ACEA ENERGIA CUSTOMERS WITH WEB BILL (no.)
263,244
2019
65,000
2017
PAPER SAVED WITH ELECTRONIC BILLING (t/year)
55
MY ACEA APP (no. of systems)
180,000
13.7
GREEN ENERGY SOLD ON THE FREE MARKET (GWh)
100,000
1,144
790
ACEA SMART COMP - ORGANIC WASTE PROCESSED ON-SITE (kg/day)
60
-
WORK-RELATED LEARNING (no. of students)
360
280
ACEA SCHOOL PROJECT (no. of students)
about 10,000
about 5,000
FIRST ACEA GROUP EVENT DEDICATED TO SUSTAINABILITY
1
-
NEW HIRES (total no.)
207
452
SMART WORKERS (total no.)
200
508
2019
SUSTAINABILITY REPORT
ACEA GROUP
(Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared according to the GRI Standards)
acea

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acea

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LETTER TO THE STAKEHOLDERS

In this particularly delicate, even dramatic moment for our Country and the whole world, we would like to reach out to all the stakeholders of the Acea Group. Indeed, the health emergency caused by the COVID-19 pandemic is still ongoing and is having social and economic impacts of such a magnitude and scale that it is impossible to underestimate or ignore them. Most of us find ourselves living an entirely new and potentially destabilising experience. Tens of thousands of our fellow citizens are experiencing the pain of the loss of loved ones in tragic circumstances, and many more are facing serious financial difficulties due to the indispensable stoppage imposed on the majority of production industries.

With a sense of duty and spirit of sacrifice, we are all exercising social distancing, and yet we feel united, engaged, empathetic. We admire the incessant commitment of the healthcare workers in the front line. We are with our people who are actively working to maintain the social and productive scenarios.

These circumstances are the starting point for many reflections, even on aspects that are fully pertinent herein, perhaps more so than the simple statement of a comment on the Group's good sustainability performance in 2019, which also exists and for which we recommend a careful reading of the Report introduced herein. Indeed, it is precisely sustainability that we are currently reflecting on. Sustainability understood as the ability to be present, here and now, as active and responsible as ever, meeting the needs of the community, and at the same time looking further ahead to the needs of a world that will inevitably be different from that of today. Even with regard to network infrastructure, value-added environmental services and utilities that are our core business.

Close to the community. More than usual we feel the absolute importance of the service we offer, bringing water and electricity into people's homes and putting the maximum effort every day in order to ensure that these primary resources are always available to everyone. This awareness is shared by all our employees, none excluded, who with full responsibility via telework or on-site continue every day to ensure the good quality of services. Moreover, in these peculiar circumstances even a seemingly minor contribution like the projection of the colours of the national flag on government buildings takes over a very strong symbolic value, and we are proudly involved in such initiatives. Or the very broad, spontaneous participation of employees in solidarity initiatives involving healthcare facilities that we proposed to them and that join numerous other initiatives organized by the Company.

We acted with immediacy and care to protect our workers and their families. From the very first alarms, we disseminated the guidance of company physicians, and as soon as schools were ordered to close we transformed teleworking from periodic to continuous, extending it primarily to employees with school-aged children and immediately to all workers who were in a position to handle their jobs remotely, with the necessary exceptions due to operational needs. We have taken out a special insurance policy for everyone, including family members, and we have been able to guarantee everyone's jobs.

Looking further ahead. The capacity for an integrated, prospective vision that does not stop with short-term or immediate results is one of the keys to corporate sustainability. This is what makes the application of sustainability principles in the industrial management of public services concrete today, so that tomorrow they will be even more efficient. In our opinion, this means being able to think about the future, where the world is going and its vulnerability, what its needs will be and how they will change, what risks we should be able to take and what opportunities we can exploit. In essence, it means thinking about how we can contribute to a development that blends financial growth, environmental protection and social welfare. A development that makes real contributions – within the limits of our skills and possibilities, though pressed to the maximum extent – to healthy growth, which attributes to the company microcosm a proactive and value-generating role shared within the macrocosm that hosts it and of which it is a responsible part.

For an event that involved a high level of participation, held in December 2019 at the Teatro dell'Opera in Rome to celebrate the end of the year with our staff, we wanted to focus in particular on two concepts that we consider to be of fundamental importance: safety at workplace and resilience. This without imagining what was going to happen in the country shortly afterwards. And to date these two concepts have proven to be very important, together with the technological innovation we have focused on in recent years, making it a transversal and evolutionary lever of all organizational and production processes. At the time we were referring to the resilience of infrastructure, thinking about the ongoing energy transition but also about the implications of climate change, for example in the water sector. Today, however, we appreciate its entire semantic extension, which includes the ability to adapt and to positively reorganize human life, even in the face of traumatic events.

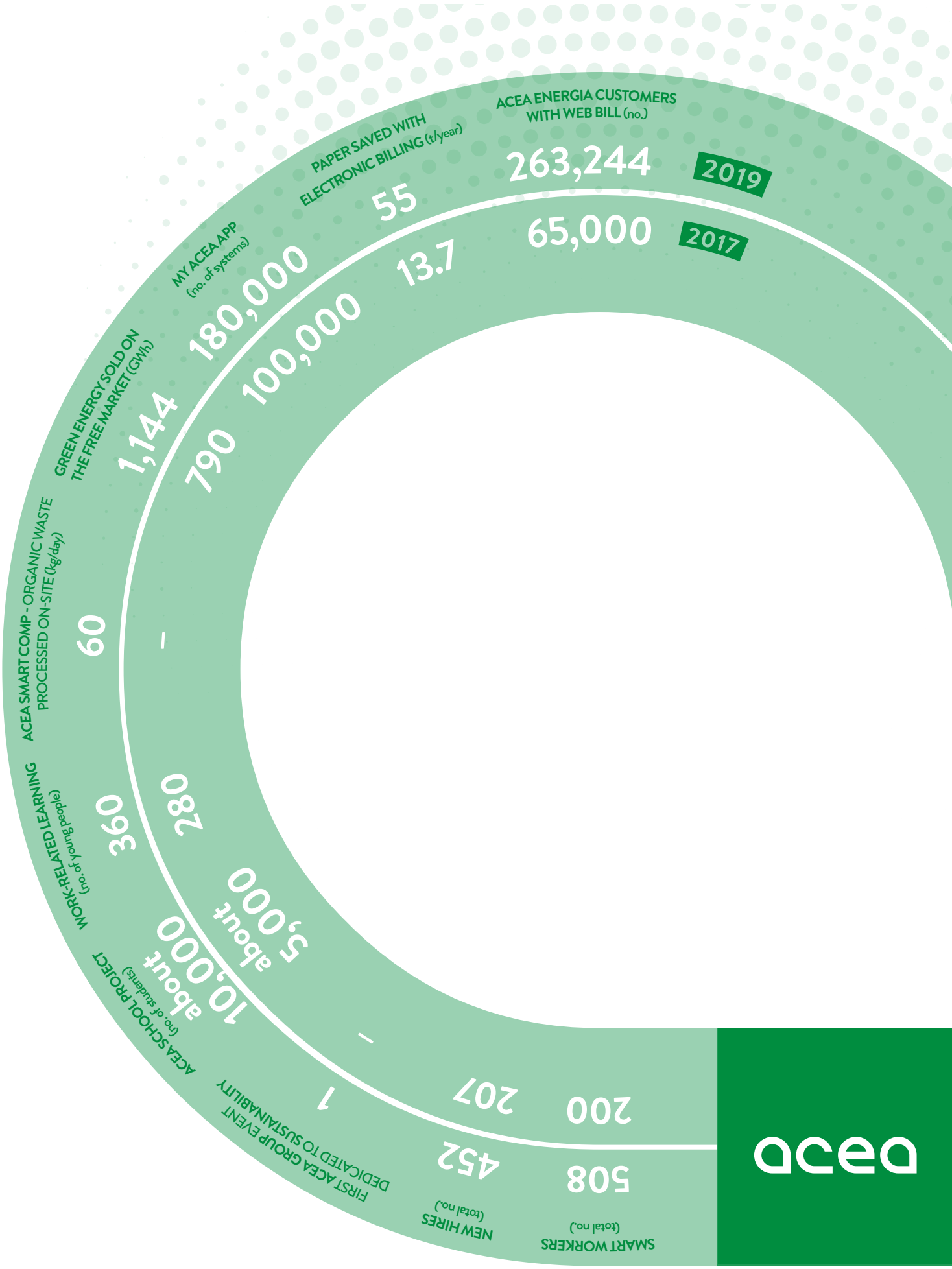
However, these are not the only issues that we are focusing on

and that we find relevant to the sustainability of the company and the situation we are experiencing. In 2019 we completely updated our materiality analysis, the process that directly involves stakeholders to help identifying the most important aspects to be considered in the business strategy. We assessed them carefully before submitting them to the concerned parties concerned, who then helped us to establishing their order of importance. These include sustainable management of the water cycle, sustainable design, construction and management of infrastructure, circular economics, containment of emissions and sustainability throughout the supply chain, corporate welfare, inclusion and development of skills, just to name a few. Just as we considered it essential to more fully integrate each of these aspects into the system of identification, assessment and management of related risks. This past year we also wanted to align the sustainability and industrial strategies, increasing their challenges and emphasising their full complementarity, with evidence of sustainability aspects inherent in the growth prospects of the business areas and attention to the Development Objectives of Agenda 2030 and the consistency between our values and the principles of the "Global Compact" of the United Nations, which Acea continues to adhere to year after year.

In this dramatic moment that humanity as a whole is going through, we at Acea must and want to have the strength to plan pathways of growth and prospects for sustainable development, thinking big, that is, considering all of humanity and our planet, both being fragile and in need of being preserved. Each of us doing our part with our skills and talents and in our areas of expertise. We are certain that if we work together, if we increase awareness of the common good, we will succeed.

