43,564 | 0.7 |
| **ADF ANALYTICAL DETERMINATIONS** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
| analytical determinations on AdF drinking water (140) | no. | 137,268 | 138,783 | 121,738 | -12.3 |
| analytical determinations on AdF waste water (141) | no. | 52,488 | 51,707 | 40,481 | -21.7 |

## RESOURCES USED - ENERGY AREA

The data on the resources used refer to Acea Produzione, Ecogena, Deco sites, Acea Ambiente's waste-to-energy plants and Areti.

| GENERATION, TRANSPORT AND SALE OF ELECTRICITY AND HEAT, PUBLIC LIGHTING (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **natural gas** | | | | | |
| **electricity generation and heat (142) = (143+144)** | **Nm³ x 1,000** | **29,005** | **31,329** | **30,308** | **-3.3** |
| **thermoelectric and heat production (143)** | **Nm³ x 1,000** | **26,129** | **27,208** | **26,687** | **-1.9** |
| *Tor di Valle – high-efficiency cogeneration (CAR)* | *Nm³ x 1,000* | *22,272* | *23,912* | *24,131* | *0.9* |
| *Ecogena Plants* | *Nm³ x 1,000* | *3,857* | *3,296* | *2,557* | *-22.4* |
| **waste-to-energy (144)** | **Nm³ x 1,000** | **2,876** | **4,122** | **3,621** | **-12.1** |
| *San Vittore del Lazio waste-to-energy plant* | *Nm³ x 1,000* | *2,486* | *3,764* | *3,244* | *-13.8* |
| *Terni waste-to-energy plant* | *Nm³ x 1,000* | *390* | *358* | *377* | *5.3* |
| **diesel for thermoelectric generation** | | | | | |
| **Thermoelectric production (145)** | **l x 1,000** | **639** | **707** | **937** | **32.5** |
| *Montemartini power plant* | *l x 1,000* | *587* | *647* | *883* | *36.6* |
| *San Vittore del Lazio and Terni plants* | *l x 1,000* | *52* | *60* | *54* | *-11.0* |

| | | | | | |
|---|---|---|---|---|---|
| **RDF (Refuse-Derived Fuel) processed** | | | | | |
| **San Vittore del Lazio waste-to-energy plant (146)** | **t x 1,000** | **319.122** | **307.391** | **289.550** | **-5.8** |
| **waste-to-energy paper mill pulper** | | | | | |
| **Terni waste-to-energy plant (147)** | **t x 1,000** | **90.215** | **99.730** | **97.796** | **-1.9** |
| **biogas for the production of electricity** | | | | | |
| **Composting and waste management plants (148)** | **$Nm^3$ x 1,000** | **15,649** | **17,633** | **20,207** | **14.6** |
| *Orvieto plant* | *$Nm^3$ x 1,000* | *10,867* | *9,131* | *8,462* | *-7.3* |
| *Aprilia plant* | *$Nm^3$ x 1,000* | *2,578.47* | *6,090.45* | *7,012.98* | *15.1* |
| *Monterotondo Marittimo plant* | *$Nm^3$ x 1,000* | *2,203.46* | *2,411.22* | *2,645.82* | *9.7%* |
| *Deco sites* | *$Nm^3$ x 1,000* | - | - | *2,086* | - |
| **water** | | | | | |
| **derivation from hydroelectric production (149)** | **$Mm^3$** | **2,926** | **3,894** | **2,672.24** | **-31.4** |
| **process water (150)** | **$Mm^3$** | **0.26** | **0.24** | **0.27** | **12.5** |
| **water for civilian/sanitary uses (151)** | **$Mm^3$** | **0.30** | **0.33** | **0.31** | **-5.9** |
| **miscellaneous materials** | | | | | |
| **dielectric mineral oil in operation (152)** | **t** | **10,216** | **10,122** | **10,215** | **0.9** |
| dielectric mineral oil - reintegrations | t | 1.19 | 1.19 | 1.34 | 13.1 |
| **$SF_6$ in operation (153)** | **t** | **22.85** | **22.87** | **22.81** | **-0.3** |
| $SF_6$ - replenishments | t | 0.37 | 0.30 | 0.21 | -29.6 |
| **cooling fluids (HCFC type) in operation (154)** | **t** | **1.68** | **1.78** | **1.78** | **-** |
| cooling fluids (HCFC type) - reintegrations | t | 0.00035 | 0.00000 | 0.00050 | - |
| **miscellaneous chemicals (155)** | **kg** | **9,788,481** | **10,898,850** | **11,315,365** | **3.8** |
| *sodium chloride* | *kg* | *9,000* | *9,000* | *12,750* | *41.7* |
| *sodium hydroxide (caustic soda)* | *kg* | *247,640* | *173,260* | *186,130* | *7.4* |
| *sodium bicarbonate* | *kg* | *7,140,770* | *8,333,700* | *8,707,070* | *4.5* |
| *hydrochloric acid* | *kg* | *255,680* | *219,480* | *236,970* | *8.0* |
| *ammonia solution* | *kg* | *598,950* | *526,850* | *582,250* | *10.5* |
| *activated carbon* | *kg* | *468,160* | *673,040* | *668,120* | *-0.7* |
| *carbamine* | *kg* | *228,820* | *190,220* | *257,735* | *35.5* |
| *other (for TLR and waste-to-energy)* | *kg* | *839,461* | *773,300* | *664,340* | *-14.1* |
| **miscellaneous oils and greases/lubricants (156)** | **kg** | **37,844** | **28,434** | **47,857** | **68.3** |
| **electricity** | | | | | |
| *consumption for electrical distribution (157) = (32)* | *GWh* | *563.70* | *593.35* | *653.62* | *10.2* |
| *consumption for electricity production (158) = (1)-(2)* | *GWh* | *71.43* | *79.48* | *76.18* | *-4.2* |
| *consumption for offices (50% of the electricity consumed by the Parent Company) (159)* | *GWh* | *5.13* | *5.38* | *5.47* | *1.7* |
| *other consumption (160)* | *GWh* | *1.32* | *1.33* | *1.16* | *-12.8* |
| *other personal uses (161)* | *GWh* | *35.80* | *30.71* | *28.94* | *-5.8* |
| **total (162) = (157+158+159+160+161)** | **GWh** | **677.38** | **710.25** | **765.37** | **7.8** |
| **public lighting** | | | | | |
| **consumption for Public Lighting (163)** | **GWh** | **66.96** | **67.33** | **67.42** | **0.1** |

(*) Some figures for the 2020-2021 two-year period have been adjusted for consolidation.

## RESOURCES USED - ENVIRONMENT AREA

The data refer to Acea Ambiente's three composting plants in Aprilia, Monterotondo Marittimo, and Sabaudia, the waste management hub in Orvieto, the Grasciano hub operated by Deco, sites owned by Deco, the Bio Ecologia site, the Berg plant, and the four Acque Industriali plants in Pagnana, Pontedera, Poggibonsi, and San Jacopo, which have partially ceased operations.

| ORVIETO HUB WASTE MANAGEMENT AND DECO SITES | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| miscellaneous chemicals (164) | t | 79.5 | 84.4 | 64.6 | -16.3 |
| oils and lubricants (164b) | t | 20.0 | 22.0 | 26.9 | 22.2 |
| electricity (165) | GWh | 4.398 | 4.476 | 14.676 | 227.9 |
| diesel (166) | l | 229,533 | 262,762 | 278,843 | 6.1 |
| process water (167) | $m^3$ | 18,732 | 22,593 | 23,225 | 284.5 |
| water for civilian/sanitary uses (168) | $m^3$ | 1,230 | 1,055 | 2,661 | 152.2 |
| **COMPOST PRODUCTION** | **u. m.** | **2020** | **2021** | **2022** | **Δ% 2022/2021** |
| miscellaneous chemicals (posting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (169) | t | 540.45 | 1,694.72 | 1,976.59 | 16.6 |
| electricity (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (170) | GWh | 4.039 | 2.266 | 0.874 | -61.4 |
| diesel (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (171) | l x 1,000 | 220.73 | 286.31 | 320.57 | 12.0 |
| process water (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (172) (*) | $m^3$ | 26,673.0 | 35,337.0 | 37,591.6 | 6.4 |
| water for civil use (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (173) | $m^3$ | 2,330 | 2,650 | 3,100 | 17.0 |

(*) The figures for the 2020-2021 two year period have been adjusted after the final calculations.

| DISPOSAL OF WASTE FROM ACQUE INDUSTRIALI (AI), BERG AND BIO ECOLOGIA PLANT (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| miscellaneous chemicals (AI plants - Pagnana, Pontedera and Poggibonsi, Berg and Bio Ecologia plant) (174) | t | 2,728.8 | 2,301.5 | 1,915.4 | -16.8 |
| electricity (AI plants - Pagnana, Pontedera Poggibonsi - Berg and Bio Ecologia plant) (175) | GWh | 3.159 | 3.023 | 2.702 | -0.1 |
| methane (AI and Berg plants) (176) | $Sm^3$ | 25,079 | 38,315 | 41,280 | 7.7 |
| diesel fuel (Berg and Bio Ecologia plant) (177) | l | 8,436 | 6,775 | 6,098 | -10.0 |
| LSC (Low Sulphur Content) combustible oil (Pontedera plant) (178) | t | 0.049 | 0.031 | 0.000 | - |
| LPG (Pontedera plant) (178 A) | t | - | 18.361 | 21.989 | 19.8 |
| process water (AI plants - Pagnana, Pontedera Poggibonsi, San Jacopo - Berg and Bio Ecologia plant) (179) | $m^3$ | 71,401 | 70,140 | 75,436 | 7.6 |
| water for civil use (AI plants - Pagnana, Pontedera Poggibonsi, San Jacopo - Berg and Bio Ecologia plant) (180) | $m^3$ | 747 | 619 | 464 | -25.0 |

(*) Some figures from the previous two-year period have been adjusted after the final calculations.

## RESOURCES USED - **WATER SEGMENT**

The data refers to the Water Companies of the Group included in the reporting scope of the *Consolidated Non-Financial Statement* (NFS, pursuant to Legislative Decree no. 254/2016): Acea Ato 2, Acea Ato 5, Gesesa, Gori and AdF.

| COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **reagents for purification and disinfection (181)** | **t** | **3,689.0** | **4,560.7** | **4,514.7** | **-1.0** |
| **reagents for chemical analyses (182)** | **t** | **1.65** | **1.55** | **1.69** | **9.0** |
| **gas for chemical analyses (183)** | **MNm³** | **5.79** | **6.30** | **4.77** | **-24.4** |
| **cooling fluids (HCFC type) in operation (184) = (154)** | **t** | **1.68** | **1.78** | **1.78** | **-** |
| cooling fluids (HCFC type) - reintegrations | t | 0.00035 | 0.00000 | 0.00050 | - |
| **total electricity consumed (185)** | **GWh** | **483.18** | **446.52** | **455.52** | **1.8** |
| *water pumping plants (186)* | *GWh* | *476.66* | *439.65* | *448.49* | *1.8* |
| *offices/personal use (50% of energy consumed by the Parent Company) (187) = (159)* | *GWh* | *5.13* | *5.38* | *5.47* | *1.7* |
| *chemical laboratory (188)* | *GWh* | *1.40* | *1.49* | *1.56* | *4.6* |
| **drinking water** | | | | | |
| **total drinking water consumed (189)** | **Mm³** | **2.31** | **2.12** | **2.19** | **3.1** |
| *civilian/sanitary uses* | *Mm³* | *2.14* | *1.92* | *2.00* | *4.1* |
| *offices (50% of the drinking water consumed by the Parent Company)* | *Mm³* | *0.17* | *0.20* | *0.19* | *-6.1* |
| **non-drinking water** | | | | | |
| **total non-drinking water consumed (190)** | **Mm³** | **0.48** | **2.16** | **2.33** | **7.6** |
| *process uses* | *Mm³* | *0.48* | *2.16* | *2.33* | *7.6* |

(*) Some figures for the 2020-2021 two-year period have been adjusted following consolidation.
(**) It is water recovered from treatment plants.

| WASTEWATER TREATMENT (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **miscellaneous materials and natural resources** | | | | | |
| **reagents for purification waste water (191)** | **t** | **15,894** | **17,600** | **17,130** | **-2.7** |
| *polyelectrolyte for sludge dehydration* | *t* | *2,507* | *2,472* | *3,467* | *40.2* |
| *sodium hypochlorite for final disinfection* | *t* | *3,981* | *4,244* | *3,327* | *-21.6* |
| *ferric chloride for sludge dehydration* | *t* | *462* | *1,008* | *1,046* | *3.8* |
| *peracetic acid* | *t* | *4,075* | *5,382* | *4,814* | *-10.5* |
| *other (anti-foaming etc.)* | *t* | *4,786* | *4,363* | *4,316* | *-1.1* |
| **reagent kit for on-site controls (192)** | **no.** | **113,136** | **100,461** | **98,375** | **-2.1** |
| **oil and fat (193)** | **t** | **9.3** | **16.1** | **14.9** | **-7.7** |
| **electricity** | | | | | |
| **sewerage and purification (194)** | **GWh** | **250.5** | **273.3** | **271.2** | **-0.8** |
| **fuels** | | | | | |
| **Methane for processes (dryers and other processes) (195)** | **Nm³ x 1,000** | **3,058.8** | **3,527.2** | **3,779.6** | **7.2** |
| **diesel for processes and generators (196)** | **lx1.000** | **226.5** | **69.0** | **146.2** | **112.0** |
| **petrol for processes and generators (197)** | **lx1.000** | **2.6** | **3.4** | **3.8** | **9.8** |
| **biogas produced and consumed on site (198)** | **Nm³ x 1,000** | **5,320.7** | **3,282.3** | **3,316.3** | **1.0** |

(*) Some figures for the 2020-2021 two-year period have been adjusted following consolidation.