The Chief Executive Officer
Mr. Stefano Antonio Donnarumma

The Chairman
Mrs. Michaela Castelli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1
–
NEW HIRES (total no.)
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SMART WORKERS (total no.)
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HIGHLIGHTS
RELATIONS WITH THE STAKEHOLDERS

CUSTOMERS

28,690 **people heard** through **Customer Satisfaction** surveys

86 km of upgraded **MV grid** and **106 substations** rebuilt with the **Areti Resilience Plan**

Pedius app to assist **hearing impaired customers**

COMMUNITY

103 Water Kiosks active in 2019: 26 million litres supplied, 519 t of plastic/year tons and 932 t of CO_2 atmospheric tons emissions avoided

91% **of LED lamps of the total ones: lower consumption** and higher average efficiency

Sustainable maxi posters for Acea Energia campaigns

SHAREHOLDERS AND LENDERS

€ 165.8 million in dividends

4% of the share capital held by **sustainable investors** (equal to 26% of institutional investors)

ESG analysts ratings of Acea: A- from CDP and EE- from Standard Ethics

INSTITUTIONS AND THE COMPANY

€ 27 million invested in **research and innovation** projects

Acea's First

Innovation Day

Acea cooperates with ENEA

on projects related to the **sustainable management of waste and water cycle**

STAFF

1,200 people involved in the awareness-raising event **"Il Gruppo Acea SiCuradiTe"**

My Welfare

the new platform with personal and family services

50% of **people with MBO** choose **sustainability targets**

SUPPLIERS

2019 procurement value of **€ 1.2 million** and over **2,800 contracts** entered into

87% of qualified suppliers assessed on **sustainability issues**

12,481 site safety checks performed by the Procurement Safety Unit

HIGHLIGHTS
RELATIONS WITH THE ENVIRONMENT

WATER

447 Mm^3
of drinking water supplied by Acea Ato 2, Acea Ato 5, Gori and Gesesa

666 Mm^3
of wastewater processed by the Acea Ato 2, Acea Ato 5, Gori and Gesesa treatment plants

Launched the **Water Safety Plan** for Rome and over **90% of the population** of ATO 2 – Central Lazio

127,750 t of sludge produced by Acea Ato 2, Acea Ato 5, Gori and Gesesa, of which **34% recovered**

ENVIRONMENT

16,540 t
of quality compost produced (+40% compared to 2018)

11,500 kNm^3
of biogas produced and from this **20 GWh** of energy

357 GWh
of energy produced by **waste-to-energy**

22% output/input
in waste-to-energy: **434,600 t** of waste input and **97,400 t** of waste output

ENERGY INFRASTRUCTURE

904 GWh
total electricity produced,
of which
70% from renewable sources

229,000 t of CO_2
saved through the production of electricity from renewable sources instead of traditional ones

46%
of the territory protected
(underground HV grid/total HV grid)

10,600 GWh
electrical power demand
on the grid

0.0112 t/MWh
improvement **emission intensity index** (Scope 2) from grid leaks of the total electricity distributed

GROUP

5.4 GWh of savings per year and **1,900 t** of CO_2 avoided thanks to **energy efficiency improvement actions** in Areti and in the water sector

424 GWh
of electrical consumption of the Group's member companies from **GO-certified renewable energy**

DISCLOSING SUSTAINABILITY: METHODOLOGICAL NOTE

SUSTAINABILITY PERFORMANCE: LEGISLATIVE DECREE NO. 254/2016 AND GRI STANDARDS

Acea published a Group Sustainability Report on a voluntary, annual basis since 1999 (for the 1998 financial year), the year it was listed on the Stock Exchange. From the early years sustainability report has been written in compliance with the international reference Guidelines[1], and submitted for check by a third party. Moreover, since 2011, with the objective of providing a complete disclosure regarding Group performance to both the financial community and concerned parties, publication times for the consolidated financial statements and sustainability report have been aligned.

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. In fact, under the Decree, companies that meet the conditions set out in article 2 are required to publish information on sustainability performance in a **non-financial statement** – individual or consolidated – which, as stated in the Decree in article 3, paragraph 1 of the Decree: "*...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].

This *Sustainability Report* for the financial year 2019 has been prepared in accordance with the GRI Standards (issue 2016)[4]: Comprehensive option and therefore called *Acea Group's 2019 Sustainability Report (consolidated non-financial declaration pursuant to Legislative Decree no. 254/2016, prepared in accordance with GRI standards)*, taking the form of an autonomous document, as permitted by the aforementioned Legislative Decree[5].

The *Sustainability Report*, enclosing a *Summary Note*, following its approval by the Board of Directors, is available to the supervisory

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.

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 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 – requiring their adoption with respect to the 2018 financial year. Acea has anticipated such application, with the Comprehensive option, since the 2017 Sustainability Report. In October 2019 GRI made the Italian translation of the GRI Standards available on the website www.globalreporting.org (Raccolta consolidata dei GRI Sustainability Reporting Standards 2018).

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

body and submitted for assurance by the indipendent 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[6] (see *Opinion Letter of the independent auditor*). The document is disseminated through the institutional website at the same time as the *Consolidated Financial Statements* and distributed during the Shareholders' Meeting.

MONITORING THE MANDATORY NON-FINANCIAL REPORT IN ITALY

The process, subject to a specific procedure, aims at identifying of Legislative Decree no. 254/2016 for annual non-financial reporting by Italian companies subject to the standard, as documented by a **Deloitte study** published in October 2019, testifies to the **level of progress towards sustainability**.
Based on the information reported in the latest Non-Financial Statements (NFS 2018), researchers show a significant increase in initiatives put in place by companies on **stakeholder engagement** as an approach to understand the expectations and needs of stakeholders, in particular for the materiality analysis (45% in 2018 compared to 22% in the previous year). There is also an increase in the number of companies that in their reports mention **SDGs** (44% in 2018 compared to 21% in 2017) and the **adoption of policies on diversity** (33% in 2018 compared to 18% in 2017), although SDGs are not always implemented through specific targets, nor is there an increase in senior positions held by women.
The **definition of multi-annual sustainability targets** has increased slightly (26% in 2018 compared to 19% in 2017), with an interesting perspective of the cases that incorporate them directly into the business plan (65% in 2018 compared to 53% in the previous year). **Incentive models referring to sustainability targets** are also marginally widespread (13% in 2018).
Other evidence confirms what was learned last year with the first cycle of application of Legislative Decree no. 254/2016: the NFS is mostly considered separate from the Report on Operations, with a **separate document** (84%), **100%** of the companies analysed refer to **GRI Standards** and the choice for the application of the core option prevails (67%), which is more limited in the scope of information provided compared to the comprehensive option (3%), compared to the remaining 30% which simply refer to the Standard.

MATERIALITY, GRI STANDARDS AND REPORT SCOPE

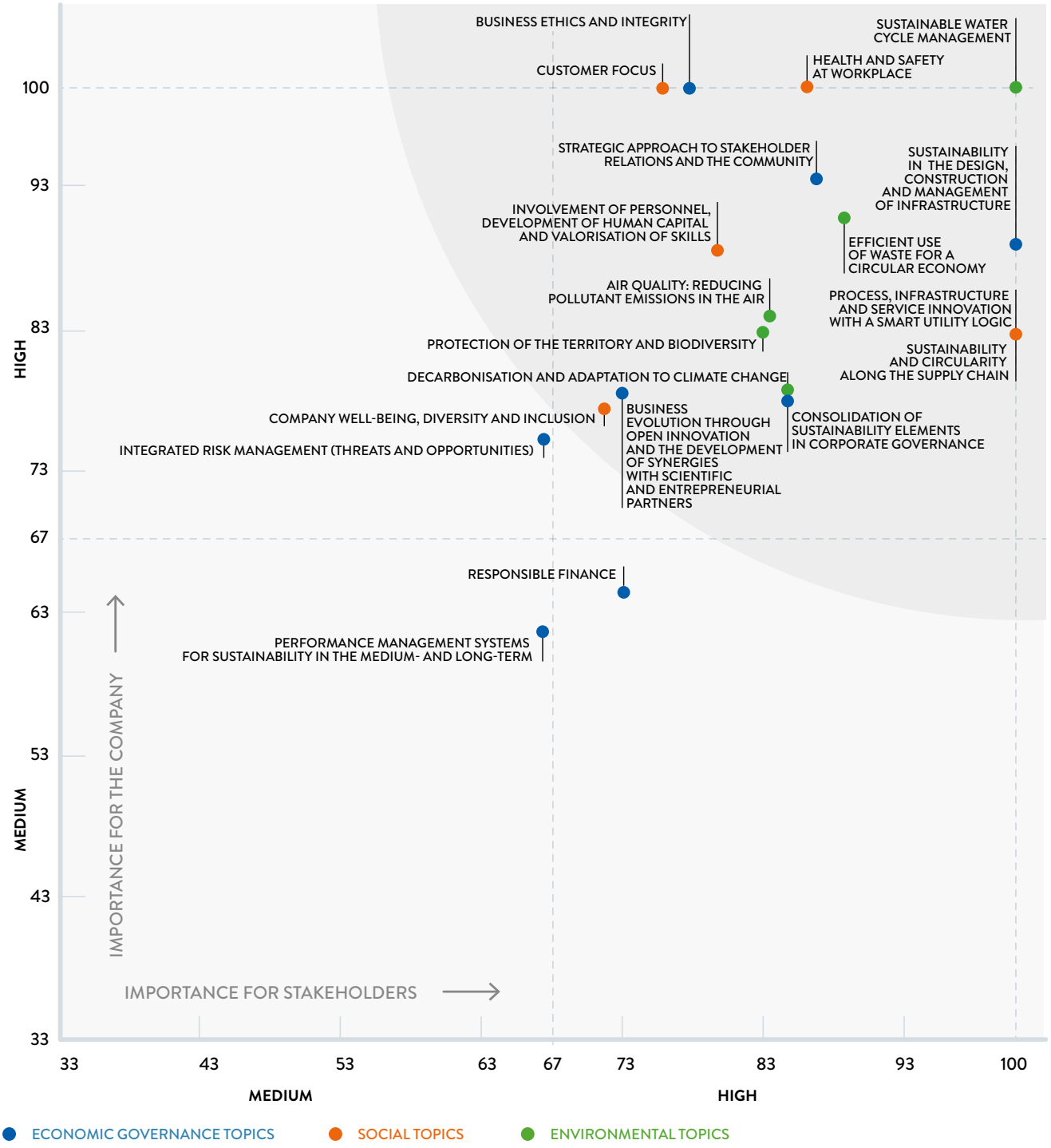
In light of the evolution of the Group's strategic, industrial and sustainability guidelines[7], during the second half of 2019 Acea conducted a **new round of materiality analysis**.
The process, subject to a specific procedure, aims at identifying the main financial, governance, social and environmental issues (the so-called "material" issues) related to the company's business and at defining their prioritisation on the basis of the assessments expressed by stakeholders and the company.
The activity is divided into phases, including:

- **analysis of documentation**, which was conducted on about 30 documents (scenario, representative of stakeholder, strategic and internal management requests, etc.) and led to the identification of a **list of 19 potentially relevant topics**, validated by the top management and submitted for the assessment of stakeholders and Group managers;
- the **direct involvement of stakeholders (external and internal**) identified with the support of the heads of Group Areas/ Companies and Functions through **a multistakeholder focus group, in the final phase of which the Company Chairman took part**, and some **one-to-one telephone interviews**. Overall, the discussion involved **43 people**, representing **11 categories of stakeholders**, who assessed the relevance of the proposed topics also with respect to their impacts on stakeholders;
- the **direct involvement of Group managers**, through a meeting with **22 company managers**. After illustrating the main results of the multi-stakeholder consultation, the managers assessed the relevance of the proposed topics also with respect to the risks associated with them.

Following the meetings, which were led by a qualified facilitator, the opinions expressed by the stakeholders and the Company were elaborated in the **2019 materiality matrix**: a two-dimensional chart showing the distribution of the 19 economic, governance, social and environmental issues of low, medium and high importance (prioritisation). In particular, **16 topics** are located in the **high significance** area (score 68-100) and **3 in the medium significance** area (score 33-67) (see chart no. 1).
All "material" issues are **consistent with the Group's strategic sustainability planning**.
In addition to being presented in a report to the stakeholders and managers involved, the materiality analysis process and its results were shared with the Group's top management and explained to the members of the **Ethics and Sustainability and Control and Risk Committees** in joint session with the members of the **Board of Statutory Auditors**.

[6] 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 (...)".
[7] In April 2019, the Acea SpA Board of Directors approved the 2019-2022 Business Plan, and in December 2019 the 2019-2022 Sustainability Plan.

CHART NO. 1 – RELEVANT TOPICS FOR THE COMPANY AND ITS STAKEHOLDERS: ACEA "MATERIALITY MATRIX" – 2019



1 SUSTAINABLE WATER CYCLE MANAGEMENT
2 SUSTAINABILITY IN INFRASTRUCTURE DESIGN, CONSTRUCTION AND MANAGEMENT
3 HEALTH AND SAFETY AT WORKPLACE
4 INNOVATION OF SMART UTILITY PROCESSES, INFRASTRUCTURE AND SERVICES
5 SUSTAINABILITY AND CIRCULARITY ALONG THE SUPPLY CHAIN
6 EFFICIENT USE OF WASTE FOR A CIRCULAR ECONOMY
7 STRATEGIC APPROACH TO STAKEHOLDER RELATIONS AND THE COMMUNITY
8 BUSINESS ETHICS AND INTEGRITY
9 CUSTOMER FOCUS
10 REDUCING EMISSIONS INTO THE ATMOSPHERE AND POLLUTION
11 INVOLVEMENT OF OF THE TERRITORY AND DEVELOPMENT OF SKILLS
12 PROTECTION OF TERRITORY AND BIODIVERSITY
13 DECARBONISATION AND ADAPTATION TO CLIMATE CHANGE
14 CONSOLIDATION OF SUSTAINABILITY ELEMENTS IN CORPORATE GOVERNANCE
15 BUSINESS EVOLUTION THROUGH OPEN INNOVATION AND DEVELOPMENT OF SYNERGIES WITH SCIENTIFIC AND ENTREPRENEURIAL PARTNERS
16 COMPANY WELL-BEING, DIVERSITY AND INCLUSION
17 INTEGRATED RISK MANAGEMENT (THREATS AND OPPORTUNITIES)
18 RESPONSIBLE FINANCE
19 PERFORMANCE MANAGEMENT SYSTEMS FOR SUSTAINABILITY IN THE MEDIUM- AND LONG-TERM.

Besides being a strategic reference, **the identification of the "Acea materiality matrix"** through direct discussions with the stakeholders **is necessary** to **identify the aspects to be included in the sustainability report in greater or lesser depth** depending on the results of prioritisation, and to **select the indicators required by the adopted standards**.

To prepare the Sustainability Report **in accordance with the GRI Standards (ed. 2016): *Comprehensive* option**, indeed, it is necessary to illustrate the issue performance in light of:

- "**Universal Standards**", which include the **reporting principles** (GRI 101: Reporting principles) and the **56 general standards** (GRI 102: General information);
- the "**Specific standards**" referring to the economic, environmental and social dimension (GRI 200: Economic, GRI 300: Environmental, GRI 400: Social) **considered to be material** ("material topics") and **related indicators** selected from among the 33 topics envisaged in the specific Standards;
- **the management approach** (GRI 103: Management approach) for each of the specific topics considered material.

In order to be able to select GRI Material Specific Standards, consideration was given[8] to both their **correlation with Acea's** "**materiality matrix**" and the meaning thereof conferred by international Standards, in some cases tracing them back to the corporate context and in others establishing their non-applicability[9].

Following the assessments described above, **26 specific Standards[10] were identified** this year out of a total of 33, **as consistent with Acea material topics of high significance** (see table no. 1).

Furthermore, among all the **indicators** envisaged in the specific Standards considered as "material", **only 2 were considered as not pertinent** and excluded from the analysis[11].

Only one Acea material topic of high relevance is not correlated to the specific Standards, this being the ***Consolidation of elements of sustainability in corporate governance***, which however, is **fully consistent with the general standards** dedicated to aspects of **governance** (GRI 102: General information).

Lastly, also regarding Acea material topics of medium significance present in the report on a less descriptive basis, consistencies were found, albeit not highlighted in the table, with both the material specific Standards and the standards of the General information.

TABLE NO. 1 – CONSISTENCY WITH GRI "MATERIAL SPECIFIC STANDARDS" AND ACEA "MATERIAL TOPICS" OF HIGH SIGNIFICANCE

GRI 200: ECONOMIC	ACEA MATERIAL TOPICS
ECONOMIC PERFORMANCE IN 2016	2, 4, 7, 8, 10, 11, 13
INDIRECT ECONOMIC IMPACTS IN 2016	2, 4, 5, 6, 7, 9, 15
PROCUREMENT PROCEDURES IN 2016	2, 5
ANTI-CORRUPTION IN 2016	8
ANTI-COMPETITIVE CONDUCT IN 2016	8

GRI 300: ENVIRONMENTAL	ACEA MATERIAL TOPICS
MATERIAL IN 2016 (301-1 AND 301-2)	1, 4, 6, 12
ENERGY IN 2016 (FROM 302-1 TO 302-4)	1, 4, 10, 12, 13
WATER IN 2016	1, 4, 12
BIODIVERSITY IN 2016	1, 10, 12, 13
EMISSIONS IN 2016	1, 10 12, 13
EFFLUENTS AND WASTE IN 2016	1, 6, 12
ENVIRONMENTAL CONFORMITY (COMPLIANCE) IN 2016	1, 8, 10, 12, 13
ENVIRONMENTAL ASSESSMENT OF SUPPLIERS IN 2016	5

GRI 400: SOCIAL	ACEA MATERIAL TOPICS		ACEA MATERIAL TOPICS		ACEA MATERIAL TOPICS
EMPLOYMENT IN 2016	11, 16	NO DISCRIMINATION IN 2016	8, 16	MARKETING AND LABELLING OF PRODUCTS AND SERVICES IN 2016	8, 9
INDUSTRIAL RELATIONS IN 2016	11, 16	LOCAL COMMUNITIES IN 2016	7, 15	CUSTOMER PRIVACY IN 2016	8, 9
OCCUPATIONAL HEALTH AND SAFETY IN 2016	3, 5	SOCIAL ASSESSMENT OF SUPPLIERS IN 2016	5	COMPLIANCE IN 2016	8, 9
TRAINING AND EDUCATION IN 2016	11	PUBLIC POLICY (POLITICAL CONTRIBUTIONS) IN 2016	8		
DIVERSITY AND EQUAL OPPORTUNITY IN 2016	11, 16	CUSTOMER HEALTH AND SAFETY IN 2016	1, 8, 9		

NOTE The economic, environmental topic, and social GRI "Specific standards" shown in the table are only those assessed as being "material". When indicators are placed in brackets next to a GRI topic this means that only the indicators shown in the table apply, or, where not specified, all the indicators related to the topic apply (also see the *GRI table of contents*). For "Acea material topics" as identified in the table by a number, reference should be made to the figure showing the materiality matrix (chart no. 1).

8 It is important to consider that both the specific GRI Standards – each of which includes a description of the management method and a number of indicators – 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 – Consolidated set of GRI Sustainability reporting standards for 2016 – on the website www.globalreporting.org (now also in Italian translation: Raccolta consolidata dei GRI Sustainability Reporting Standards 2018).

9 This led, for example, to the exclusion of the Specific standards related to Presence on the Market and Human Rights 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.

10 One more than the last sustainability report. In particular, by virtue of the results of the materiality analysis that brought the topic of Company well-being, diversity and inclusion to the forefront, the specific GRI Standard No discrimination was also selected.

11 Two more indicators have been included in the reporting compared to the last reporting cycle, relating to the specific GRI Material and Biodiversity Standards, see *The GRI Table of contents*.

The **principle of materiality** was also applied to the **definition of the "report scope"**, as envisaged both by the standards adopted for reporting 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*". To define the reporting scope, the same approach was used as in previous editions, subject to a specific procedure. In particular, **the adequacy of the criteria of strategic materiality/significance** was **verified** in order to identify the Companies that ensure an understanding of the activities and impacts generated by the Group, taking into account the main business areas and the region where

TABLE NO. 2 – COMPANIES INCLUDED IN THE PARENT COMPANY'S FULL CONSOLIDATION AREA (2019)

COMPANY	REGISTERED OFFICE
Acea Ambiente Srl	Via G. Bruno, 7 – Terni
Aquaser Srl	P.le Ostiense, 2 – Rome
Berg SpA	Via delle Industrie, 38 – Frosinone
Bioecologia Srl	Via Simone Martini, 57 – Siena
Iseco SpA	Loc Surpian, 10 – Saint Marcel (AO)
Demap Srl	Via Giotto 13 – Beinasco (TO)
Acque Industriali Srl	Via Bellatalla, 1 – Ospedaletto (PI)
Acea Energia SpA	P.le Ostiense, 2 – Rome
Acea8cento Srl	P.le Ostiense, 2 – Rome
Cesap Vendita Gas Srl	Via del Teatro, 9 – Bastia Umbria (PG)
Umbria Energy SpA	Via B. Capponi, 100 – Terni
Acea Energy Management Srl	P.le Ostiense, 2 – Rome
Parco della Mistica Srl	P.le Ostiense, 2 – Rome
Acea Dominicana SA	Avenida Las Americas – Esquina Mazoneria, Ensanche Ozama – Santo Domingo, Dominican Republic
Aguas de San Pedro SA	Las Palmas, 3 Avenida 20y 27 calle – San Pedro, Honduras
Acea International SA	Avenida Las Americas – Esquina Mazoneria, Ensanche Ozama – Santo Domingo, Dominican Republic
Acea Perù SAC	Calle Amador Merino Reyna – 307 Miraflores – Lima, Peru
Consorcio Acea-Acea Dominicana	Avenida Las Americas – Esquina Mazoneria, Ensanche Ozama – Santo Domingo, Dominican Republic
Consorcio Servicios Sur	Calle Amador Merino Reyna – San Isidro – 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
Acquedotto del Fiora SpA	Via A. Mameli, 10 – Grosseto
Crea Gestioni Srl	P.le Ostiense, 2 – Rome
Crea SpA (in liquidazione)	P.le Ostiense, 2 – Rome
Gesesa SpA	Corso Garibaldi, 8 – Benevento
Gori SpA	Via Trentola, 211 – Ercolano (NA)
Lunigiana SpA (in liquidazione)	Via Nazionale, 173 – Massa Carrara
Ombrone SpA	P.le Ostiense, 2 – Rome
Pescara Distribuzione Gas Srl	Via G. Carducci, 83 – Pescara
Sarnese Vesuviano Srl	P.le Ostiense, 2 – Rome
Umbriadue Servizi Idrici Scarl	Strada Sabbione zona ind.le – 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
KT4 Srl	Viale SS. Pietro e Paolo, 50 – Rome
Brindisi Solar Srl	Via Paolo da Cannobio, 33 – Milan
Solaria Real Estate Srl	Via Paolo da Cannobio, 33 – Milan
Compagnia Solare 2	Via Paolo da Cannobio, 33 – Milan
Compagnia Solare 3	Via Paolo da Cannobio, 33 – Milan
SPES Srl	Via Paolo da Cannobio, 33 – Milan
Acquaviva Srl	Via Paolo da Cannobio, 33 – Milan
Luna Energia Srl	Strada degli Alberi, 7 – Galliera Veneta (PD)
Sisine Energia Srl	Strada degli Alberi, 7 – Galliera Veneta (PD)
Acea Solar Srl	P.le Ostiense, 2 – Roma
Marche Solar Srl	Via A. Grandi, 39 – Concordia sulla Secchia (MO)
Urbe Solar Srl	Via Ciasca, 9 – Bari
Urbe Cerig Srl	Via Ciasca, 9 – Bari
Trinovolt Srl	Via T. Columbo, 31 d – Bari
Acea Sun Capital Srl	P.le Ostiense, 2 – Rome
Acea Elabori SpA	Via Vitorchiano, 165 – Rome
Technologies for Water Services SpA	Via Ticino, 9 – Desenzano del Garda (BS)
Acea Innovation Srl	P.le Ostiense, 2 – Rome

these activities are mainly carried out. As an indicator of commitment in the medium- and long-term, it was considered appropriate to add the **value of the investments** to **quantitative criteria**[12] (such as the weight of turnover on the consolidated revenue, value of energy consumption expressed in TOE, etc.), already identified and applied previously. **Qualitative** criteria (such as a relevant and current role in the qualifying companies, presence in the region 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) highlight the specific role and relevance of the Company in question[13].
Both types of criteria[14] were **applied to the Companies included in the scope of consolidation**[15] of the Parent Company in 2019 (see table no. 2) resulting in a **proposal of scope** that, having heard the opinion of the Head of the Legal and Corporate Affairs Function and the CFO, was **shared with Top Management**, **defined** after further data verification and finally **explained to the Ethics and Sustainability and Control and Risk Committees**.