## FUEL USED BY THE MAIN GROUP COMPANIES FOR TRANSPORT AND HEATING

The figures refer to all the Companies in the NFS reporting scope.

| TYPE OF FUEL (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| transport (car fleet) | | | | | |
| petrol (199) | l x 1,000 | 225.3 | 562.1 | 884.2 | 57.3 |
| diesel (200) | l x 1,000 | 3,461.8 | 3,452.1 | 3,353.9 | -2.8 |
| methane (201) | $Nm^3$ x1,000 | 0.6 | 0.7 | 0.4 | -48.7 |
| LPG (202) | l x 1,000 | 18.6 | 24.5 | 22.0 | -10.2 |
| heating | | | | | |
| diesel (203) | l x 1,000 | 0.9 | 0.0 | 0.0 | - |
| methane (204) | $Nm^3$ x 1000 | 387.3 | 408.4 | 334.6 | -18.1 |
| LPG (205) | l x 1,000 | 33.9 | 25.9 | 26.0 | 0.3 |

(*) Some figures for the 2020-2021 two-year period have been adjusted following consolidation.

## EMISSIONS AND WASTE - ENERGY AREA

The data on the emissions and waste refer to Acea Produzione, Ecogena, to the waste-to-energy plants of Acea Ambiente and Areti.

| ATMOSPHERIC EMISSIONS | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| $CO_2$ (206) = (207+208+209+210+211) (*) | t | 405,882 | 394,109 | 394,300 | - |
| *Acea Produzione (207)* | t | *45,773* | *53,551* | *56,724* | *5.9* |
| *Ecogena (208)* | | *9,650* | *7,829* | *5,191* | *-33.7* |
| *Areti and Acea Produzione – SF reinstatements$_6$ (209)* | t | *8,695* | *7,045* | *4,959* | *-29.6* |
| *HCFC replenishment (210)* | t | *0.7* | *0.0* | *1.0* | - |
| *waste-to-energy (211)* | t | *341,763* | *325,684* | *327,426* | *0.5* |
| $NO_x$ (212) = (213+214) | t | 190.67 | 198.11 | 191.30 | -3.4 |
| *Acea Produzione (213)* | t | *20.83* | *26.05* | *27.56* | *5.8* |
| *waste-to-energy (214)* | t | *169.84* | *172.06* | *163.74* | *-4.8* |
| CO (215) = (216+217) | t | 8.34 | 7.68 | 5.95 | -22.5 |
| *Acea Produzione (216)* | t | *6.12* | *4.13* | *2.90* | *-29.7* |
| *waste-to-energy (217)* | t | *2.22* | *3.55* | *3.05* | *-14.0* |
| $SO_2$ (218) = (219+220) | t | 0.90 | 1.60 | 1.51 | -5.1 |
| *Acea Produzione (219)* | t | *0.02* | *0.02* | *0.03* | *46.6* |
| *waste-to-energy (220)* | t | *0.88* | *1.57* | *1.48* | *-5.9* |
| dust (221) = (222+223) | t | 0.60 | 0.74 | 0.36 | -52.3 |
| *Acea Produzione (222)* | t | *0.03* | *0.03* | *0.05* | *45.4* |
| *waste-to-energy (223)* | t | *0.57* | *0.71* | *0.31* | *-56.7* |
| HCl (224) | t | 3.12 | 3.07 | 2.91 | -5.2 |
| HF (225) | t | 0.06 | 0.08 | 0.11 | 34.1 |
| organic carbon (226) | t | 1.07 | 0.58 | 0.52 | -11.6 |

(*) Some figures from the 2020-2021 two-year period have been adjusted after the final calculations, in particular, the ETS data after certification.

| OTHER EMISSIONS AND WASTE | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| waste water treated (227) | $Mm^3$ | 0.0241 | 0.0200 | 0.0252 | 26.5% |
| electrical fields at 50 Hz | kV | monitored<br>commitment to maintain the value below the legal limit | | | |
| magnetic fields at 50 Hz | μT | monitored<br>commitment to maintain the value below the legal limit | | | |
| noise | dB | monitored<br>commitment to maintain the value below the legal limit | | | |
| luminous flux dissipated | Mlumen | commitment to design the plants in order to limit to the utmost the emission value dissipated upwards | | | |

| WASTE (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| hazardous waste - excluding waste-to-energy area (228) | t | 854.0 | 1,705.0 | 2,025.5 | 18.8 |
| *energy area production* | *t* | *853.4* | *1,704.4* | *2,025.2* | *18.8* |
| *proportion for the activities performed by the Parent Company (**)* | *t* | *0.6* | *0.6* | *0.3* | *-54.2* |
| hazardous waste from waste-to-energy (229) | t | 64,885.4 | 64,672.5 | 69,624.4 | 7.7 |
| non-hazardous waste – excluding waste-to-energy area (230) | t | 902.8 | 1,257.5 | 824.9 | -34.4 |
| *energy area production* | *t* | *874.4* | *1,223.4* | *793.9* | *-35.1* |
| *proportion for the activities performed by the Parent Company (**)* | *t* | *28.4* | *34.1* | *31.0* | *-9.1* |
| non-hazardous waste from waste-to-energy (231) | t | 22,633.3 | 28,092.9 | 24,196.4 | -13.9 |

(*) Some figures for the 2020-2021 two-year period have been adjusted following the final calculations
(**) The portion is equal to 50% of the waste produced by the Parent Company.

## EMISSIONS AND WASTE - ENVIRONMENT AREA

The data refer to Acea Ambiente's three composting plants located in Aprilia in Monterotondo Marittimo and Sabaudia, the waste management hub in Orvieto and the sites owned and managed by Deco (including Grasciano2 owned by Acea Ambiente), the Bio Ecologia plant, Berg, and Acque Industriali's four plants in Pagnana, Pontedera, Poggibonsi, and San Jacopo, which are partly closed as of 2022.

| ORVIETO WASTE HUB AND DECO SITES, COMPOSTING PLANTS (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| hazardous waste Orvieto hub (232) | t | 11.4 | 12.3 | 12.5 | 1.8 |
| non-hazardous waste Orvieto hub including leachate (233) | t | 20,386.7 | 23,758.0 | 19,084.1 | -19.7 |
| hazardous waste Deco sites (234) | t | - | - | 10.5 | - |
| non-hazardous waste Deco sites including leachate (235) | t | - | - | 21,424.0 | - |
| hazardous waste - composting plants of Aprilia, Monterotondo Marittimo and Sabaudia (236) | t | 3,672.5 | 221.2 | 38.0 | -82.8 |
| non-hazardous waste – composting plants of Aprilia, Monterotondo Marittimo and Sabaudia (237) | t | 27,984.0 | 40,469.8 | 46,257.5 | 14.3 |

(*) Some figures from the previous two-year period have been updated after the final calculations.

| ATMOSPHERIC EMISSIONS – ORVIETO AND COMPOST PLANTS | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| $CO_2$ (238) | t | 1,349 | 1,644 | 1,743 | 6.0 |
| particles (239) | t | 0.274 | 0.613 | 0.720 | 17.3 |
| total organic compounds (TOCs) (240) | t | 0.927 | 1.049 | 1.841 | 75.5 |
| ammonia (241) | t | 3.711 | 3.933 | 1.956 | -77.3 |
| volatile inorganic compounds (VICs) (242) | t | 1.941 | 0.420 | 0.544 | 29.3 |

| ATMOSPHERIC EMISSIONS - DECO SITES | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| $CO_2$ (243) | t | - | - | 1.5 | - |
| particles (244) | t | - | - | 0.860 | - |
| hydrochloric acid (245) | t | - | - | 0.035 | - |
| hydrofluoric acid (246) | t | - | - | 0.004 | - |
| Hydrogen Sulphide (247) | t | - | - | 0.015 | - |
| $SO_x$ (248) | t | - | - | 0.095 | - |
| $NO_x$ (249) | t | - | - | 6.082 | - |
| CO (250) | t | - | - | 1.390 | - |
| Total Organic Carbon (TOC) (251) | t | - | - | 0.111 | - |
| ammonia (252) | t | - | - | 0.346 | - |
| VOCs (253) | t | - | - | 63.916 | - |
| Cd (254) | t | - | - | 0.00007 | - |
| Hg (255) | t | - | - | 0.00007 | - |
| heavy metals (256) | t | - | - | 0.00245 | - |

| PLANT WASTE BIO ECOLOGIA | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| hazardous waste Bio Ecologia plant (257) | t | 6.7 | 5.7 | 5.6 | -2.2 |
| non-hazardous waste Bio Ecologia plant (258) | t | 5,996.0 | 6,330.6 | 6,192.5 | -2.2 |

| ATMOSPHERIC EMISSIONS - BIO ECOLOGIA PLANT | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| $CO_2$ (259) | t | 1.8 | 2.3 | 1.8 | -21.7 |

| BERG'S WASTE | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| hazardous waste (260) | t | 1,077.7 | 613.7 | 407.1 | -33.7 |
| non-hazardous waste (261) | t | 2,901.1 | 2,526.9 | 2,179.6 | -13.7 |

| ATMOSPHERIC EMISSIONS – BERG (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| $CO_2$ (262) | t | 20.0 | 15.7 | 14.5 | -7.6 |
| particles (263) | t | 0.113 | 0.037 | 0.033 | -11.1 |
| organic carbon (264) | t | 1.060 | 0.747 | 0.673 | -9.9 |
| hydrogen sulphide and mercaptans (265) | t | 0.001 | 0.001 | 0.011 | - |
| ammonia (266) | t | 0.040 | 0.076 | 0.062 | -17.9 |

(*) Some figures for the 2020-2021 two-year period have been adjusted following the final calculations

| INDUSTRIAL WASTE WATER | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| hazardous waste Pagnana plant (267) | t | 0.11 | 0.35 | 0.00 | - |
| non-hazardous waste of Pagnana, Pontedera, Poggibonsi and San Jacopo (268) | t | 2,515.8 | 1,470.5 | 618.5 | -57.9 |

| ATMOSPHERIC EMISSIONS – ACQUE INDUSTRIALI | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| $CO_2$ (269) | t | 204.2 | 229.6 | 143.4 | -37.5 |
| Hydrogen Sulphide (270) | t | 0.019 | 0.015 | 0.015 | - |
| ammonia (271) | t | 0.038 | 0.011 | 0.002 | -78.6 |

## EMISSIONS AND WASTE - WATER SEGMENT

The data refers to the Acea Ato 2, Acea Ato 5, Gesesa, Gori and AdF water Companies.