The companies **that are representative for the purposes of reporting the 2019 non-financial information** (in accordance with Legislative Decree no. 254/2016 and the GRI Standards), include, in addition to all those present in the previous edition of the document, Gori SpA (see table no. 3)[16].

TABLE NO. 3 – SCOPE OF THE ACEA GROUP CONSOLIDATED NON-FINANCIAL STATEMENT FOR 2019 (PURSUANT TO LEGISLATIVE DECREE NO. 254/2016 AND GRI STANDARDS)

COMPANY	REGISTERED OFFICE
Acea SpA	P.le Ostiense, 2 – Rome
Acea Ambiente	Via G. Bruno, 7 – Terni
Aquaser	P.le Ostiense, 2 – Rome
Acea Energia	P.le Ostiense, 2 – Rome
Acea8cento	P.le Ostiense, 2 – Rome
Acea Ato 2	P.le Ostiense, 2 – Rome
Acea Ato 5	Viale Roma, snc – Frosinone
Gesesa (*)	Corso Garibaldi, 8 – Benevento
Gori (*)	Via Trentola, 211 – Ercolano (NA)
Areti	P.le Ostiense, 2 – Rome
Acea Produzione	P.le Ostiense, 2 – Rome
Ecogena	P.le Ostiense, 2 – Rome
Acea Elabori	Via Vitorchiano, 165 – Rome

(*) Gesesa and Gori provide data on areas of sustainability in a progressive manner.

The scope of the *Acea Group's 2019 Sustainability Report* is therefore consistent with what was defined the year before, guaranteeing **continuity and comparability** as well as coverage of the Companies **that ensure full understanding of the Group's activities** and **most significant sustainability performance**. Furthermore, such Companies represent at least: 90% of the turnover, 84% of the average number of employees and 88% of the costs for materials and services of the full consolidation area of Acea Group (including the Parent Company and excluding the companies that had entered that area in the last quarter of the year).

Lastly, **in compliance with the principle of completeness** required under **GRI Standards**, the *2019 Sustainability Report* includes qualitative and quantitative information regarding corporate and environmental matters of certain companies **that are not included within the scope of the Non-Financial Statement**. Specifically, this concerns foreign activities and the following companies operating in the water area: Acque, AdF, Publiacqua and Umbra Acque, which were **included in some Group data and described in a dedicated chapter** (*Water Company Profile and abroad activities*), **giving clear evidence of their individual contribution**.

12 Thresholds of significance were defined for each of the quantitative elements considered.
13 "Inconsistent" elements were also identified for qualitative criteria, focusing on materiality (such as "vehicle" companies, companies under liquidation with non-determining positions for the purposes of operations, companies operating outside of the territory of reference, etc.).
14 The conditions of contemporary presence of quantitative and qualitative factors were also established, aimed at defining the strategic significance of a Company for the Group and its representative ability for the purposes of disclosing non-financial information.
15 As required by Legislative Decree no. 254/2016, art. 4, para. 1: "To an extent necessary for ensuring an understanding of the group's activity, its performance, results and the impact it produces, the consolidated declaration includes data about the parent company, its fully consolidated subsidiary companies".
16 In light of the applied criteria, the following Companies are outside of the scope of the consolidated non-financial Statement for 2019: AdF, Berg, Bioecologia, Iseco, Demap, Acque Industriali, Cesap Vendita Gas, Umbria Energy, Acea Energy Management, Parco della Mistica, Acea Dominicana, Aguas de San Pedro, Acea International, Acea Perù, Consorcio Acea-Acea Dominicana, Consorcio Servicios Sur, Acque Blu Arno Basso, Acque Blu Fiorentine, Crea Gestioni, Crea, Lunigiana, Ombrone, Pescara Distribuzione Gas, Sarnese Vesuviano, Umbriadue Servizi Idrici, Acea Liquidation and Litigation, KT4, Brindisi Solar, Solaria Real Estate, Compagnia Solare 2, Compagnia Solare 3, SPES, Acquaviva, Luna Energia, Sisine Energia, Acea Solar, Marche Solar, Urbe Solar, Urbe Cerig, Trinovolt, Acea Sun Capital, Technologies for Water Services and Acea Innovation.

DOCUMENT STRUCTURE AND DISSEMINATION

The *2019 Sustainability Report* is divided into three sections: ***Corporate identity***, ***Relations with the stakeholders*** and ***Relations with the environment***, supplemented by the ***Environmental Budget***. The latter comprises **about 400 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.
It is important to note that where the document recalls the main economic-financial data and describes corporate governance, data and information 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 with application of 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 indipendent auditor, the report distributed by means of **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 in a kit: to the shareholders, during the annual Shareholders' Meeting upon closure of the financial year, to directors and middle management of the Group and the public concerned during events.

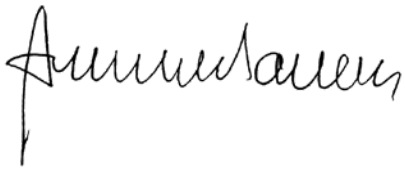
For further information about the Sustainability Report and its contents, it is possible to write to the following email address: RSI@aceaspa.it.

Mr. Giuseppe Sgaramella

SUSTAINABILITY UNIT

Mr. Antonio Sanna

RISK & COMPLIANCE FUNCTION



JOINING THE UNITED NATIONS GLOBAL COMPACT

In 2007 Acea joined the **United Nations Global Compact** (UNGC), acknowledging **the consistency between the ten principles** supported by the United Nations through the "Global Pact"[17], **the UN's objectives of sustainable Development** ("Agenda 2030", to which the UNGC expressly refers), **the value guidelines, expressed in the Acea *Code of Ethics*, and the Group's strategic guidelines**.

The ***advanced level Communication on Progress*** (CoP), is included in this *Sustainability Report (consolidated non-financial report)* through a combined **statement of the Standard GRI indicators and the principles of United Nations Global Compact**, pursuant to the understanding reached between the two organizations.

TABLE NO. 4 – THE TEN PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT

HUMAN RIGHTS	1. Companies are required to support and respect the protection of internationally proclaimed human rights
	2. Companies should ensure that they are not partners, even indirectly, in human rights abuses

WORK	3. Companies are required to uphold the freedom of association and the effective recognition of the right to collective bargaining
	4. Companies should uphold the elimination of all forms of forced and compulsory labour
	5. Companies should uphold the effective abolition of child labour
	6. Companies should uphold the elimination of discrimination in respect of employment and occupation

ENVIRONMENT	7. Companies are required to support a precautionary approach to environmental challenges
	8. Companies are required to take initiatives to promote greater environmental responsibility
	9. Companies are required to encourage the development and dissemination of environmentally friendly technologies

FIGHTING CORRUPTION	10. Companies should work against corruption in all its forms, including extortion and bribery

[17] The United Nations Global Compact is an initiative launched by the Secretary General of the United Nations upon the conclusion of the World Economic Forum of 1999. In its appeal, it invites the leaders of the world economy to uphold and circulate nine universal principles related to human rights, labour and the environment, added to which was the tenth in 2004: anti-corruption.

ADVANCED LEVEL COMMUNICATION ON PROGRESS AND ITS CORRELATION WITH GRI STANDARDS

The *Sustainability Report* contains **the elements that respond to the advanced level of the Communication on Progress** envisaged by the United Nations Global Compact.

The table below shows these elements according to the 21 criteria defined by the United Nations Global Compact and states their **correlation**[18] **with the GRI** Standards (GRI 102 – General Information for 2016 and Specific Standards, GRI 200 series: Economic, GRI 300: Environmental, GRI 400: Social, identified as "material"), applied in the sustainability reporting according to the "comprehensive" level of compliance. The *GRI Table of contents* specifies the pages of the document where the relevant data and information can be found.

TABLE NO. 5 – THE ELEMENTS OF ADVANCED COP AND GRI STANDARDS

UNGC – ADVANCED CRITERIA	UNGC – MATCHING SCOPES	CORRELATION WITH GRI STANDARDS (GRI 102-General information and material specific standards series GRI 200: Economic, GRI 300: Environmental, GRI 400: Social)
CRITERIA 1-2 implementation of the ten principles in the strategies and operational management of the business	integration of sustainability in corporate functions and business units	from GRI 102-18 to GRI 102-39
	implementation of sustainability in the value chain	GRI 102-9 – GRI 102-10 – GRI 102-25 – GRI 204-1 – GRI 103 (1-3) by GRI 308 Environmental assessment of suppliers – GRI 302-2 – GRI 305-3 – GRI 308-1 – GRI 308-2 – GRI 103 (1-3) by GRI 414 Social assessment of suppliers – GRI 403-2 – GRI 414-1 – GRI 414-2
CRITERIA 3-5 robust human rights policies and procedures management	HUMAN RIGHTS commitments, strategies or policies; management systems; monitoring and evaluation mechanisms	The Human Rights aspect and indicators related to it, as proposed by the GRI Standards, are relevant for multinational enterprises. Acea has therefore considered such aspects non-material. Whereas in the meaning that the United Nations Global Compact gives to aspects relating to human rights (such as employment protection, freedom of association, no discrimination, health and safety in the workplace, training and education and supplier social assessment), they are included in other GRI specific standards, deemed "material", as well as in the "material topics" identified by Acea and are therefore listed herein.
CRITERIA 6-8 robust labour policies and procedures management	WORK commitments, strategies or policies; management systems; monitoring and evaluation mechanisms	GRI 103 (1-3) and indicators of the following specific standards (series GRI 400: SOCIAL 2016): Employment (from GRI 401-1 to GRI 401-3) Industrial relations (GRI 402-1) Health and safety at the workplace (from GRI 403-1 to GRI 403-4) Training and education (from GRI 404-1 to GRI 404-3) Diversity and equal opportunities (GRI 405-1 and GRI 405-2) No discrimination (GRI 406-1) Social assessment of suppliers (GRI 414-1 and GRI 414-2)

[18] Acea has autonomously updated the proposed scheme, linking elements of the Communication on progress and GRI Standards, maintaining the approach of the document referred to the previous version of the GRI-G4 Guidelines, the result of the collaboration of GRI and UNGC. See Making the Connection: Using the GRI G4 Guidelines to Communicate Progress on the UN Global Compact Principles, on the website www.unglobalcompact.org.