| WASTE PRODUCED (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| **specific process waste from treatment of waste water (**)** | | | | | |
| **total purification sludge (272) = (273+274+275+276+277)** | **t** | **125,850** | **152,979** | **160,294** | **4.8** |
| *Acea Ato 2 purification sludge (273)* | *t* | *78,934* | *66,605* | *63,279* | *-5.0* |
| *Acea Ato 5 purification sludge (274)* | *t* | *9,408* | *13,803* | *12,474* | *-9.6* |
| *Gesesa purification sludge (275)* | *t* | *969* | *699* | *940* | *34.5* |
| *Gori purification sludge (276)* | *t* | *29,246* | *65,635* | *78,703* | *19.9* |
| *AdF purification sludge (277)* | *t* | *7,292* | *6,238* | *4,898* | *-21.5* |
| **total sand and slabs from purification (278) = (279+280+281+282+283)** | **t** | **12,907** | **14,203** | **15,477** | **9.0** |
| *Acea Ato 2 sand and slabs (279)* | *t* | *9,494* | *8,359* | *9,105* | *8.9* |
| *Acea Ato 5 sand and slabs (280)* | *t* | *101* | *225* | *176* | *-22.0* |
| *Gesesa sand and slabs (281)* | *t* | *71* | *10* | *66* | *552.2* |
| *Gori sand and slabs (282)* | *t* | *2,515* | *4,597* | *5,235* | *13.9* |
| *AdF sand and slabs (283)* | *t* | *724* | *1,012* | *896* | *-11.4* |
| **other waste from treatment (284)** | | | | | |
| *other Acea Ato 2* | *t* | *1,137* | *1,957* | *1,610* | *-17.8* |
| *other Acea Ato 5* | *t* | *6,524* | *5,441* | *4,305* | *-20.9* |
| *other Gesesa* | *t* | *0* | *0* | *0* | *-* |
| *other Gori* | *t* | *80* | *148* | *166* | *12.3* |
| *other AdF* | *t* | *0* | *0* | *0* | *-* |
| **extra process waste** | | | | | |
| **total hazardous waste (285) = (286+287+288+289+290+291)** | **t** | **175.2** | **309.5** | **213.8** | **-30.9** |
| *Acea Elabori (286)* | *t* | *15.9* | *16.6* | *15.7* | *-5.5* |
| *Acea Ato 2 (287)* | *t* | *82.9* | *188.9* | *168.2* | *-10.9* |
| *Acea Ato 5 (288)* | *t* | *0.9* | *0.4* | *1.2* | *215.4* |
| *Gori (289)* | *t* | *33.7* | *51.0* | *19.3* | *-62.2* |
| *AdF (290)* | *t* | *41.2* | *52.0* | *9.1* | *-82.5* |
| *Proportion for the activities performed by the Parent Company (291) (***)* | *t* | *0.63* | *0.59* | *0.27* | *-54.2* |
| **total non-hazardous waste (292) = (293+294+295+296+297+298)** | **t** | **5,665** | **1,748** | **1,626** | **-5.9** |
| *Acea Ato 2 and Elabori (293)* | *t* | *2,363* | *1,039* | *1,238* | *19.1* |
| *Acea Ato 5 (294)* | *t* | *43* | *26* | *44* | *70.3* |
| *Gesesa (295)* | *t* | *0* | *0* | *0* | *-* |
| *Gori (296)* | *t* | *213* | *129* | *87* | *-32.5* |
| *AdF (297)* | *t* | *3,017* | *499* | *226* | *-54.7* |
| *Proportion for the activities performed by the Parent Company (298) (***)* | *t* | *28* | *34* | *31* | *-9.1* |
| **other emissions and waste** | | | | | |
| **$CO_2$ from dryers and generators (299)** | **t** | **6,979** | **7,478** | **8,309** | **11.1** |
| **$CO_2$ from HCFC replenishment (300)** | **t** | **0.7** | **0.0** | **1.0** | **-** |
| **noise** | **dB** | **monitored** commitment to maintain the value below the legal limit | | | |
| **odours** | | **monitored** commitment to maintain the value below the limit of perception and in the areas adjacent to the treatment plants | | | |

(*) Some figures for the 2020-2021 two-year period have been updated following consolidation.
(**) All process waste from 2022 was non-hazardous except for 200 t of sludge produced by Gesesa and 50 t of oil mixture produced by Gori.
(***) The portion is equal to 50% of the waste produced by the Parent Company.

## THE EMISSIONS OF CARBON DIOXIDE FROM TRANSPORT AND PACKAGING

The figures refer to all the Companies in the NFS reporting scope.

| GROUP COMPANIES (*) | u. m. | 2020 | 2021 | 2022 | Δ% 2022/2021 |
|---|---|---|---|---|---|
| transport | | | | | |
| $CO_2$ (301) | t | 9,705 | 10,533 | 11,065 | 5.0 |
| heating | | | | | |
| $CO_2$ (302) | t | 872 | 881 | 755 | -14.3 |

(*) Some figures for the previous two-year period have been adjusted following consolidation and for the inclusion of new companies in the NFS scope.

## KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – ENERGY AREA

Environmental Key Performance Indicators.

| INDICATOR | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| **energy used for the processes (*)** | | | | |
| A consumption in the distribution of electricity | TJoule (GWh) | 1,076.7 (299.1) | 1,112.0 (308.9) | 1,161.1 (322.5) |
| B consumption in the production of electricity | | 257.1 (71.4) | 286.1 (79.5) | 274.2 (76.2) |
| C heat lost in the district heating network | | 99.8 27.7 | 86.2 (23.9) | 76.7 (21.3) |
| D consumption for public lighting | | 241.1 (67.0) | 242.4 (67.3) | 242.7 (67.4) |
| E Environment Area consumption | | 41.7 (11.6) | 35.2 (9.8) | 26.4 (7.3) |
| F water distribution | | 1,721.0 (478.1) | 1,590.9 (441.1) | 1,620.2 (450.1) |
| G water purification | | 901.8 (250.5) | 983.7 (273.3) | 976.3 (271.2) |
| H electricity for offices | | 36.9 (10.3) | 38.7 (10.8) | 39.4 (10.9) |
| I consumption for heating offices | | 15.1 (4.2) | 15.6 (4.3) | 13.3 (3.7) |
| L water area dryer consumption | | 113.8 (31.6) | 129.7 (36.0) | 140.7 (39.1) |
| M layoffs | | 132.0 (36.7) | 143.2 (39.8) | 150.0 (41.7) |
| **total consumption = indirect consumption + consumption through mobility + heating** | | **4,637.0 (1,288.1)** | **4,663.7 (1,295.5)** | **4,721.0 (1,311.4)** |
| **EMISSIONS, EFFLUENTS AND WASTE** | | | | |
| **greenhouse-gas emissions ($CO_2$)** | **t** | **425,014** | **414,893** | **416,335** |
| **$SO_2$, $NO_x$ emissions and other significant gases by type from the Energy Area** | | | | |
| **$NO_x$** | **t** | **190.67** | **198.11** | **191.30** |
| **CO** | **t** | **8.34** | **7.68** | **5.95** |
| **$SO_2$** | **t** | **0.90** | **1.60** | **1.51** |

| Acea emission/production indicators (Acea Produzione and Acea Ambiente - waste-to-energy) | | | | |
|---|---|---|---|---|
| **$NO_x$ /thermoelectric production** | **g/kWh** | **0.44** | **0.43** | **0.42** |
| **$CO_2$/thermoelectric production** | **g/kWh** | **884** | **817** | **850** |
| **$CO_2$/Acea Produzione thermoelectric production** | **g/kWh** | **497** | **497** | **494** |
| **$Co_2$/thermoelectric production including Acea Produzione thermal energy** | **g/kWh** | **243** | **265** | **266** |
| **$CO_2$/total Acea Produzione production, including thermal production (**)** | **g/kWh** | **72** | **74** | **87** |
| **$CO_2$/gross total production (**)** | **g/kWh** | **418** | **333** | **408** |
| **$CO_2$/total gross production, including thermal energy (**)** | **g/kWh** | **154** | **146** | **176** |
| **$SO_2$/thermoelectric production** | **g/kWh** | **0** | **0** | **0** |
| **PRODUCTS AND SERVICES: electricity** | | | | |
| **performance of the electrical production process of Acea Produzione** | | | | |
| **gross average performance thermoelectric production** | | **41.9** | **40.3** | **40.3** |
| Tor di Valle power plant (electrical performance cogeneration only) | | 42.4 | 40.6 | 40.7 |
| Montemartini power plant | | 26.1 | 26.3 | 25.7 |
| **gross average thermoelectric production out included thermal energy recovered** | **%** | 70.2 | **70.1** | **67.6** |
| **gross average performance hydroelectric production** | | **83.5** | **82.4** | **83.5** |
| **gross average hydroelectric production** | | **75.3** | **74.0** | **72.5** |
| **gross average thermoelectric production, including recovered thermal energy** | | **80.8** | **80.1** | **80.2** |
| **performance of the electrical production process - waste-to-energy plants** | | | | |
| **San Vittore in Lazio** | | | | |
| SRF produced/gross energy produced | kt/GWh | 1.185 | 1.148 | 1.152 |
| **gross performance SRF conversion into electricity** | **kWh/kg SRF** | **0.84** | **0.87** | **0.87** |
| **electrical efficiency** | **%** | **19.2** | **20.2** | **19.6** |
| total waste produced/hours worked | t/h | 3.18 | 3.28 | 3.56 |
| **Terni** | | | | |
| **gross performance Pulper conversion into electricity** | **kWh/kg pulper waste** | **0.85** | **0.89** | **0.88** |
| **electrical efficiency** | **%** | **10.5** | **11.4** | **9.2** |
| total waste produced/hours worked | t/h | 1.7 | 1.7 | 1.6 |
| **performance of the electrical production process - photovoltaic energy** | | | | |
| **average efficiency photovoltaic modules** | **%** | **14.0** | **14.0** | **14.0** |
| **other indicators (territory, public lighting, controls, losses)** | | | | |
| **protection of the territory** (total length of HV cable lines/(length of overhead HV lines + cable lines) x 100 | **%** | **46.3** | **47.0** | **49.3** |
| **public lighting illumination efficiency** | **Lumen/kWh** | **30.0** | **30.0** | **27.8** |
| **average performance of installed lamps** (electrical power) | **Lumen/W** | **127.9** (15,716 kW) | **127.8** (15,809 kW) | **89.7** (20,920 kW) |
| **specific consumption per lamp** (kWh/no. lamps) | **kWh/ No. lamps** | **295.46** (226,635) | **295.77** (227,635) | **291.44** (231,347) |
| **percentage of illuminated roads** | **% (km of roads illuminated/ total km of roads)** | **89.1** (6,338/7,110) | **89.6** (6,368/7,110) | **89.1** (6,461/7,252) |
| **reintegrations of $SF_6$/km electricity distribution network** | **kg/km** | **0.0118** | **0.0094** | **0.0065** |
| **total loss of electrical energy (***)** | **% energy requested** | **5.8** | **6.0** | **6.5** |

(*) The figures for the previous two-year period have been updated for data consolidation.
(**) The denominator also includes PV energy produced by the subsidiary and is not fully consolidated.
(***) The total losses of electricity include: transformation losses, transport losses and commercial losses, these last due to fraud and incorrect readings.

## KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – WATER SEGMENT

Environmental Key Performance Indicators.

| INDICATOR (*) | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| **WATER SERVICE** | | | | |
| **Energy consumption on water delivered and billed** | | | | |
| total electricity consumption in MWh/total water delivered and billed in $Mm^3$ | $MWh/Mm^3$ | 1.52 | 1.48 | 1.52 |
| **carbon footprint** | | | | |
| total $CO_2/m^3$ of water supplied (integrated water services) (**) | $kgCO_2/m^3$ | 0.51 | 0.47 | 0.48 |
| $CO_2/m^3$ of water supplied (water distribution process) | $kgCO_2/m^3$ | 0.33 | 0.29 | 0.30 |
| $CO_2/m^3$ of water treated (purification process) | $kgCO_2/m^3$ | 0.12 | 0.11 | 0.11 |
| **PRODUCT: DRINKING WATER** | | | | |
| **Acea Ato 2 network** | | | | |
| specific electricity consumption per input in the water network(***) | $kWh/m^3$ | 0.275 | 0.263 | 0.284 |
| intensity of the checks on drinking water distributed | $No./Mm^3$ | 917 | 863 | 912 |
| drinking water additive index | $g/m^3$ | 7.2 | 9.0 | 9.3 |
| **Acea Ato 5 network** | | | | |
| specific electricity consumption per input in the water network(***) | $kWh/m^3$ | 0.511 | 0.486 | 0.537 |
| intensity of the checks on drinking water distributed | $No./Mm^3$ | 3,068 | 2,721 | 2,746 |
| drinking water additive index | $g/m^3$ | 7.4 | 7.1 | 7.1 |
| **Gesesa network** | | | | |
| specific electricity consumption per input in the water network(***) | $kWh/m^3$ | 0.534 | 0.476 | 0.497 |
| intensity of the checks on drinking water distributed | $No./Mm^3$ | 1,213 | 1,462 | 1,568 |
| drinking water additive index | $g/m^3$ | 7.2 | 4.4 | 6.7 |
| **Gori network** | | | | |
| specific electricity consumption per input in the water network(***) | $kWh/m^3$ | 1.001 | 0.955 | 0.973 |
| intensity of the checks on drinking water distributed | $No./Mm^3$ | 1,613 | 1,534 | 1,500 |
| drinking water additive index | $g/m^3$ | 2.2 | 2.5 | 1.5 |
| **AdF network** | | | | |
| specific electricity consumption per input in the water network(***) | $kWh/m^3$ | 0.491 | 0.477 | 0.506 |
| intensity of the checks on drinking water distributed | $No./Mm^3$ | 3,975 | 3,751 | 3,271 |
| drinking water additive index | $g/m^3$ | 9.0 | 11.7 | 9.2 |
| **SERVICE: WASTE WATER TREATMENT** | | | | |
| **Acea Ato 2** | | | | |
| sludge disposed of | t | 78,934 | 66,605 | 63,279 |
| sand and slabs removed | t | 9,494 | 8,359 | 9,105 |
| COD input | t | 173,392 | 143,568 | 162,320 |
| COD removed | t | 159,487 | 127,527 | 146,599 |
| efficiency of COD removal | % | 92 | 89 | 90 |
| SST input | t | 100,637 | 91,904 | 99,998 |
| SST removed | t | 93,172 | 84,461 | 95,285 |
| efficiency of SST removal | % | 93 | 92 | 95 |
| efficiency of BOD removal | % | 90 | 90 | 93 |
| total N input (as $NH_4$ + $NO_2$ + $NO_3$ + organic) | t | 17,993 | 15,611 | 15,567 |
| total N removed | t | 13,925 | 11,649 | 11,408 |
| efficiency of N removal | % | 77 | 75 | 73 |
| Acea Ato 2 wastewater additivation index | $g/m^3$ | 15.4 | 17.4 | 16.5 |
| Acea Ato 2 specific consumption of electricity by purification process | $kWh/m^3$ | 0.282 | 0.281 | 0.295 |
| **Acea Ato 5** | | | | |
| sludge disposed of | t | 9,408 | 13,803 | 12,474 |
| sand and slabs removed | t | 101 | 225 | 176 |
| COD input | t | 19,341 | 11,382 | 10,598 |

| | | | | |
|---|---|---|---|---|
| COD removed | t | 18,182 | 10,457 | 9,776 |
| efficiency of COD removal | % | 89 | 92 | 92 |
| total N input | t | 1,219 | 922 | 836 |
| total N removed | t | 827 | 610 | 631 |
| efficiency of N removal ($NH_4^+$) | % | 69 | 66 | 75 |
| SST input | t | 10,349 | 6,167 | 6,795 |
| SST removed | t | 9,993 | 5,854 | 6,584 |
| efficiency of SST removal | % | 96 | 95 | 97 |
| Acea Ato 5 additivation index | g/m³ | 33.6 | 28.8 | 33.9 |
| Acea Ato 5 specific consumption of electricity by purification process | kWh/m³ | 0.755 | 0.682 | 0.634 |
| **Gesesa** | | | | |
| sludge disposed of | t | 969.5 | 698.6 | 939.6 |
| sand and slabs removed | t | 71.3 | 10.2 | 66.3 |
| COD input | t | 349 | 366 | 325.0 |
| COD removed | t | 307 | 341 | 292.6 |
| efficiency of COD removal | % | 88 | 93 | 90 |
| total N input | t | 30 | 13 | 22 |
| total N removed | t | 15 | 9 | 10 |
| efficiency of N removal ($NH_4^+$) | % | 48 | 72 | 45 |
| SST input | t | 76 | 28 | 25.36 |
| SST removed | t | 44 | 22 | 16.94 |
| efficiency of SST removal | % | 57.1 | 77.7 | 66.8 |
| Gori additive index | g/m³ | 42.3 | 47.3 | 48.0 |
| Gesesa specific consumption of electricity by purification process | kWh/m³ | 0.849 | 0.958 | 1.120 |
| **Gori** | | | | |
| sludge disposed of | t | 29,246 | 65,635 | 78,703 |
| sand and slabs removed | t | 2,515 | 4,597 | 5,235 |
| COD input | t | 25,650 | 44,206 | 44,821 |
| COD removed | t | 24,245 | 42,314 | 42,073 |
| efficiency of COD removal | % | 95 | 96 | 94 |
| total N input | t | 3,310 | 4,519 | 3,098 |
| total N removed | t | 3,159 | 4,303 | 2,923 |
| efficiency of N removal ($NH_4^+$) | % | 95 | 95 | 94 |
| SST input | t | 6,967 | 17,118 | 19,984 |
| SST removed | t | 5,932 | 14,717 | 17,756 |
| efficiency of SST removal | % | 85 | 86 | 89 |
| Gori additivation index | g/m³ | 36.9 | 34.7 | 38.1 |
| Gori specific consumption of electricity by purification process | kWh/m³ | 0.584 | 0.464 | 0.466 |
| **AdF** | | | | |
| sludge disposed of | t | 7,292 | 6,238 | 4,898 |
| sand and slabs removed | t | 724 | 1,012 | 896 |
| COD input | t | 9,172 | 7,377 | 8,215 |
| COD removed | t | 8,587 | 6,792 | 7,561 |
| efficiency of COD removal | % | 94 | 92 | 92 |
| total N input | t | 866 | 889 | 860 |
| total N removed | t | 562 | 628 | 701 |
| efficiency of N removal ($NH_4^+$) | % | 80 | 82 | 82 |
| SST input | t | 4,008 | 3,303 | 3,469 |
| SST removed | t | 3,872 | 3,107 | 3,264 |
| efficiency of SST removal | % | 97 | 94 | 94 |
| AdF additive index | g/m³ | 74.0 | 75.7 | 105.2 |
| AdF specific consumption of electricity by purification process | kWh/m³ | 1.008 | 0.948 | 0.973 |

(*) Some figures for the 2020-2021 two-year period have been adjusted following consolidation.
(**) These are emissions defined as "Scope 2", in other words resulting from the consumption of electricity by the water Companies in question.
(***) The indicator is calculated as the ratio of electricity used for water pumping systems to water withdrawn from the environment and other systems and fed into the aqueduct system.

## KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – ENVIRONMENT AREA

Environmental Key Performance Indicators.

| INDICATOR (*) | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| non-hazardous waste disposed in landfill/total incoming waste | t/t | 0.64 | 0.67 | 0.71 |
| waste disposed of in landfill/energy consumed net of photovoltaic energy | t/MWh | 15.39 | 16.19 | 18.52 |
| compost produced/incoming waste | t/t | 0.08 | 0.11 | 0.15 |
| compost produced/consumed electrical energy | kg/kWh | 2.19 | 4.19 | 7.99 |
| consumed electrical energy/incoming waste in the Pagnana plant | kWh/kg | 0.004 | 0.005 | 0.006 |
| consumed electrical energy/incoming waste in the Berg plant | kWh/kg | 0.009 | 0.009 | 0.012 |
| consumed electrical energy/incoming liquid waste in the Bio Ecologia plant | kg/kWh | 0.02 | 0.01 | 0.01 |
| chemicals used/incoming waste at the Pagnana plant | kg/t | 5.13 | 7.04 | 9.65 |
| chemicals used/incoming waste Berg | kg/t | 9.00 | 7.38 | 8.61 |
| chemicals consumed/incoming waste in the Bio Ecologia plant | kg/t | 6.26 | 4.97 | 6.44 |
| recovered water (reintegration or first rain)/total water consumed for Environment Area | $m^3/m^3$ | 0.22 | 0.25 | 0.18 |

(*) Some figures for the previous two-year period have been adjusted following consolidation. For data comparability, the 2022 value does not include Deco.

## ENVIRONMENTAL COMPLIANCE

| INDICATOR | u. m. | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| COMPLIANCE - NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GESESA, GORI, ADF) AND MAIN SUBSIDIARIES (ACQUE, UMBRA ACQUE, PUBLIACQUA) (*) | | | | |
| non-conformities related to rules/agreements of an environmental nature | no. | 67 | 230 | 96 |
| penalties paid for non-conformities related to rules/agreements of an environmental nature | € | 195,268 | 388,094 | 389,549 |
| COMPLIANCE WITH COMPANY IN NFS SCOPE | | | | |
| penalties paid for non-conformities related to rules/agreements of an environmental nature | € | 43,023 | 249,562 | 272,494 |
| *significant (**)* | € | n/a | n/a | 136,700 |
| non-conformities related to rules/agreements of an environmental nature | no. | 30 | 186 | 56 |
| *significant (**)* | no. | n/a | n/a | 6 |

(*) The figures for the 2020-2021 two-year period have been adjusted following consolidation of the estimated values.
(**) These are fines above €10,000. Data for 2020-2021 are not available as they were not previously collected.

## EXPLANATORY NOTES TO THE ENVIRONMENTAL ACCOUNTS

The numerical data presented in the *Environmental Accounts* is produced and certified by the competent Functions and has been checked as follows:

1. comparison with historical data to highlight and justify possible large deviations;
2. at least two repetitions of the acquisition process;
3. *feedback* to the Departments responsible for the final validation of the data.

The numerical data have been divided into the three categories:

- estimated;
- calculated;
- measured.

In the event of data resulting from estimates, the utmost attention was paid to the verification of the reasonableness of the basic criteria used, with the objective of resorting as little as possible, in the future, to this type of measurement of the sizes of environmental significance.

When data was achieved through calculation, the algorithm used was briefly explained to permit full understanding of the mathematical result.

Lastly, when the data was measured, an uncertainty estimate to be associated with the number was provided.

### ADDITIONAL INFORMATION ON THE NUMERICAL DATA PROVIDED IN THE ENVIRONMENTAL ACCOUNTS

**PRODUCTS – ENERGY AREA**

| item no. | explanation – comment |
|---|---|
| 1 | Gross total energy produced by Acea Ambiente and Acea Produzione. From 2022, the figure is net of PV production from the Subsidiary. The figure is calculated. |
| 2 | Electricity produced net of the losses due to just the production phase. From 2022, the figure is net of PV production from the Subsidiary. The figure is calculated. |
| 3 | Total gross thermal energy. The sum of Acea Produzione and Ecogena's thermal energy. The figure is calculated. |
| 4 | Total thermal energy produced, net of losses. The figure is calculated. |
| 5 | Total electricity produced, inclusive of the losses, by the Acea Produzione power plants. Includes thermoelectric and hydro- electric energy. The figure is measured with an uncertainty of less than ± 0.5%. |
| 6 | Total gross hydroelectric energy. The figure is calculated. |
| 7 | Total gross thermoelectric energy. The figure is calculated. |
| 8 | Losses of electricity attributable to just the production phase of the Acea Produzione power plants. Includes: the self-consumption (thermal and hydro) and the losses of initial transformation. The figure is measured with an uncertainty of less than ± 0.5%. |
| 9 | Electricity produced by the Acea Produzione power plants net of the losses. The figure is calculated. |
| 10 | Gross energy produced by photovoltaic installations. From 2022, the figure is net of PV production from the Subsidiary. The figure is measured with an uncertainty of less than ± 0.5%. |
| 11 | Total losses during photovoltaic generating phase, due in particular to joule effect (dissipation during heating) in the equipment. Estimated figure. |
| 12 | Net photovoltaic electricity made available by the generating installations. From 2022, the figure is net of PV production from the Subsidiary. The figure is calculated. |
| 13 | Electricity produced by the Waste-to-Energy installations: waste-to-energy of San Vittore del Lazio and waste-to-energy of Terni of Acea Ambiente. We wish to specify that the fuel used in the two installations (SRF – solid recovered fuel – for San Vittore del Lazio and paper mill pulp for the Terni plant) is composed of both biodegradable organic material, neutral on the balance of the $CO_2$, and by non-biodegradable organic substance (plastic, resins, etc.). In 2022, the renewable share for the San Vittore del Lazio plant was equal to 46.8%, the Terni incinerator share to 40.8%. |
| 14 | Self-consumption of the two waste-to-energy plants of San Vittore del Lazio and Terni and initial transformation losses. The figure is measured with an uncertainty of less than ± 0.5%. |
| 15 | Electricity produced by the two waste-to-energy plants of San Vittore del Lazio and Terni, net of the self-consumption and initial transformation losses. The figure is calculated. |
| 16 | Electrical energy produced from biogas by the waste management plant in Orvieto and, from 2020, the two composting plants in Aprilia and Monterotondo Marittimo (Acea Ambiente) and the Deco sites (owned and operated). The figure is calculated. |