CRITERIA 9-11 robust environmental policies and procedures management	**ENVIRONMENT** commitments, strategies or policies; management systems; monitoring and evaluation mechanisms	GRI 103 (1-3) and indicators of the following specific standards (series GRI 300: ENVIRONMENTAL 2016): *Material* (301-1 and 301-2) *Energy* (from GRI 302-1 to GRI 302-4) *Water* (from GRI 303-1 to GRI 303-3) *Biodiversity* (from GRI 304-1 to GRI 304-4) *Emissions* (from GRI 305-1 to GRI 305-7) *Water discharges and waste* (from GRI 306-1 to GRI 306-5) *Environmental compliance* (GRI 307-1) *Environmental assessment of suppliers* (GRI 308-1 and GRI 308-2)
CRITERIA 12-14 robust anti-corruption policies and procedures management	**FIGHTING CORRUPTION** commitments, strategies or policies; management systems; monitoring and evaluation mechanisms	GRI 102-16, GRI 102-17, GRI 103 (1-3) and indicators of the following specific standards (series GRI 200: ECONOMIC 2016 and series GRI 400: SOCIAL 2016): *Anti-corruption* (from GRI 205-1 to GRI 205-3) *Public politics (political contributions)* (GRI 415-1)
CRITERIA 15-18 actions aimed at upholding wider development objectives of the United Nations	strategies, business activities, actions of promotion and engagement with the stakeholders to uphold the Sustainable Development Goals (SDGs)	GRI 103 (1-3) of all the material specific standards included in series GRI 200: ECONOMIC 2016, GRI 300: ENVIRONMENTAL 2016 and GRI 400: SOCIAL 2016 (*except for the topic Customer privacy*)
CRITERIA 19-21 Governance and leadership of sustainability	commitment of the CEO	GRI 102-14, GRI 102-15
	engagement of the BoD	from GRI 102-18 to GRI 102-39
	involvement of the stakeholders	GRI 102-40 to GRI 102-44
high level of transparency and reporting	use of GRI Standards	from GRI 102-1 to GRI 102-10
external audit		GRI 102-56

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5
sersys
AMBIENTE

CORPORATE IDENTITY

GROUP PROFILE

ACEA'S HISTORY

Established in 1909 as Azienda Elettrica Municipale (AEM) of the Town of Rome, Acea is responsible for the development and management of the Rome's essential infrastructure, thus providing the electricity and water services required to guarantee the productive growth, social development and environmental balance of the city. Throughout its history, Acea has taken advantage of the opportunities that came from the market, the regulatory context and its stakeholders, thus adapting its corporate and operating setup to the most functional and efficient models, such as being listed on the Stock Exchange in 1999 and the opening to qualified strategic partners.

Starting from the local dimension, Acea has gradually become a nationwide industrial group, thus working in the areas of integrated water management, electricity production, distribution and sales and environmental services. The current development guidelines set out in the strategic plans are characterized by the consolidation of its **leadership position** in the water industry, where the renewal of the Peschiera Aqueduct concession and the related planned improvement investments were particularly important as well as the expansion of both the **geographical area of interest** of the Group, with reference to Central Italy, and the **businesses managed**: in the sector of energy production from renewable sources to the circular economy and the distribution of gas. **Technological innovation** and **digitalization** are the levers that make it possible to pursue operating efficiency and high quality of services, thus improving the **development of modern network infrastructure** that are resilient and integrated, as well as able to promise widespread, sustainable development.

BUSINESSES AND FUNCTIONS OF THE MAIN GROUP COMPANIES

Today Acea is one of the main Italian multi-utilities working in the public energy (production, distribution, including public lighting, and sales), water (integrated cycle) and environmental services (waste valorization, composting and value-added services).

As mentioned above, the company is the reference operator in the Rome's territory.

In the water industry, as an industrial partner for local operators, Acea is present in other parts of Central Italy (Tuscany and Umbria) and Southern Italy (Campania).

In line with the new strategic guidelines, in 2019 some initial operations were also carried out in the gas distribution sector, the production of photovoltaic electricity – with the acquisition of plants having a total capacity of about 28 MWp – and the circular economy, with the development of composting and the acquisition of waste treatment plants. These developments were accompanied by initiatives and agreements both at the technological level and in the development of activities (see the in-depth box and the chapter titled *Institutions and the Company*).

ACEA ENERGIA AND ERG: POWER PURCHASE AGREEMENT (PPA) FOR RENEWABLE ENERGY

In October 2019 Acea Energia entered into the first two agreements with ERG (ERG Power Generation) for the supply of a total of 1.5 TWh of renewable energy in the period from 2020 to 2022. PPA contracts make it possible to optimize **synergies between the two complementary operators** (wholesaler and producer) to their mutual benefit: the purchase of energy for resale to one's customer portfolio and the sale of energy produced from renewable sources.

The agreement provides for Acea Energia to withdraw the entire production of electricity from ERG's 13.2 MW recently-rebladed wind farm in Avigliano at a fixed price.

The signing of these contracts will allow Acea Energia to diversify the energy supply for end customers, thus ensuring more stable prices, and to support the energy transition process the Acea Group is engaged in.

The price dynamics underlying these agreements, which make it possible to optimize the levels of risk for both partners, may in the future be the basis for further medium-long term relationships between the parties (ten-year PPAs).

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. 6 – ACEA GROUP IN NUMBERS, 2019

PERSONNEL (number, by % consolidation)	7,576
NET REVENUES (million €)	3,186.1
INVESTED CAPITAL (million €)	5,169.5
net equity debt	*3,062.8*
shareholders' equity	*2,106.7*
TOTAL ASSETS IN THE FINANCIAL STATEMENTS (million €)	8,954.4
ELECTRICITY	
generation (GWh) (gross)	904.1
of which from renewable sources (GWh) (gross)	*635.0*
hydroelectric	*425.9*
photovoltaic	*10.9*
waste-to-energy	*178.4*
biogas	*19.8*
network demand (GWh)	10,609
sales (GWh) (free and protected market)	6,432
electricity and gas customers (number)	1,365,869
WASTE-TO-ENERGY (WtE)	
electricity generation (GWh) (gross total)	357.2
waste burnt (t)	434,623
SRF	*340,531*
pulper	*94,092*
PUBLIC LIGHTING	
bulbs managed in Rome (number)	225,730
WATER (INTEGRATED WATER SERVICE)	
drinking water supplied and billed (Group) (Mm^3)	629
of which (Acea Ato 2, Acea Ato 5, Gori and Gesesa)	*447*
analytical checks on drinking water (Group) (number)	1,416,870
of which (Acea Ato 2, Acea Ato 5, Gori and Gesesa)	*607,309*
wastewater treatment (Group) (Mm^3)	855
of which (Acea Ato 2, Acea Ato 5, Gori and Gesesa)	*666*
inhabitants served (Group) (million)	8.6
of which (Acea Ato 2, Acea Ato 5, Gori and Gesesa)	*5.8*

CHART NO. 2 – THE BUSINESSES OF THE MAIN ACEA COMPANIES IN THE TERRITORY

WATER

Acea Ato 2 manages the integrated water service in Rome and another 111 towns in the Province.
Acea Ato 5 is the operator for the 86 towns in the province of Frosinone.
Gori manages the service for 76 towns between the metropolitan city of Naples and the province of Salerno.
Gesesa works in the town of Benevento and another 21 towns in the Province.
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.

ENVIRONMENT

Acea Ambiente, with plants in Lazio, Tuscany and Umbria, takes care of environmental management (treatment and disposal) and of the production of energy from waste and composting.
Aquaser works in the recovery, treatment and disposal stages for sludge resulting from the treatment phase of the integrated water service..

ENERGY INFRASTRUCTURE

Areti plans, designs and executes the actions of modernizing and developing electricity infrastructure (HV-MV-LV lines, cabins, rremote control and measurement systems) and manages its distribution services in the towns of Rome and Formello. In the city of Rome, it manages and develops functional and monumental and artistic public lighting systems as well as cemetery one.
Acea Produzione manages the production of energy and heat with a power plant consisting of hydroelectric, thermoelectric and photovoltaic systems.
Ecogena designs and manufactures cogeneration and trigeneration plants and works as an ESCo (Energy Service Company) providing energy efficiency services to internal customers (obligations of increased efficiency under Ministerial Decree of 20 July 2014), and ensures the monitoring of technological innovation in terms of energy savings.

COMMERCIAL AND TRADING

Acea Energy manages the sale of electricity and gas on the market (free and more protected).
Acea8cento manages customer care, especially remote contact channels for Acea group operating companies.

CONTEXT ANALYSIS AND BUSINESS MODEL

CONTEXT ANALYSIS

Acea Group has an attentive and sustainable operational and economic-financial management, guided by the principles of corporate social responsibility and able to promote the development of the territories it works in.
It therefore monitors the scenario of reference, thus identifying and analyzing the factors that be significant for its business, such as **competitive, sustainability** and **regulatory areas** that can affect the achievement of strategic goals.
Factors outside the Group are supplemented by the context within the Group, in organizational terms and relating to energy and environmental impacts, technological innovations, development of human capital, protection of workers' health and safety and sustainable and responsible management of the supply chain.

THE ENERGY MARKET AND COMPETITORS

The Acea Group is vertically integrated into the electricity supply chain through independent companies that guarantee neutrality in the management of infrastructure essential for the development of a free energy market, to avoid discrimination in access to commercially sensitive information and cross-subsidization between the various segments of the chain.
In the **sales segment** there was an extension to 1/1/2022 for the completion of the liberalization of retail sales with the expiry of the protected prices for all types of customers, pending the definition of how to phase out the standard market. Competition among operators will increasingly be characterized by the search for **distinctive added-value elements**, to be achieved through investments in technological innovation and digitalization to the benefit of the customer.
Technological innovation also plays an important role in the development of the electrical **grid-distribution** and public lighting industry. In particular, further progress is envisaged in the automation and efficiency of processes and applications in the *smart metering, smart grid and smart city areas*.

THE INTEGRATED WATER SYSTEM

In the **water sector**, the main development driver is the progress being made in the regulation by the ARERA, which **rewards the efficiency of operators**. Similarly to the electrical industry, in fact, the national Authority resolved on the new regulation for the technical quality of the integrated water service starting from December 2017 using a reward/penalty mechanism linked to the compliance with performance standards (service levels) and also an automatic indemnity system for customers which is added to that already defined in relation to contractual quality. There are therefore **development opportunities for the service managers that are closely linked to the capacity to adopt developed technological systems**, highly efficient disclosure and organizational models, standardized and repeatable, capable of significantly affecting the improvement of performance levels.

THE WASTE MANAGEMENT MARKET

The current situation of production and treatment capacity for waste in the traditional operational areas of the Acea Group and in the neighboring areas shows a **high "potential demand"** for **waste management** (disposal in landfills, waste-to-energy, composting and biogas production, sludge and liquid waste treatment, recycling of mixed materials and production of secondary raw materials). This is facilitated by a national **regulatory framework** that provides **incentives**, by European directives on the recovery of materials and energy and by the European Union's policy guidelines on the circular economy (closing the loop), which are being implemented at the national level by virtue of a delegated law that has given the government the obligation to update environmental standards – thus adapting it to the new EU standards – by 2020. Opportunities for developing the sector are therefore highlighted, **also facilitated by the availability of new technologies** (for example in composting) and by possible **forms of industrial integration** with other operators.