| | |
|---|---|
| **17** | Self-consumption of biogas production plants, including small dissipations. The figure is measured with an uncertainty of less than ± 5%. |
| **18** | Net electricity produced from biogas and transferred to the network. The figure is measured with an uncertainty of less than ± 5%. |
| **19** | Thermal energy produced in the cogeneration plant of Tor di Valle including losses. The figure is measured with an uncertainty of ± 2%, near the delivery piping of the generators. |
| **20** | Losses of thermal energy of the district heating systems, due to: thermal dissipation, losses on the network, technical releases for maintenance operations, thermal reintegrations of the heat accumulation systems. The figure is calculated as the difference between the thermal energy produced and that actually supplied to the clients (invoiced). |
| **21** | Net thermal energy supplied to final clients. The figure, calculated, is obtained from the consumption invoiced. |
| **22** | Gross electricity produced by Ecogena plants. The Prepo facility was returned as of June 2022 due to assignment of the contract. The figure is calculated. |
| **23** | Gross thermal energy produced by Ecogena plants. The Prepo facility was returned as of June 2022 due to assignment of the contract. The figure is calculated. |
| **24** | Gross refrigeration energy produced by Ecogena plants. The figure is calculated. |
| **25** | Total self-consumption from Ecogena plants. The figure is calculated. |
| **26** | Electricity fed into the grid by Ecogena plants. A portion of the electrical output included in self-consumption is used to produce the other thermal carriers or for power plant operations. The figure is calculated. |
| **27** | Net thermal energy produced by Ecogena plants. The figure is calculated. |
| **28** | Net refrigeration energy produced by Ecogena plants. The figure is calculated. |
| **29** | Electricity supplied to Acea Produzione to Acea Energy with inter-Group exchange. The figure is marginal as a result of the choice made by the Acea Group to sell the electricity produced in Borsa (Stock Exchange) or through bilateral agreements. |
| **30** | Electricity supplied by the Single Purchaser and Market, including the amount imported subject to recalculation in relation to the ARERA DCO 492/2019/R/eel.<br>The figure is measured with an uncertainty of ±0.5%. |
| **31** | Energy requested on the electrical distribution network of Rome and Formello by all the client connected (open market + managed service). The figure is estimated. |
| **32** | Losses of electricity that occur during the distribution and transmission phase. They are attributable to: losses of transformation and transport, fraud and incorrect measurements. The figure is estimated. |
| **33** | Personal use of electricity for the implementation of the distribution activities. The figure is estimated. |
| **34** | This is electricity sold to distribution companies. The figure is measured with an uncertainty of ±0.5%. |
| **35** | Total net electricity conveyed to final clients of the open market connected to the electrical distribution network of Rome and Formello. Includes both the quota of electricity sold by Acea Energia, and that sold by other operators active on the open market. The figure is measured with an uncertainty of ± 5% according to Standard CEI 13-4. |
| **36** | Net electricity transferred to managed final clients.<br>The decrease is the result of the progressive passage of managed service clients to the open market. In other words, it is a direct consequence of the deregulation process of the electricity market in effect in Italy since 1999 (Italian Legislative Decree no. 79/99). The figure is estimated based on the consumption invoiced. |
| **37** | Net electricity sold by Acea ENERGIA on the open market nationally. The figure is estimated. |
| **38** | Net electricity sold by Acea nationally on the open market and the standard service. The figure is calculated. |
| **39** | Natural gas sold by Acea on the national market. The figure is calculated. |
| **40** | Luminous flux supplied by the Public Lighting system in Rome. The figure, calculated, is the product of the number of lamps installed and the relative value of "rated" luminous flux. |
| **41** | Total number of measurements/controls performed in favour of the energy area, in particular, of Acea Produzione and Areti. The figure is calculated as the sum of the individual determinations carried out by the competent laboratories. |

**PRODUCTS – ENVIRONMENT AREA**

| item no. | explanation – comment |
|---|---|
| **42** | Total incoming waste. They are the quantities arriving at the Orvieto plant which include: unsorted municipal solid waste, organic fraction, green, non-hazardous industrial waste. The figure is calculated. |
| **43** | Waste partly sent for shredding only, partly just for aerobic treatment, partly both to the anaerobic digester and the aerobic treatment. The figure is calculated. |

| | |
|---|---|
| **44** | Waste disposed directly in landfill. The figure is measured with an uncertainty of ±1%. |
| **45** | Waste disposed of in landfill after treatment. The figure is measured with an uncertainty of ±1%. |
| **46** | Waste recovered and not sent to landfill. It is glass, paper and cardboard, iron and plastic. The figure is calculated. |
| **47** | Compost produced at the Orvieto plant. Thanks to the combination of the anaerobic and aerobic processes, the product is Quality Compost. The figure is measured with an uncertainty of ±1%. |
| **48** | Reduction due to stabilisation. This represents the loss of mass due to the natural transformations of the material and the loss of water through evaporation. The figure is calculated. |
| **49** | Total waste entering Deco sites: some directly to Casoni landfills (owned by Deco) and Grasciano2 landfills (owned by Acea Ambiente from 2022), some to the mechanical biological treatment plant. The figure is calculated. |
| **50** | Waste disposed of directly in landfills (Casoni and Grasciano2). The figure is calculated. |
| **51** | Waste entering the Deco's mechanical biological treatment (MBT) plant. The figure is measured with an uncertainty of ±1%. |
| **52, 53, 54** | Waste that is sent for recovery or disposal at third-party sites after treatment. In 2022, Deco sites produced 96,093 tonnes of SRF, of which 58% was used at foreign cement plants and 42% at waste-to-energy plants in Italy. The figure is calculated. The figure is measured with an uncertainty of ±1%. |
| **55** | Reduction due to stabilisation. This represents the loss of mass due to the natural transformations of the material and the loss of water through evaporation. The figure is calculated. |
| **56** | Total incoming organic waste. They are the amounts arriving at the plants of Aprilia, Monterotondo Marittimo and Sabaudia, which include: sludge, green and organic fraction. The figure is calculated. |
| **57** | Incoming sludge. It is the quantity of sludge entering the composting plants of Aprilia, Monterotondo Marittimo and Sabaudia. The trend of increasing amounts depends on the resumption, after revamping, of the contributions at the Monterotondo Marittimo plant. The figure is measured with an uncertainty of ±1%. |
| **58** | Incoming green. It is the quantity of green matter coming from the parks, woods or other areas arriving at the plants of Aprilia, Monterotondo Marittimo and Sabaudia. The figure is measured with an uncertainty of ±1%. |
| **59** | Organic fraction of municipal solid waste (OFMSW) entering the composting plant of Aprilia and OFMSW and other agrifood waste arriving at the Monterotondo Marittimo plant. The figure is calculated. |
| **60** | Quality Compost. It is the quantity of quality compost produced at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The compost estimate is made based on the quantities transported daily for maturation or to the final storage areas. Due to process losses, at the time of sale the compost may be less than estimated. Compost production in 2022 at Monterotondo Marittimo was higher mainly due to the introduction of a new, higher-performance screening machine than the one used in previous years. Compost at Sabaudia is zero because the plant is at a standstill awaiting authorisation for revamping. |
| **61** | Non-compostable material for disposal. It is the non-biodegradable material (for example plastics) which is separated from the compostable material sent for disposal. The figure is measured with an uncertainty of ±1%. |
| **62** | Reduction due to stabilisation. This represents the loss of mass due to the natural transformations of the material and the loss of water through evaporation. The figure is calculated. |
| **63** | Liquid waste. Represents the quantity of liquid waste coming into the Bio Ecologia plant. The figure is measured with an uncertainty of ±1%. |
| **64** | Total wastewater treated in Bio Ecologia treatment plants. In 2022, the figure was significantly reduced as the management of the Buonconvento site was taken over by AdF, a Group company in the industrial sector. The figure is measured with an uncertainty of ±1%. |
| **65** | Total analytical determinations. These are all the analytical measurements made at the Orvieto, Aprilia, Monterotondo Marittimo, Sabaudia and Deco sites. The figure is calculated. |
| **66** | Total incoming waste. These are the amounts arriving at Acque Industriali's plants at Pagnana, Pontedera, Poggibonsi and San Jacopo. The figure is calculated. Since June 2021, operations at the Poggibonsi plant have been suspended pending the issuance of a new IEA. Since February 2020, operations at the San Jacopo plant have been suspended pending the determination of further interventions on the plant. The Pontedera site discontinued operations in 2022. Due to these factors, the incoming tonnage for 2022 were drastically reduced. |
| **67** | Incoming sludge. Represents the quantity of incoming sludge at Acque Industriali's plants at Pagnana, Pontedera, Poggibonsi and San Jacopo. Due to the closure of the Pontedera site in July 2022 and the suspension of the Poggibonsi site in the same year, quantities have decreased. At the Pagnana site, quantities have been drastically reduced to preserve the wastewater output quality. Once accepted and implemented, an ongoing project involving minor plant modifications at Pontedera will enable waste with higher pollutant loads than at present to be processed while maintaining the quality of the final discharge. The figure is measured with an uncertainty of ±1%. |
| **68** | Liquid waste. This is the amount of liquid waste coming into the Pagnana and Pontedera plants. The figure is calculated. |

| | |
|---|---|
| **69** | Sewage and other waste. This is the amount of sewage and other non-hazardous waste. The figure is calculated. |
| **70** | Leachate. This is the amount of leachate coming into the Pagnana and Pontedera plants. The figure is measured with an uncertainty of ±1%. |
| **71** | Ammonium Sulphate produced. This is the amount of quality of Ammonium Sulphate produced at the Pagnana and Pontedera plants. The figure is estimated. |
| **72** | Treated water before discharge at Acque Industriali facilities. These also include water that is consumed for industrial and/or civil use inasmuch as there are no distinct meters before discharge. The figure is calculated. |
| **73** | Total incoming waste. They are the quantities arriving at the Berg plant. The figure is calculated. |
| **74** | Solid incoming waste. They are the quantities arriving at the Berg plant. The figure is calculated. |
| **75** | Liquid incoming waste. They are the quantities arriving at the Berg plant. The figure is calculated. |

## PRODUCTS – WATER SEGMENT

| item no. | explanation – comment |
|---|---|
| **76** | Total drinking water collected from the environment or from other systems and fed into the aqueduct systems. This is the total amount of water collected from the following Group Companies: Acea Ato 2, Acea Ato 5, Gesesa, Gori, AdF, Acque, Publiacqua, Umbra Acque. The figure is calculated. |
| **77** | Total drinking water supplied and invoiced to the respective clients by the Companies listed under line number 76. The figure is estimated. |
| **78** | Total amount of drinking water leaving the system from companies listed under 76. The figure is calculated. |
| **79** | Total drinking water collected from the environment or from other systems and fed into the aqueduct systems. This is the sum of the water taken from the Companies Acea Ato 2, Acea Ato 5, Gori, Gesesa, AdF. The figure is calculated. |
| **80** | Total drinking water supplied and invoiced to the respective clients by the Companies listed under line number 79. The figure is estimated. |
| **81** | Total amount of drinking water leaving the system from companies listed under 79. The figure is calculated. |
| **82** | Total drinking water collected from the environment or other systems by Acea Ato 2 and released into the aqueduct system of the Optimal Territorial Area 2 of Central Lazio. The figure is measured with an uncertainty of ±3%. |
| **83** | Total amount of drinking water leaving the Acea Ato 2 aqueduct system. This is the sum of drinking water supplied and billed, drinking water authorised and not billed, water exported to other systems and measured drinking water losses. The figure is calculated. |
| **84** | Total drinking water supplied and billed (in other words measured at the meters, where present) to the customers connected to the Acea Ato 2 network. |
| **85** | Total drinking water authorised and not billed in the Acea Ato 2 network. The figure is estimated. |
| **86** | Total amount of drinking water exported to other aqueduct systems by Acea Ato 2. The figure for the year is estimated and may undergo consolidation after publication. |
| **87** | Total Acea Ato 2 drinking water losses. The figure is measured with an uncertainty of ±3% |
| **88** | Water losses - Acea Ato 2 network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted. |
| **89** | Acea Ato 2 water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR. |
| **90, 91, 92, 93, 94** | Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by Acea Ato 5. |
| **95** | Water losses - Acea Ato 5 network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted. |
| **96** | Acea Ato 5 water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR. |
| **97, 98, 99, 100, 101** | Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by Gesesa. |
| **102** | Water leaks - Gesesa network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted. |