INSTITUTIONAL INVESTORS

In 2019, the Italian Stock Exchange **recorded a positive performance** (FTSE Italia Mid Cap +18.3%; FTSE MIB +28.3%) in line with the main European stock markets.
International stock markets have been influenced by, among other things, the new expansionary policies implemented by central banks and the evolution of Brexit and US-China trade relations. In particular, the greater clarity of the policy framework in Great Britain and the framework agreement reached in December between the US and China for the reformulation of duties have helped ensuring **greater stability** in the markets.
During the year, the **growth of ethical investments** was recorded and the trend continued – already highlighted in 2018 – towards a progressive change in the strategies adopted by Investors. **ESG** (Environmental, Social, Governance) values are increasingly considered **data to be included** along with traditional analyses **in the investment decision-making process. Engagement and voting strategies are also increasingly used with the aim of inducing companies towards more sustainable behaviors**, thus leading them to make decisions that also take into account social, environmental and good governance issues in their corporate policies. The most common issues include climate change and related matters such as reducing the level of CO_2 emissions, efficient management and, where possible, the recycling of natural resources.
The Chief Responsible Investment Officer of Amundi – among the most important investment funds, leader in Europe – highlighted how he intends to influence issuers by: *"improving the ESG procedures of companies through: active dialog, engagement as a measure of direction and voting policies"*.

SUSTAINABLE DEVELOPMENT

The 2019 sustainability scenario has been subject to evolutionary pressures from public and private institutions both nationally and internationally. It should, for example, be noted the new direction given by the **European Union** with the **Action Plan to finance sustainable growth**, and subsequently with the **Green New Deal**, which the Commission, chaired by Mrs. Ursula von der Leyen, has placed **at the center of its strategy**. The latter, closely related to the objectives of the UN Agenda 2030 (SDG), aims at reconciling the economy with the principles of environmental protection and social inclusion, thus shifting the paradigm of the circular economy.. Making the EU climate-neutral in 2050 and decoupling growth from resource consumption and ensuring a balanced social transition are some of the biggest challenges that can be dealt with also thanks to adequate financial investment. This is in sync with the **new policy of the European Investment Bank** (EIB), which from 2020 plans to align its activities with the **objectives of the Paris climate agreement**, and from 2021 to interrupt funding for fossil fuel projects. However, notwithstanding strong positions like those of Europe, at an international level a setback was suffered due to the substantial failure of the UN Climate Conference (COP 25) held in December in Madrid, which postponed some important decisions until 2020, including the definition of the rules for the carbon market.
Confirming the European position, **national institutions** are **orient-**

ed towards the cross-cutting integration of sustainability and support for the **transition to a circular economy**. Regulatory interventions have already generated basic measures such as the climate law decree, then converted into law, which introduces, among other things, the transformation of the CIPE into CIPESS (Interministerial Committee for Economic Planning and Sustainable Development), legislation on the end of waste and an investment plan for the Italian Green New Deal outlined in the 2020 finance law. These initiatives should facilitate making up for the delays that our Country is experiencing in the **pursuit of the SDGs** despite encouraging signs, as noted in the Asvis 2019 report presented in October to the highest Italian institutional offices.

Another sign of the change under way, in this case **coming from the production system**, was launched by the **Business Roundtable**, an association that brings together more than 180 of the largest U.S. companies, which by redefining in its statement the purpose of the companies has unequivocally affirmed their role in the **creation of long-term value for the benefit of all stakeholders**. Similarly, in Italy great attention was paid to the announcement of the **updating of the Corporate Governance Code**, which will represent a best practice for companies when implementing strategies increasingly oriented towards sustainability: *"The primary task of the Board of Directors is to pursue the company's 'sustainable success', where long-term value creation for the benefit of shareholders is achieved taking into account the interests of other stakeholders".*
Taking into account these developments, Acea continues its development by integrating sustainability in its strategies and organization. In this regard, the **updates to the Business Plan and the Sustainability Plan for 2019-2022** are particularly worthy of note, with an increase in investments related to sustainability targets of €400 million, equal to half of the entire amount of new investments, for a total value of investments linked to sustainability aspects over the plan period of €1.7 billion. An initial sharing of the program and the main initiatives put in place by the company on sustainable development and innovation with the public and qualified stakeholders was made possible during the year thanks to two important initiatives: Acea Sustainability Day and Acea Innovation Day.

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, protection of sources, safeguard of the natural areas where the plants and service networks encroach, **mitigation of the physical and the external impacts generated in the ecological context of the operating processes**. One example is energy generation, where repowering initiatives are constant in order to modernize plants including by pursuing lower environmental impacts in terms of emissions, or the integrated water service, where Acea's responsible management starts with the supply phase, making it available to people, and concludes with a commitment to return wastewater to the receiving body in the best possible conditions, and again to the environmental services sector linked to waste management, where the commitment to the ecosystem concerns both operational processes and the transformation of waste in a circular economy, as is the case for the treatment of sewerage sludge.
In line with the desire to work while respecting and protecting the surrounding environment, Acea implemented initiatives aimed at better managing the aspects of its activities that have a general impact on the environment and, specifically, on energy, also thanks to the use of advanced systems and technologies.

- Management systems: the **widespread adoption of environmental and energy management systems** is a concrete response on the importance of environmental dynamics for Acea and a managerial tool for continuous improvement in performance.
- Mobility management: in this context, the Acea Group has undertaken initiatives to reduce employee travel and to encourage less polluting means of transport.
- Carbon Disclosure Project (CDP): Acea publishes its initiatives, communicating them to the international CDP organization, which drafts annual online reports aimed at informing analysts and lenders about the levels achieved by companies in **managing risks and opportunities related to the topic of climate change.**
- Green purchases and environmental awareness development of the supply chain: Acea has set itself the goals of increasingly integrating the assessment of environmental aspects through the implementation of CAMs for the supply of compatible product categories. Moreover, it has committed to assessing its suppliers on an annual basis with regard to the **environmental performance of the products/services supplied**, and to inform/train contractors and subcontractors regarding the environment.
- Energy management: using energy management, Acea Group promotes the improvement of the energy performance of plants and buildings by implementing best procedures to **reduce energy consumption and encourage the use of energy from renewable sources**.

Acea has included actions to combat climate change in its 2019-2022 Sustainability Plan, which comprises both mitigation and adaptation actions and monitors the matter and related EU and international developments (the COP – Conference of the parties and European legislation). Environmental issues related to the array of services provided by the Group are included in the Organization and Management Model pursuant to Italian Legislative Decree no. 231/2001.

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

The regulatory context of Acea is wide-ranging and articulated according to the specificity of the businesses handled – water, energy and environment – and the variety of the frameworks within which the legal and regulatory disciplines intervene, which affect the business operations, from administrative authorization profiles to those protecting the market and competition. Added to such aspects is the peculiarity of the nature of listed Company, with the related legal impacts, for example, in terms of regulating communications to the market. The regulatory scenario is therefore analysed from a multidisciplinary viewpoint, applying a 360° overview and continuous interpretative analysis, in order to detect developments of particular significance, thus identifying and assessing risks and opportunities in terms of strategy and operating management. The revision of the regulatory framework governing the procurement sector, with amendments to the new Code of Public Contracts, is one of the most important issues of the year.

REGULATION OF THE SECTOR AUTHORITY

Since 2015, the Regulation Authority for Energy, Networks and the Environment (ARERA) has defined the regulation of **the contractual quality of the integrated water service** (RQSII), thus establishing specific and general levels of contractual quality that are homogeneous throughout the territory In December 2019 with resolution 547/2019, ARERA updated – from 1 January 2020 – the current regulations **by broadening the scope**

of the regulation **and integrating** what is already envisaged in terms of billing, check of meters, execution time of complex works, methods of recording, procedures and parties obliged to report. The same measure also includes, also for contractual quality, an incentive system (bonuses/penalties) to be recognized from 2022 on the basis of the performance achieved by operators in each of the two previous years (2020 and 2021). For the **technical quality of the water service**, regulated since 2017, from January 2019 operators have been required to record and archive the data envisaged in Resolution 917, and from 2020 the first quantification of bonuses/penalties will be calculated on the basis of the performance achieved in the years 2018 and 2019. Finally, Resolution 580/2019 "Approval of the water tariff method for the third regulatory period MTI – 3" of 27 December 2019, which partially added the incentive mechanism envisaged in the regulation of technical quality and specified the methods for covering the bonuses envisaged by the incentive mechanisms identified in the RQSII (as updated by Resolution 457/2019) and in the RQTI.
With reference to **the technical quality of the electricity industry**, in 2018 ARERA introduced a mechanism of bonuses/penalties (Resolution 668/2018/R/eel) to encourage distribution companies to invest in actions to make the network more resilient to the stresses resulting from severe weather events. In 2019 this mechanism was implemented with Resolution 534/2019/R7eel, which published the resilience-building measures relating to the 2019-2021 plans eligible for a bonus and/or penalty, and, among these, that of the Areti distribution company.
The Authority also launched (Resolution 467/2019/R/eel) an experimental regulation for the modernization of buildings' old riser cables, thus offering a contribution financed by distribution fees to **promote the renewal of old electrical systems inside apartment complexes**, improving their safety and efficiency, with reimbursements to the complex for any construction works implemented.
With regard to commercial aspects, the 2020 Budget Law approved in 2019 introduced new guidance regarding **incorrect billing and adjustments** in all regulated sectors, which significantly change the previous regulation. The application definition should be available during 2020.

DEVELOPMENT AND TECHNOLOGICAL INNOVATION

At Acea, the Innovation, Technology & Solutions Function reports directly to the CEO and has the task of ensuring **a model of innovation for the Group through the implementation of processes and approaches typical of open innovation**, with the involvement of internal and external stakeholders as defined by the Industrial Plan. In this context, the dissemination of a culture of innovation has been encouraged by involving all Group employees in specific initiatives; partnerships have been established at a national and international level with the aim of strengthening Acea's positioning in the innovation ecosystem and identifying new business opportunities; innovative solutions (proof of concept) from start-ups and SMEs have been analyzed and tested.

DEVELOPMENT OF HUMAN CAPITAL

People are the most important resource and they are given the tools and skills necessary to respond effectively to the challenges of the business during the main stages of corporate life: selection, welcoming, training, rewarding and development.
Entrepreneurship, teamwork and action are the three driving values of the Leadership Model upon which the Group's initiatives are based to achieve the goals of the strategic plan and the sustainability plan. The Human Resources Function works on skills and improvement of people management and development processes in three different ways:

- professional development, managerial growth, training and development of skills;
- involvement of people in the Group's identity;
- inclusion and organizational well-being, thus recognizing the strategic value of diversity and workers' health and safety.

SUSTAINABLE MANAGEMENT OF THE SUPPLY CHAIN

At the service of the territory and the public, Acea is fully mindful of the **virtuous partnership that can be established with the supply chain**. In fact, it attributes greater value and reliability to contractors that have certified quality, environmental, safety, energy and social responsibility management systems and provides a self-assessment questionnaire on these issues for the majority of suppliers that register for qualification systems. In terms of green procurement, Acea applies the Minimum Environmental Criteria in its tender specifications and is working to extend this same approach to product categories that are not yet mentioned in the relevant Ministerial Decrees. With the aim of raising awareness and supporting the continuous improvement of the supply chain, Acea also carries out second-party checks and strict safety inspections at the construction sites. This brings to light good practices and, at the same time, identifies shared paths towards growth and improvement.