| | |
|---|---|
| **103** | Gesesa water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR. |
| **104, 105, 106, 107, 108** | Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by Gori. |
| **109** | Water leaks - Gori network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted. |
| **110** | Gori water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR. |
| **111, 112, 113, 114, 115** | Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by AdF. |
| **116** | Total AdF drinking water losses. The figure is measured with an uncertainty of ±3% |
| **117** | Water losses - Acea AdF network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted. |
| **118** | AdF water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR. |
| **119** | Total treated waste water in the main treatment plants of the following water Companies of the Group: Acea Ato 2, Acea Ato 5, Gesesa, Gori, AdF, Umbra Acque, Publiacqua, Acque. The figure is calculated. |
| **120** | Total amount of waste water treated in the main treatment plants of the water companies in the NFS scope: Acea Ato 2, Acea Ato 5, Gori AdF and Gesesa. |
| **121** | Total waste water sent to the principal treatment plants of Acea Ato 2 and treated. The total figure is calculated. |
| **122** | Total waste water send to the treatment plants and treated by Acea Ato 2, including the quantities treated in the small plants of the municipalities of Rome and in those outside the municipalities of Rome. The total figure is calculated. |
| **123** | Total waste water sent to the main treatment plants and treated by Acea Ato 5. The figure is calculated. |
| **124** | Estimated amount of waste water, for the first time in 2020, used and treated in the main treatment plants of Gesesa and treated. The estimate is based on the value of invoicing in 2020. In 2020, the first flow meters were installed. |
| **125** | Total amount of waste water sent to the main treatment plants of Gori and treated. The substantial increase in the quantities treated in the last few years is linked to the management transfer of several treatment plants from the Campania region. In particular, two large treatment plants were transferred in 2021. The total figure is calculated. |
| **126** | Total amount of wastewater sent to the main treatment plants with PE > 10,000 and treated by AdF. |
| **127** | Total amount of waste water used in treatment plants and treated by AdF, including the quantities treated in minor plants. |
| **128** | Number of analytical determinations conducted overall on the drinking water by the main Companies of the Acea Group. The figure is calculated. |
| **129** | Number of analytical determinations conducted overall on the waste water by the main Companies of the Acea Group. The figure is calculated. |
| **130** | Number of analytical determinations conducted overall on the drinking water by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa. |
| **131** | Number of analytical determinations conducted overall on the waste water by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa. |
| **132** | Number of analytical determinations conducted overall on the drinking water by Acea Ato 2. |
| **133** | Number of analytical determinations conducted overall on the waste water by Acea Ato 2. |
| **134** | Number of analytical determinations conducted overall on the drinking water by Acea Ato 5. |
| **135** | Number of analytical determinations conducted overall on the waste water by Acea Ato 5. |
| **136** | Number of analytical determinations conducted overall on the drinking water by Gesesa. |
| **137** | Number of analytical determinations conducted overall on the waste water by Gesesa. |
| **138** | Number of analytical determinations conducted overall on the drinking water by Gori. |
| **139** | Number of analytical determinations conducted overall on the waste water by Gori. |
| **140** | Number of analytical determinations conducted overall on drinking water by Gesesa. |
| **141** | Number of analytical determinations conducted overall on waste water by Gesesa. |

## RESOURCES USED – ENERGY AREA

| item no. | explanation – comment |
|---|---|
| 142 | Total quantity of natural gas used to generate the electricity and heat at the Acea Produzione and Ecogena plants and at the waste-to-energy plants of Acea Ambiente. The figures expressed in Normal cubic metres (volume at 0°C and 1 Atm), is measured with an uncertainty of ± 0.5%. Estimated figure. |
| 143 | Total amount of natural gas used in the Tor di Valle power plant and the Ecogena plants. The figure is calculated. |
| 144 | Total quantity of natural gas used by waste-to-energy plants. The figure is measured with an uncertainty of ± 2%. |
| 145 | Total quantity of diesel used to generate electricity at the Montemartini power plant (turbogas) and for operations at the waste-to-energy plants of Terni and, for a small part, of San Vittore del Lazio. The consumption of the Montemartini power plant is significant during those years when the power plant produces more electricity in order to fulfil the normal scheduled periodic tests, and to conduct extraordinary maintenance. The figure is measured with an uncertainty of ± 2%. |
| 146 | Quantity of RDF (Refuse-Derived Fuel) sent for waste-to-energy processing in the San Vittore del Lazio plant. The figure is measured with an uncertainty of ± 1%. |
| 147 | Quantity of paper mill pulp sent to waste-to-energy in the Terni plant. The figure is measured with an uncertainty of ± 1%. |
| 148 | Amount of biogas produced for the purpose of producing electrical energy. A minimal part is not used and burned in a flame. The figure is measured with an uncertainty of ± 1%. |
| 149 | Total water derived from surface resources and aqueducts (as in the case of the hydroelectric power plant of Salisano) for the production of hydroelectric energy. The figure is calculated. |
| 150 | Total quantity of water used in the industrial processes. The various contributions are due to: reintegration for losses in the district heating network; various uses in the waste-to-energy plants of San Vittore del Lazio and Terni (of water from aqueducts, wells and recovery of first and second rain recovery). The figure is calculated as the sum of the various contributions. |
| 151 | Quantity of aqueduct water used by the Companies included in the energy area, for civilian/sanitary uses. It is consumption of Acea Produzione and Areti of the waste-to-energy plants and 50% of the consumption of the Holding Company. The figure, calculated, refers to the consumption invoiced. |
| 152 | This is the total amount of dielectric mineral oil in Areti's primary and secondary substations, including the amount of oil in the Petersen coils installed in some primary substations. From 2022 on, the published data will include the volumes of dielectric oil in Acea Produzione's facilities over a three-year period. The figure is estimated. Areti and Acea Produzione reinstatement figures are estimated. |
| 153 | This is the total amount of gaseous insulation ($SF_6$) in the Areti and Acea Produzione plants. The figure is estimated. The figure referred to the reintegrations, also estimated, represents the total quantity of $SF_6$ released ex-novo into the production circuit during the year. |
| 154 | It represents the total quantity of cooling fluids in operation. The reintegrations represent the quantity of cooling fluids used for the maintenance of the air-conditioning equipment, during which the gas in operation is recovered and replaced with the new one. The data refer to the previous year compared to the year as they are based on ISPRA annual statements following the publication of the *Sustainability Report*. Both figures are calculated by attributing all the gas supplied overall by the Parent Company to the energy area and the water area in equal parts (50%). |
| 155 | Total chemical substances used in the electrical and thermal generating process in the Acea Produzione power plants and the waste-to-energy plants of Acea Ambiente. The figure is calculated. |
| 156 | Quantity of lubricating oils and fats used by Acea Produzione and the Terni waste-to-energy plant. The figure is measured with an uncertainty of ± 0.5%. |
| 157 | The figure matches Item 28. |
| 158 | Matches the difference between Items 1 and 2. |
| 159 | Electricity consumed by the processes not directly connected to the production phase (offices). The figure is calculated at 50% of the electricity consumed overall by the parent company. The remaining 50% is attributed as consumption to the water area. |
| 160 | Consumption of electricity at other sites and plants, including the consumption of the waste-to-energy plants (Terni and San Vittore del Lazio). The figure is estimated. |
| 161 | Other uses of the electricity in the energy area. The figure is calculated. |
| 162 | Total electricity consumer by the product systems included in the energy area. The figure is calculated. |
| 163 | Total electricity consumed for public lighting in the municipality of Rome. The figure is calculated based on the consistencies of the installations in operation during the year. |

## RESOURCES USED – ENVIRONMENT AREA

| item no. | explanation – comment |
|---|---|
| ***Orvieto plant and Deco sites*** | |
| **164** | Total chemical substances used at the Orvieto plant and Deco sites. The figure is calculated. |
| **(164b)** | Amount of hydraulic oils and lubricants used mainly for power generation units at the Orvieto and Deco sites. The data is measured with an uncertainty of ±0.5%. |
| **165** | Electricity consumed at the Orvieto plant and Deco sites. The considerable increase in 2022 is due to Deco entering the NFS scope. The figure is measured with an uncertainty of ±1%. |
| **166** | Total amount of diesel consumed used at the Orvieto plant and Deco sites. The data is measured with an uncertainty of ±2%. |
| **167** | Total water consumed at the Orvieto plant and Deco sites. It is specified that, for the Orvieto plant, this resource comes partly from roofs (rainwater) and partly from the riverbed (river water). For Deco sites, this is a surface resource provided by the Consorzio di Bonifica. The 2022 figure is much higher due to the entry of Deco sites into the reporting scope, which consumed 19,761 cubic meters for industrial use. Orvieto's consumption is in line with previous years. Estimated data. |
| **168** | Amount of water used for civilian purposes by the Orvieto hub and at Deco sites. It is supplied by tanker trucks for Orvieto, since the plant is not connected to the aqueduct. The 2022 figure is affected by the civilian consumption of Deco sites, which were added in the year. Estimated data. |
| ***Compost Production*** | |
| **169** | Total chemical substances used at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated. |
| **170** | Electricity consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The significant decrease in 2022 is primarily attributable to a change in the plant configuration at the Aprilia site and, in particular, optimising the administration of the anaerobic digester. The figure is measured with an uncertainty of ±1%. |
| **171** | Total quantity of diesel fuel consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. Although diesel consumption increased in 2022 due to an increase in the amount consumed at the Monterotondo site, the indicator "litres of diesel fuel/compost produced" fell by 10% at the same site. The figure is measured with an uncertainty of ± 2%. |
| **172** | Quantity of water consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The quantities of water recycled are included. The figure is estimated. |
| **173** | Quantity of water used for civil purposes in the composting plants of Aprilia, Monterotondo Marittimo and Sabaudia. The value is partially estimated. |
| ***Liquid waste disposal and Industrial Water treatment at Berg and the Bio Ecologia plant*** | |
| **174** | Total chemical substances used at Acque Industriali's plants in Pagnana, Pontedera and Poggibonsi, and at Berg and the Bio Ecologia plant. Any fluctuations that may be evident in the figure from one year to the next depend on the chemical composition of incoming waste. Greater chemical complexity can require a greater consumption of chemicals for treatment prior to disposal. The figure is calculated. |
| **175** | Electricity consumed at Acque Industriali's plants in Pagnana, Pontedera, Poggibonsi and San Jacopo, and at Berg and the Bio Ecologia plant. The figure is measured with an uncertainty of ±1%. |
| **176** | Amount of methane consumed at Acque Industriali's Pagnana plant and at Berg. The figure is measured with an uncertainty of ±1%. |
| **177** | Amount of diesel fuel consumed at the Berg and Bio Ecologia facilities. The figure is calculated. |
| **178** | Amount of LSC (Low Sulphur Content) combustible oil at the Pontedera plant. The figure is measured with an uncertainty of ±2%.<br>In August 2021, the LSC boiler was replaced with a new LPG boiler. |
| **178 A** | Amount of LPG consumed by the boiler at the Pontedera plant. The figure is measured with an uncertainty of ±2%. |
| **179** | Amount of water consumed at Acque Industriali's plants in Pagnana, Pontedera, Poggibonsi and San Jacopo, and at Berg and the Bio Ecologia plant. The figure is calculated. |
| **180** | Amount of water used for civil purposes at Acque Industriali's plants in Pagnana, Pontedera, Poggibonsi and San Jacopo, and at Berg and the Bio Ecologia plant. The figure is calculated. |

## RESOURCES USED – WATER SEGMENT

| item no. | explanation – comment |
|---|---|
| 181 | The figure represents the sum of the consumption of reagents for the purification and disinfection of water for Acea Ato 2, Acea Ato 5, Gori and Gesesa. In particular, they are sodium hypochlorite, used as disinfectant at the request of the Health Authorities, aluminium polychloride, caustic soda and ozone. The figure is calculated. |
| 182 | Total quantity of chemical reagents used by the company Acea Elabori to carry out the official duties, namely the analytical checks for the Companies of the Acea Group. The figure is measured. |
| 183 | Total volume of pure gases for analysis, used by Acea Elabori. The figure is measured. |
| 184 | It represents the total quantity of cooling fluids in operation. The reintegrations indicate the quantity of cooling fluids used for the maintenance of the air-conditioning equipment, during which the gas in operation is recovered and replaced with the new one. The data refer to the previous year compared to the year as they are based on ISPRA annual statements following the publication of the *Sustainability Report*. Both figures are calculated by attributing all the gas supplied overall by the Parent Company to the energy area and the water area in equal parts (50%). |
| 185 | Total energy consumed in the water area. The figure is calculated. |
| 186 | Electricity used for the drinking water and non-potable water pumping stations. The figure is measured with an uncertainty of ±1%. |
| 187 | Electricity consumed by the processes not directly connected to the production phase (offices). The figure is calculated at 50% of the electricity consumed overall by the parent company. |
| 188 | Electricity used by Acea Elabori. It includes all the energy related to the various fields of activity of the Company, not only the analytical laboratory activities. The figure is calculated. |
| 189 | This is the amount of drinking water for civil/sanitary uses at the offices of Acea S.p.A. (calculated at 50% of the water consumed overall by the Parent Company) and for Acea Ato 2, Acea Ato 5, Gori and Gesesa. The figure is calculated. |
| 190 | Quantity of water for process uses in Acea Ato 2 and Acea Ato 5. In 2022, only 1% of the quantity used by Acea Ato 5 is drinking water, The remaining amount (99%) is water recovered from treatment plants. The figure is calculated. |
| 191 | Total quantity of *chemicals* used in the purification process of waste water including: polyelectrolytes, sodium hypochlorite, iron chloride, lime. The figure is calculated. |
| 192 | Total number of reagent kits purchased from the Acea Ato 2 waste water treatment plants for additional controls beyond analytical testing. The use of the kits responds to the need of the laboratories connected to the treatment plants to be able to carry out complex analyses in a simple, fast manner. Acea Ato 2 uses photometers and rapid analysis systems for all the parameters of interest and to perform reliable monitoring of waste water legal limits. |
| 193 | Total quantity of lubricating oil and fat used for the equipment of the water area (pumps, centrifuges, motors etc.). The figure is calculated. |
| 194 | Electricity used to run the waste water treatment plants and to operate the sewerage network. The figure is measured with an uncertainty of ±1%. |
| 195 | Amount of methane used in the treatment processes (for example in the dryers of Acea Ato 2 and Gori and for the treatment of sludge through thermochemical hydrolysis in the treatment plants of AdF). The figure is measured with an uncertainty of ±2%. |
| 196 | Amount of diesel used in the purification and other (for example in the Ostia desiccator of Acea Ato 2 processes and for water, sewage and purification generators). The figure is measured with an uncertainty of ±2%. |
| 197 | Quantity of petrol used in purification processes and generators. The figure is measured with an uncertainty of ±2%. |
| 198 | Amount of biogas produced and consumed on site, excluding amounts burned in the flare. The figure is measured with an uncertainty of ±2%. |

## FUELS USED BY THE GROUP (TRANSPORT AND HEATING)

| item no. | explanation – comment |
|---|---|
| 199 | Total amount of petrol used for the main Companies of the Acea Group car fleet. The data come from the calculations of the Group's Energy managers. After two years marked by the COVID emergency, the increase in 2022 is primarily the result of increased operations. The 2021 Defra conversion factor was used to convert units of volume (litres) to units of mass (kg). |
| 200 | Total amount of diesel used for the main Companies of the Acea Group car fleet. The data come from the calculations of the Group's Energy managers. The 2021 Defra conversion factor was used to convert units of volume (litres) to units of mass (kg). The figure includes the fuel consumed by Aquaser's vehicles. |

| | |
|---|---|
| **201** | Total amount of methane used for the main Companies of the Acea Group car fleet. The data comes from the calculations of the Group's Energy managers. |
| **202** | Total amount of LPG (Liquefied Petroleum Gas) used for the main Companies of the Acea Group car fleet. The 2021 Defra conversion factor was used to convert units of volume (litres) to units of mass (kg). |
| **203** | Total quantity of diesel used for heating work areas and for the supply of the generators. The figure is measured with an uncertainty of ± 0.5%. |
| **204** | Total quantity of natural gas used for heating the work spaces. The figure is measured with an uncertainty of ± 0.5%. |
| **205** | Total quantity of LPG (Liquefied Petroleum Gas) used to heat the work spaces. The figure is measured with an uncertainty of ± 0.5%. |

**EMISSIONS AND WASTE – ENERGY AREA**

| item no. | explanation – comment |
|---|---|
| **206** | Total quantity of carbon dioxide released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the waste-to-energy process of SRF and pulper. Includes the equivalent $CO_2$ estimated on the basis of the replenishment of $SF_6$ and HCFC refrigerants. Estimated figure. |
| **207** | Quantity of carbon dioxide released into the atmosphere by the Acea Produzione power plants. The figure for the year preceding reporting is corrected in the year of publication, after ETS certification. The figure is calculated in accordance with current legislation. |
| **208** | Quantity of carbon dioxide released into the atmosphere by the Ecogena plants. The figure is calculated. |
| **209** | Quantity of equivalent $CO_2$ estimated based on the of $SF_6$ replenishment, considering that 1 t of this gas has a heating power 23,500 times that of the $CO_2$ (source: GHG Protocol - IPCC Fifth Assessment Report). |
| **210** | Quantity of equivalent $CO_2$ estimated on the basis of refrigerant fluid replenishments (HCFCs), considering that 1 t of gas has a heating capacity of about 700-2,500 times that of $CO_2$. The value depends on the specific type of gas (source: GHG Protocol - IPCC Fifth Assessment Report; for gas mixtures the factor is calculated on the primary source). Half of the emissions are allocated to the energy area and half to the water area, as is the case for the quantities of refrigerant fluids (HCFCs). The figure coincides with item No. 282. |
| **211** | Quantity of carbon dioxide released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure for 2021 was recorded following the issue of the ETS certificate. The figure is measured. |
| **212** | Total quantity of nitrogen oxides (NO + $NO_2$) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels, and from SRF and waste-to-energy processes. Their presence in traces of the emissions is due to undesired secondary reactions which occur at high temperature between the nitrogen and the oxygen of the air. The figure is calculated. |
| **213** | Total quantity of nitrogen oxides (NO + $NO_2$) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated. |
| **214** | Quantity of nitrogen oxides (NO + $NO_2$) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |
| **215** | Total quantity of carbon oxide (CO) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and the waste-to-energy process. The existence of the pollutant in the emissions is due to incomplete fuel reaction and represents a symptom of deterioration in the performance of the combustion reaction. The figure is calculated. |
| **216** | Total quantity of carbon oxide (CO) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated. |
| **217** | Quantity of carbon oxide (CO) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |
| **218** | Total quantity of sulphur dioxide ($SO_2$) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the waste-to-energy process of SRF and paper mill pulp. The use of methane and diesel with low sulphur con- tent in the power plants enables this type of emission to be contained. The figure is calculated. |
| **219** | Quantity of sulphur oxide ($SO_2$) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated. |
| **220** | Quantity of sulphur dioxide ($SO_2$) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |

| | |
|---|---|
| **221** | Total quantity of dustes (microscopic particles with average aerodynamic diameter equal or less than 10 thousand of a millimetre) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the SRF and pulper waste-to-energy processes. Basically, it is amorphous unburned carbon, with traces of other compounds of various composition, obtained as sub-product of the combustion when it achieved completely. The figure is calculated. |
| **222** | Quantity of dustes released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated. |
| **223** | Quantity of dustes released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |
| **224** | Quantity of hydrochloric acid (HCl) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |
| **225** | Quantity of hydrofluoric acid (HF) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |
| **226** | Quantity of organic carbon released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated. |
| **227** | Total quantity of waste water, treated, resulting from the thermoelectric energy production activities. The figure is measured with an uncertainty of ± 2%. |
| **228** | Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the main Companies of the Group excluding the waste-to-energy area. The figure is measured with an uncertainty of ±2%. |
| **229** | Hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by the waste-to-energy area. It is essentially light ashes and slag resulting from the incineration processes. The figure is measured with an uncertainty of ±2%. |
| **230** | Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the main Companies of the Group excluding the waste-to-energy area. The figure is measured with an uncertainty of ±2%. |
| **231** | Non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by the waste-to-energy area. It is essentially heavy ashes and slag resulting from the incineration processes. The figure is measured with an uncertainty of ±2%. |

**EMISSIONS AND WASTE – ENVIRONMENT AREA**

| item no. | explanation – comment |
|---|---|
| **232** | Hazardous waste (pursuant to Legislative Decree no. 152/06) produced by the Orvieto plant. The figure is measured with an uncertainty of ±2%. |
| **233** | Non-hazardous waste (pursuant to Legislative Decree no. 152/06) produced by the Orvieto plant. The figure is measured with an uncertainty of ±2%. |
| **234** | Hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Deco sites. The figure is measured with an uncertainty of ±2%. |
| **235** | Non-hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Deco sites. The figure is measured with an uncertainty of ±2%. |
| **236** | Hazardous waste (pursuant to Legislative Decree no. 152/06) produced by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The increase is due to the almost fully operational restart of the Monterotondo Marittimo and Aprilia plants. The figure is calculated. |
| **237** | Non-hazardous waste (pursuant to Legislative Decree no. 152/06) produced by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The increase is due to the almost fully operational restart of the Monterotondo Marittimo and Aprilia plants. The figure is calculated. |
| **238** | CO2 emissions from the composting plants and Orvieto and related to the ancillary services of the waste-to-energy plants, not strictly related to the production of electricity. They also include non-biogenic emissions from the combustion of biogas produced on site. The figure is measured with an uncertainty of ±2%. |
| **239, 240, 241, 242** | They are dustes, total organic compounds (TOCs), ammonia and volatile inorganic substances (SIVs) issued at the Monterotondo Marittimo plant. The other plants provide only concentration values, with no regulatory obligation to calculate absolute values. The values in mg/l of all plants are well below official limits. The increase of the data is due to the almost fully operational restart of the Monterotondo Marittimo plant. The data is calculated starting from the measurement of the concentrations. |
| **243** | $CO_2$ emissions from the Deco sites are related to fuel consumption. The figure is calculated. |
| **244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256** | These are dust, hydrochloric acid, hydrofluoric acid, hydrogen sulphide, SOx, NOx, CO, TOC, ammonia, VOCs, Cd, Hg and heavy metals emitted at Deco sites. The values in mg/l of all plants are well below official limits. The data is calculated starting from the measurement of the concentrations. |

| | |
|---|---|
| **257** | Hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Bio Ecologia plant. The figure is measured with an uncertainty of ±2%. |
| **258** | Non-hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Bio Ecologia plant. The figure is measured with an uncertainty of ±2%. |
| **259** | $CO_2$ emissions from the Bio Ecologia plant. The figure is calculated. |
| **260** | Hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Berg plant. The figure is measured with an uncertainty of ±2%. |
| **261** | Hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Berg plant. The figure is measured with an uncertainty of ±2%. |
| **262** | $CO_2$ emissions related to the Berg plant. The figure is calculated. |
| **263** | Dust emitted by the Berg plant. The data is calculated starting from the measurement of the concentrations. |
| **264** | Organic carbon emitted by the Berg plant. The data is calculated starting from the measurement of the concentrations. |
| **265** | Hydrogen sulphide and mercaptans emitted by the Berg plant. The data is calculated starting from the measurement of the concentrations. |
| **266** | Ammonia emissions from the Berg plant. The data is calculated starting from the measurement of the concentrations. |
| **267** | Hazardous waste (pursuant to Italian Legislative Decree No. 152/06) produced by the Pagnana plant. The figure is calculated. |
| **268** | Non-hazardous waste (pursuant to Legislative Decree no. 152/06) produced by the Pagnana, Pontedera, Poggibonsi and San Jacopo plants. The figure is calculated. |
| **269** | Emissions of $CO_2$ of the Pagnana and Pontedera plants relate to the consumption of fuels. The figure is calculated. |
| **270** | Hydrogen Sulphide emissions from the Pagnana and Pontedera plants. The data is estimated taking into account the maximum value that can be recorded in the plant. |
| **271** | Ammonia emissions at the Pagnana and Pontedera Plants. The data is estimated taking into account the maximum value that can be recorded in the plant. |