SAFETY AND HEALTH AT WORKPLACE

Acea works hard to instill a **widespread safety culture**, involving all its employees and the supply chain. It therefore carries out targeted awareness campaigns addressed both internally and to contractors, directly involving people, in the belief that it is necessary to set up effective tools for the prevention of accidents. For this purpose, it has also implemented an advanced risk assessment model, not to mention control and mitigation measures. Acea's "Vision" of workplace safety – which is the prelude to the preparation of a model of Safety Governance – and the theoretical and practical tools to achieve it have been defined together with top management. The Holding Company set up a Group RSPP Coordination Committee, which meets quarterly in order to, among other things, share the results of safety performance analyses and experiences and good procedures. A **special H&S Dashboard was also prepared** and it has become a shared tool for the reporting of occupational health and safety performance.

THE BUSINESS MODEL

The implemented business model (chart no. 3) is based on an organizational structure wherein the Holding performs the role of steering and coordination of the Companies that make up the Group. Moreover, Acea SpA offers managerial support by means of management and legal, logistic, technical, financial and administrative services. Acea SpA's **organizational macrostructure** consists of **corporate functions and industrial segments** to which the operating companies report (see chart no. 4).

CHART NO. 3 – ACEA'S BUSINESS MODEL

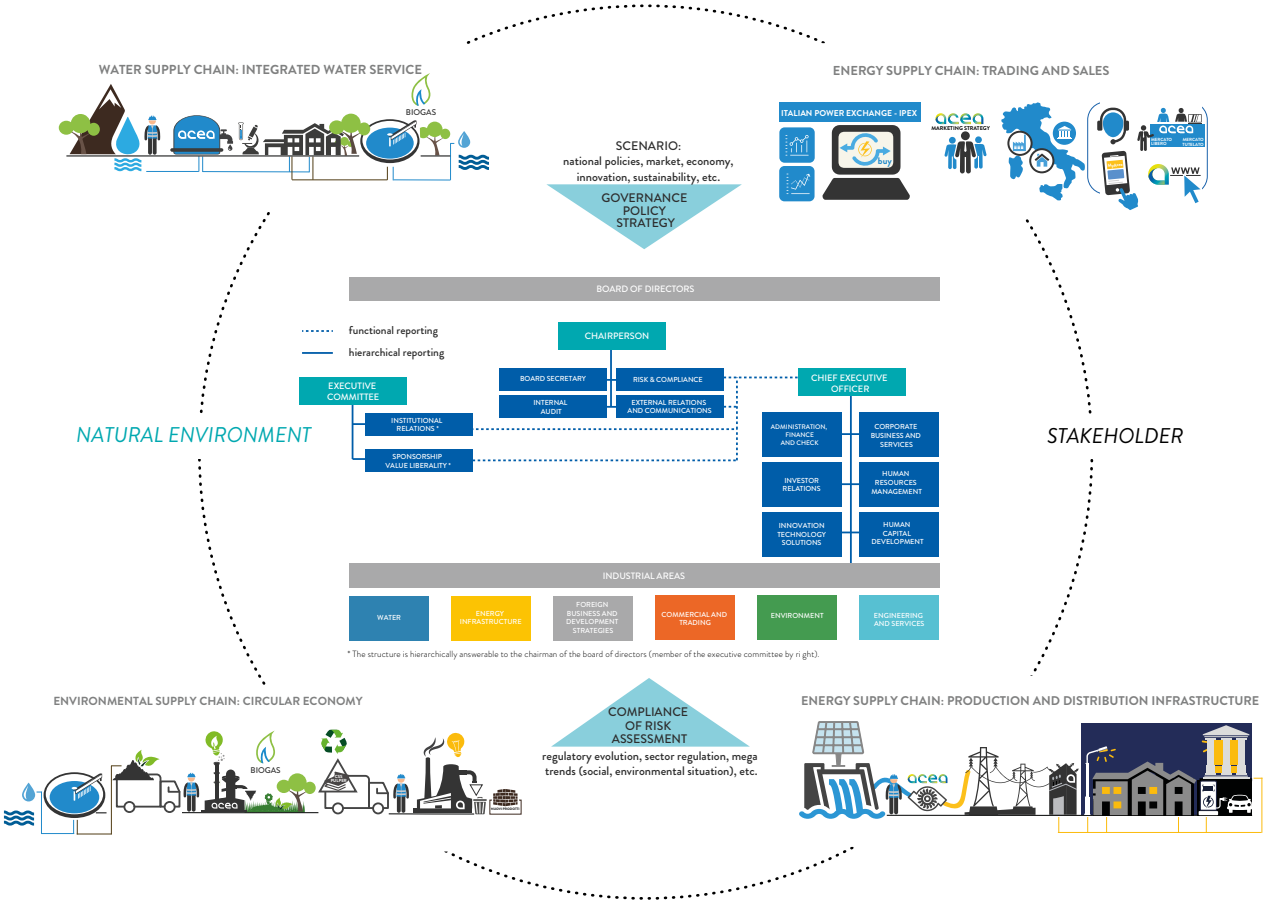
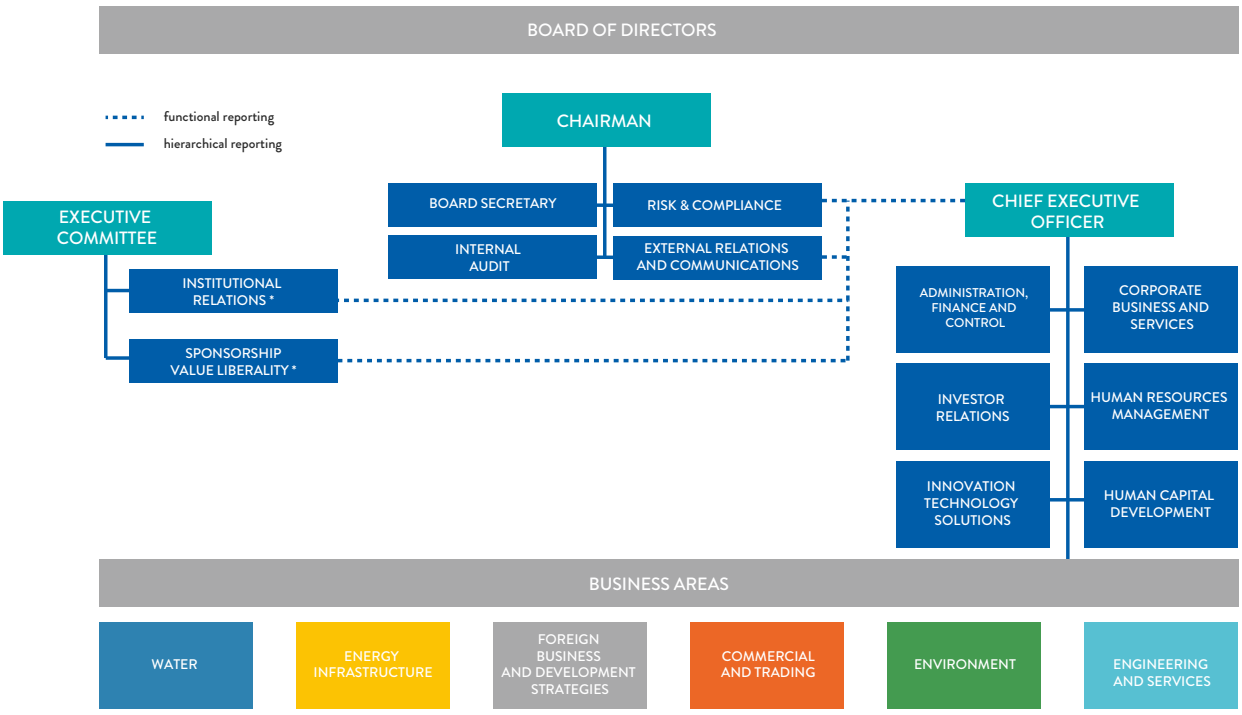


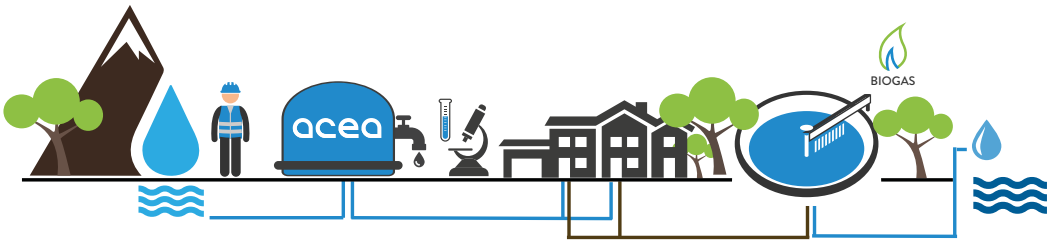
CHART NO. 4 – ACEA SPA ORGANISATION CHART AS AT 31.12.2019



* The structure is hierarchically answerable to the Chairman of the Board of Directors (a member of the Executive Commitee by right)

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 4 chains of activities already mentioned and shown below. The business activities are broken down in the strategic Plan (*see the section titled Integrated strategy reading*), 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 careful **identification and weighting of the risks** that can impede the achievement of the goals. When performing activities and supplying services, Acea Group pays the greatest attention to its **interactions with the natural environment** and **relations with stakeholders**, thus managing the corporate activities in a manner that is consistent with the principles of sustainable development.

WATER SUPPLY CHAIN: INTEGRATED WATER SERVICE



The water supply chain: starting from a careful analysis of springs and groundwater and the potential impacts of operational processes on them – for example, by defining and monitoring water districts and preparing water balances – 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 and advanced treatment phases to recover useful material and return the resource to the environment in the best possible conditions for its natural cycle to resume.

ENERGY SUPPLY CHAIN: PRODUCTION AND DISTRIBUTION INFRASTRUCTURE

Production and distribution of electricity: Acea produces energy at hydroelectric plants, waste-to-energy plants, thermoelectric plants (high-efficiency cogeneration), anaerobic digestion plants (biogas) and photovoltaic plants, for a total generation from renewable sources of about 70%. Users receive electricity thanks to the distribution grid managed and developed by Acea. The digital and innovative development in the services, stimulated and required by a constantly evolving market, commits the Distributor to tend towards smart city solutions. This is accompanied by a resilient management of the networks by which it is possible to support a future shift and increase in the uses of the electrical vector.

ENERGY SUPPLY CHAIN: TRADING AND SALES

Sale of energy and gas: the purchase of commodities (energy and gas) takes place by means of bilateral contracts or exchanges on market platforms (Electronic stock exchange) where Acea Energia supplies itself in order to resupply clients according to its respective commercial policies.
The Company develops relations with the customers, based on their type, by means of increasingly more innovative and digital contact channels, however retaining traditional tools such as the telephone and public counters. The promotion of its products takes place through pull channels (shop, website, branches) as well as through sales agencies that are selected, trained and their commercial procedures monitore.