## EMISSIONS AND WASTE – WATER SEGMENT

| item no. | explanation – comment |
|---|---|
| **272** | Total quantity of purification sludge disposed of by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF. Non-hazardous waste. The figure is measured with an uncertainty of ±2%. |
| **273** | Total quantity of purification sludge disposed of by Acea Ato 2. The figure is measured with an uncertainty of ±2%. |
| **274** | Total quantity of purification sludge disposed of by Acea Ato 5. The figure is measured with an uncertainty of ±2%. |
| **275** | Total quantity of purification sludge disposed of by Gesesa. The figure is measured with an uncertainty of ±2%. |
| **276** | Total quantity of purification sludge disposed of by Gori. The strong increase in the quantities produced n the three-year period is due to the progressive transfer to Gori of the management of treatment plants previously managed by the Campania Region. The figure is measured with an uncertainty of ±2%. |
| **277** | Total quantity of purification sludge disposed of by AdF. The figure is measured with an uncertainty of ±2%. |
| **278** | Total quantity of sand and slabs disposed of by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF. The figure is measured with an uncertainty of ±2%. |
| **279** | Total quantity of sand and slabs disposed of by Acea Ato 2. The figure is measured with an uncertainty of ±2%. |
| **280** | Total quantity of sand and slabs disposed of by Acea Ato 5. The figure is measured with an uncertainty of ±2%. |
| **281** | Total quantity of sand and slabs disposed of by Gesesa. The figure is measured with an uncertainty of ±2%. |
| **282** | Total quantity of sand and slabs disposed of by Gori. The increase in the quantities produced is due to the progressive transfer to Gori of the management of treatment plants previously managed by the Campania Region. The figure is measured with an uncertainty of ±2%. |
| **283** | Total quantity of sand and slabs disposed of by AdF. The figure is calculated. |
| **284** | Amount of other process waste, excluding sludge, sand and slabs. The figure is measured with an uncertainty of ±2%. |
| **285** | Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) including that disposed of by Acea Ato 2, Acea Elabori, Acea Ato 5, and a portion of waste produced by the Parent Company (attributed in equal parts to the energy and water segments). The figure is calculated. |

| | |
|---|---|
| **286** | Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Acea Elabori. The figure is measured with an uncertainty of ±2%. |
| **287** | Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Acea Ato 2. The figure is measured with an uncertainty of ±2%. |
| **288** | Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Acea Ato 5. The figure is measured with an uncertainty of ±2%. |
| **289** | Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Gori. The figure is measured with an uncertainty of ±2%. |
| **290** | Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by AdF. The figure is measured with an uncertainty of ±2%. |
| **291** | Proportion of hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by the Parent Company and attributed to the water segment. The same proportion was attributed to the energy area. |
| **292** | Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) including that disposed of by Acea Ato 2, Acea Ato 5, Gori Gesesa and AdF, and a portion of waste produced by the Parent Company (attributed in equal parts to the energy and water segments). The figure is calculated**.** |
| **293** | Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Acea Ato 2 and Acea Elabori. The increase in the quantities in 2020 is mainly due to the launching of filters at the drinking water plant of Pescarella. The figure is calculated. |
| **294** | Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Acea Ato 5. The figure is estimated. |
| **295** | Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Gesesa. The figure is estimated. |
| **296** | Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by Gori. The figure is estimated. |
| **297** | Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by AdF. The data are derived from direct measurements. |
| **298** | Proportion of non-hazardous waste (pursuant to Legislative Decree no. 152/06) disposed of by the Parent Company and attributed to the water segment. The same proportion was attributed to the energy area. |
| **299** | Total amount of carbon dioxide emitted by dryers and generators. The figures are calculated using the consumption of fuel and the emission coefficients (MATTM data). |
| **300** | Quantity of equivalent $CO_2$ estimated on the basis of refrigerant fluid replenishments (HCFCs), considering that 1 t of gas has a heating capacity of about 700-2,500 times that of $CO_2$. The value depends on the specific type of gas (source: GHG Protocol - IPCC Fifth Assessment Report; for gas mixtures the factor is calculated on the primary source). Half of the emissions are allocated to the energy area and half to the water area, as is the case for the quantities of refrigerant fluids (HCFCs). The figure coincides with item No. 194. For 2021, the figure is zero as there were no reintegrations in the year. |

## $CO_2$ EMISSIONS FROM TRANSPORT AND HEATING

| item no. | explanation – comment |
|---|---|
| **301** | Total quantity of carbon dioxide issued by the motor pool of the Acea Group. The three-year figure is calculated using the consumption of fuel and the emission coefficients (ISPRA 2020). The figure is calculated. |
| **302** | Total quantity of carbon dioxide emitted by the systems used to air-condition the work spaces. The figure is calculated. |

# OPINION LETTER OF THE INDEPENDENT AUDITOR

## *Independent auditor's report on the consolidated non-financial statement*

pursuant to article 3, paragraph 10, of Legislative Decree No. 254/2016 and article 5 of CONSOB regulation No. 20267 of January 2018

To the Board of Directors of Acea SpA

Pursuant to article 3, paragraph 10, of Legislative Decree No. 254 of 30 December 2016 (the "Decree") and article 5 of CONSOB Regulation No. 20267/2018, we have undertaken a limited assurance engagement on the consolidated non-financial statement of Acea SpA and its subsidiaries (the "Group") for the year ended 31 December 2022 prepared in accordance with article 4 of the Decree and approved by the Board of Directors on 8 March 2023 (the "NFS").

Our review does not extend to the information set out in the paragraph: Information required by the European Taxonomy of the NFS, required by article 8 of European Regulation 2020/852.

### *Responsibilities of the Directors and the Board of Statutory Auditors for the NFS*

The Directors are responsible for the preparation of the NFS in accordance with articles 3 and 4 of the Decree and with the "Global Reporting Initiative Sustainability Reporting Standards" defined in 2016 and updated to 2021, by the GRI - Global Reporting Initiative (the "GRI Standards"), identified by them as the reporting standard.

The Directors are also responsible, in the terms prescribed by law, for such internal control as they determine is necessary to enable the preparation of a NFS that is free from material misstatement, whether due to fraud or error.

Moreover, the Directors are responsible for identifying the content of the NFS, within the matters mentioned in article 3, paragraph 1, of the Decree, considering the activities and characteristics of the Group and to the extent necessary to ensure an understanding of the Group's activities, its performance, its results and related impacts.

Finally, the Directors are responsible for defining the business and organisational model of the Group and, with reference to the matters identified and reported in the NFS, for the policies adopted by the Group and for the identification and management of risks generated and/or faced by the Group.

The Board of Statutory Auditors is responsible for overseeing, in the terms prescribed by law, compliance with the Decree.

*PricewaterhouseCoopers SpA*

Sede legale: **Milano** 20145 Piazza Tre Torri 2 Tel. 02 77851 Fax 02 7785240 Capitale Sociale Euro 6.890.000,00 i.v. C.F. e P.IVA e Reg. Imprese Milano Monza Brianza Lodi 12979880155 Iscritta al n° 119644 del Registro dei Revisori Legali - Altri Uffici: **Ancona** 60131 Via Sandro Totti 1 Tel. 071 2132311 - **Bari** 70122 Via Abate Gimma 72 Tel. 080 5640211 - **Bergamo** 24121 Largo Belotti 5 Tel. 035 229691 - **Bologna** 40126 Via Angelo Finelli 8 Tel. 051 6186211 - **Brescia** 25121 Viale Duca d'Aosta 28 Tel. 030 3697501 - **Catania** 95129 Corso Italia 302 Tel. 095 7532311 - **Firenze** 50121 Viale Gramsci 15 Tel. 055 2482811 - **Genova** 16121 Piazza Piccapietra 9 Tel. 010 29041 - **Napoli** 80121 Via dei Mille 16 Tel. 081 36181 - **Padova** 35138 Via Vicenza 4 Tel. 049 873481 - **Palermo** 90141 Via Marchese Ugo 60 Tel. 091 349737 - **Parma** 43121 Viale Tanara 20/A Tel. 0521 275911 - **Pescara** 65127 Piazza Ettore Troilo 8 Tel. 085 4545711 - **Roma** 00154 Largo Fochetti 29 Tel. 06 570251 - **Torino** 10122 Corso Palestro 10 Tel. 011 556771 - **Trento** 38122 Viale della Costituzione 33 Tel. 0461 237004 - **Treviso** 31100 Viale Felissent 90 Tel. 0422 696911 - **Trieste** 34125 Via Cesare Battisti 18 Tel. 040 3480781 - **Udine** 33100 Via Poscolle 43 Tel. 0432 25789 - **Varese** 21100 Via Albuzzi 43 Tel. 0332 285039 - **Verona** 37135 Via Francia 21/C Tel. 045 8263001 - **Vicenza** 36100 Piazza Pontelandolfo 9 Tel. 0444 393311

**www.pwc.com/it**

### *Auditor's Independence and Quality Control*

We are independent in accordance with the principles of ethics and independence set out in the Code of Ethics for Professional Accountants published by the International Ethics Standards Board for Accountants, which are based on the fundamental principles of integrity, objectivity, competence and professional diligence, confidentiality and professional behaviour. Our audit firm adopts International Standard on Quality Control 1 (ISQC Italia 1) and, accordingly, maintains an overall quality control system which includes processes and procedures for compliance with ethical and professional principles and with applicable laws and regulations.

### *Auditor's responsibilities*

We are responsible for expressing a conclusion, on the basis of the work performed, regarding the compliance of the NFS with the Decree and the GRI Standards. We conducted our work in accordance with International Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information ("ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and apply procedures in order to obtain limited assurance that the NFS is free of material misstatement. The procedures performed in a limited assurance engagement are less in scope than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures performed on the NFS were based on our professional judgement and consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the NFS, analyses of documents, recalculations and other procedures designed to obtain evidence considered useful.

In detail, we performed the following procedures*:*

1 analysis of the relevant matters reported in the NFS relating to the activities and characteristics of the Group, in order to assess the reasonableness of the selection process used, in accordance with article 3 of the Decree and with the reporting standard adopted;
2 analysis and assessment of the criteria used to identify the consolidation area, in order to assess their compliance with the Decree;
3 comparison of the financial information reported in the NFS with the information reported in the Group's consolidated financial statements*;*
4 understanding of the following matters:

   (a) business and organisational model of the Group with reference to the management of the matters specified by article 3 of the Decree;
   (b) policies adopted by the Group with reference to the matters specified in article 3 of the Decree, actual results and related key performance indicators;
   (c) key risks generated and/or faced by the Group with reference to the matters specified in article 3 of the Decree.

   With reference to those matters, we compared the information obtained with the information presented in the NFS and carried out the procedures described under point 5 a) below;

5 understanding of the processes underlying the preparation, collection and management of the significant qualitative and quantitative information included in the NFS.

In detail, we held meetings and interviews with the management of Acea SpA and we performed limited analyses of documentary evidence, to gather information about the processes and procedures for the collection, consolidation, processing and submission of the non-financial information to the function responsible for the preparation of the NFS.

Moreover, for material information, considering the activities and characteristics of the Group:

- at a group level,
  - (a) with reference to the qualitative information included in the NFS, and in particular to the business model, the policies adopted and the main risks, we carried out interviews and acquired supporting documentation to verify its consistency with available evidence;
  - (b) with reference to quantitative information, we performed analytical procedures as well as limited tests, in order to assess, on a sample basis, the accuracy of consolidation of the information.
- for the following companies, Acea Spa, Acea ATO 2 SpA, Acea Ambiente Srl and Deco SpA which were selected on the basis of their activities, their contribution to the performance indicators at a consolidated level and their location, we carried out remote visits during which we met local management and gathered supporting documentation regarding the correct application of the procedures and calculation methods used for the key performance indicators.

## *Conclusions*

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of Acea Group for the year ended 31 December 2022 is not prepared, in all material respects, in accordance with articles 3 and 4 of the Decree and with the GRI Standards.

Our conclusions on the NFS of Acea Group do not extend to the information set out in the paragraph: Information required by the European Taxonomy of the NSF, required by article 8 of European Regulation 2020/852.

Rome, 28 March 2023

PricewaterhouseCoopers SpA

*Signed by*

Luigi Necci
(Partner)

Paolo Bersani
(Authorized signatory)

*This report has been translated from the Italian original solely for the convenience of international readers. We have not performed any controls on the NFS 2022 translation*

**ACEA SPA**

Registered Office
Piazzale Ostiense 2 – 00154 Rome, Italy

Share capital
Euro 1,098,898,884 fully paid up

Tax code, VAT No. and Registration
number in the Register of Companies of Rome 05394801004

Rome REA 882486

Under the responsibility of
Investor Relations & Sustainability
Acea SpA

Editorial coordination
Communication
Acea SpA

Editorial team
Veridiana Barucci, Davide de Caro, Laura Del Greco,
Graziella Farfaglia, Silvia Fortuna, Debora Sabatini
Coordination Irene Mercadante
RSI@aceaspa.it

Art, Graphic Design and Layout Management
zero3zero9
For Acea SpA
Barbara Salmonì, Valentina Raccuia, Roberta Rindone
Head of Communications Tiziana Flaviani

Photographs
Acea Archive, Stefano Santia and Massimo Di Soccio

Published in March 2023

PIAZZALE OSTIENSE 2
00154 ROME

GRUPPO.ACEA.IT