ENVIRONMENTAL SUPPLY CHAIN: CIRCULAR ECONOMY

Waste valorization and circular economy: the environmental supply chain has as its objective the valorization of waste through the reduction of volumes, their treatment, conversion into biogas, transformation into compost for agriculture and floriculture 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 through plant acquisition and development projects.

OWNERSHIP STRUCTURE OWN ASSETS AND GENERAL ECONOMIC INDICATORS

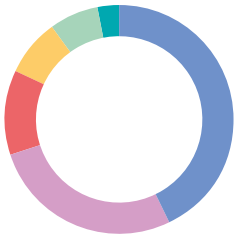
Acea SpA is listed on the Italian Stock Exchange organized and managed by Borsa Italiana. The Company is included in the FTSE Italia Mid Cap Index. **Roma Capitale** is Acea SpA's majority shareholder, holding **51% of its share capital**. As at **31.12.2019**, other significant direct or indirect equity interests were held by **Suez** for over 23% and **Caltagirone Francesco Gaetano** at approx. 5% (see chart no. 5).
Institutional investors control more than 14% of the share capital, with a geographical distribution that shows a predominance of American shareholders, followed by those in Italy, Norway and the UK (see chart no. 6).
Retail investors hold less than 5% of the share capital.
Economic performance) 2019 saw positive results for the Group and further growth compared to 2018, exceeding the guidance communicated to the market. The performance achieved is part of the steady growth seen over the last three years, which reflects the economic and financial environment combined with the best results achieved by the Group and the sustained growth of its capitalization, and the expansion of the company's scope and industrial activities. The items in the financial statements are all positive: **EBITDA** stabilized at **€1,042 million** (+12% compared to 2018) and **EBIT** amounted to **€518 million** (+8% compared to 2018). The **Group profit** was **€284 million** (+5% compared to 2018).

CHART NO. 5 – PROPRIETARY STRUCTURE AS AT 31.12.2019

- 51% | Roma Capitale
- 23.3% | Suez SA
- 20.7% | Market
- 5% | Caltagirone Francesco Gaetano

Source: CONSOB

CHART NO. 6 – GEOGRAPHICAL REPRESENTATION OF THE INSTITUTIONAL INVESTORS IN ACEA



- 43% USA
- 27% Italy
- 12% Rest of Europe
- 8% Northern Europe
- 7% UK
- 3% Rest of the world

TOTAL SHARE HELD **14%**

TABLE NO. 7 – THE MAIN ECONOMIC AND EQUITY DATA OF THE ACEA GROUP (2018-2019)

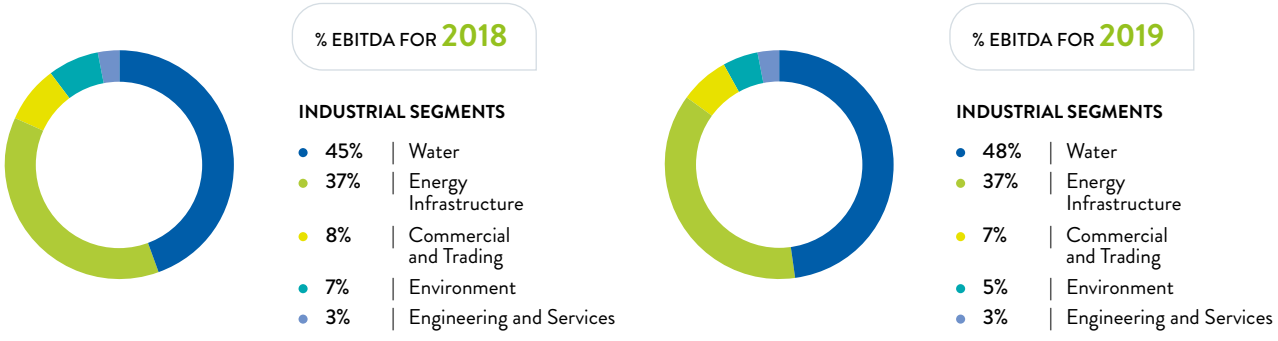
(in million €)	2018	2019
net revenues	**3,028.5**	**3,186.1**
operating costs	2,138.5	2,185.3
staff costs	*219.6*	*248,9*
xternal costs	*1,918.9*	*1,936.4*
income/(expense) from non-financial investments	43.3	41.4
gross operating margin (EBITDA)	**933.2**	**1,042.3**
gross operating margin (EBIT)	**478.5**	**518.1**
financial management	(82.9)	(90.3)
investments management	13.3	2.6
profit/(loss) before tax	**409**	**430.3**
income tax	124.3	123.2
net profit/loss	**284.7**	**307.2**
profit/loss attributable to third parties	13.7	23.5
net profit/(loss) of the Group	**271**	**283.7**

Consolidated revenues in 2019 amounted to **€3,186.1 million** (€3,028.5 million in 2018), up 5%, mainly as a result of the strong increase in the water segment (€221 million more than in the previous year).
External costs remain essentially stable at approximately **€1.93 billion** (compared to €1.91 billion in 2018). Cost trends are mainly affected by the change in the scope of consolidation.
The **EBITDA** of approximately **€1,042 million is up** from €933 million last year (+12%), and performed better than the guidance.
The Industrial Segments contributed to the overall value of EBITDA, as follows:

- **Water** operating segment at 48%, with €505 million, a 17% increase respect to the data from 2018 (€433 million). The change is attributable to the results of the newly consolidated companies such as Gori, AdF and Pescara Distribuzione Gas;
- 37% from the **Energy Infrastructure** industrial segment, with €392 million, up about 9% from the previous year (€361 million). This positive change is mainly attributable to Areti, following the annual tariff updates of the distribution for greater investments;
- **Commercial and Trading** accounted for 7%, with €69 million, down 9% (€76 million);
- the **Environment** industrial segment accounted for 5%, with €52 million, down about 21% from the previous year (€66 million) due to lower revenues from the CIP6 tariff.

Also contributing to the Group EBITDA are the **Overseas** segment and the **Engineering and Services** segment totaling 3%.

CHART NO. 7 – CONTRIBUTION OF THE BUSINESS AREAS TO OVERALL EBITDA (2018-2019)



Operating profit (EBIT) came to **€518 million**, up by €40 million (+8% on 2018). The increase is limited by the growth in amortization and depreciation as a result of changes in the Group's scope.

STRATEGY AND SUSTAINABILITY

INTEGRATED STRATEGY READING

Taking advantage of the opportunities offered by the evolution of the setting and the new economic, social and environmental challenges, in an increasingly integrated perspective, Acea's strategic planning balances both the industrial dimension and the sustainability aspects in its business goals.

Consolidating the evidence of the successful results already achieved in the previous year, in April 2019 Acea updated the **Business Plan for 2019-2022 with even more challenging objectives** than the previous ones. In the development process, the Company confirmed the following strategic pillars:

- **Industrial growth** focused on infrastructural development and a customer-oriented approach;
- **Territory and sustainability** based on decarbonization through greater electrification of consumption, the recovery of of material in the waste cycle;
- **Technology, innovation and quality**, with innovative projects involving automation and resilience of infrastructure to facilitate the transition to advanced models of smart grids and smart cities;
- **Operating efficiency**, by means of the careful regulation of costs and investments and improvement of performance.

The total investments envisaged in the Plan amount to **€4 billion**.

Working towards an alignment between the business and sustainability strategies, **Acea updated its Sustainability Plan** for 2019-2022, which was approved by the Board of Directors in December. Again, the Group **confirmed the articulation of the Sustainability Plan at a governance level**, oriented towards the progressive integration of sustainability aspects into the company's management **and into five macro operational goals**, which remained unchanged, broken down into targets for 2022 and related KPIs.

MAIN ACTIONS AND STRATEGIC OBJECTIVES OF THE 2019-2022 BUSINESS PLAN BY BUSINESS AREA

WATER

Development of a Smart Water Company for a sustainable use of water by improving the quality and efficiency of the service

- Introduction of **remote reading systems** on meters for a total of over 500,000 smart meters installed and **division of the network into districts**
- **Boosting of purification** with a rationalisation plan for small plants and the reinforcement and automation of large plants
- New Peschiera section to **guarantee the availability of water**
- Strong focus on investments to **improve the technical quality**
- Strengthening the leadership position in the industry through the growth of the **consolidation of water management**
- Entry into **the gas** distribution industry

ENERGY INFRASTRUCTURE

Strengthening the focus on the energy transition with projects to promote decarbonization of the system

- Renovation of the LV/MV grid for over 2,500 km, to **increase the network's resilience** and the capacity of power available in view of the increase in electricity consumption
- **Smart metering for the Rome grid** by starting the installation of 600,000 2G smart meters and extending the remote control of **substations**
- Development of **the fiber** optic network, with the laying of over 600 km of cables to develop its service infrastructure
- Increase of 150 MW of installed power via solar energy, both through the acquisition of plants and through the construction of new ones

COMMERCIAL AND TRADING

Retail portfolio growth and improvement in quality of service and enhancement of energy transition opportunities

- Improvement of initiatives to pursue **customer satisfaction**, including through the development of value-added services (smart meters, insurance, domestic thermal systems)
- **Optimization of operational processes** to obtain cost reductions
- Commercial push on digital channels and pull channels (shop, branches, digital) with the prospect of increasing the customer base by 30% by 2022

ENVIRONMENT

Acceleration of plant development aimed at the recovery of materials and energy with a view to Circular Economy

- **Doubling** the amount of treated waste (target 2.2 Mtonnes) with the development of new plants (organic fraction, liquid-sludge, multi-material)
- Search for partnerships and corporate acquisitions to grow in the circular economy

The updating process was carried out with the **full involvement of the organizational structures** (Parent Company and Operating Companies Functions). **Two new governance objectives** were introduced, bringing to 8 the cross-cutting goals, focusing respectively on the implementation of a **welfare plan** for employees, based on an advanced model of industrial relations, capable of **identifying emerging social needs** and **sustainable management of the supply chain**, with a focus on circular procurement. At the **operational level**, **new targets were introduced** and **many of the previous ones were updated** by the Functions of the Holding and the Companies, taking into account the **sustainability aspects related to the industrial guidelines of the business areas**, the **material issues defined by listening to stakeholders** and the **relevant Sustainable Development Objectives of Agenda 2030**. Overall, the **2022 targets** increased from 137 to **183**.

In addition to more challenging environmental objectives, linked in particular to the **fight against climate change** (mitigation and adaptation), **the efficient use of resources** and a logic of **circular economy**, new targets have been set for the development of a **structured approach to stakeholder involvement**, **employee welfare** and the widespread dissemination of a **culture of safety** within the Group and along the supply chain, as well as **technological innovation** applied to all infrastructure to increase intelligence and resilience, also by promoting excellence and skills and developing **research projects** in partnership.

Investments envisaged in the 2019-2022 Business Plan related to sustainability targets **increased by €400 million** for a total of **€1.7 billion**. In 2019 both the **progress of the targets and the amount of investments committed** were **monitored**, which, as at 31.12.2019 amounted to **approximately €328.5 million**. The amount of the year, added to the investments committed in 2018 (€175 million) **brings the figure for the two-year period to €503.5 million**.

THE GOVERNANCE LEVEL OF THE 2019-2022 SUSTAINABILITY PLAN: CROSS-CUTTING OBJECTIVES FOR INTEGRATION

GOVERNANCE AREAS	STRATEGY
SUSTAINABILITY IN THE RISK ASSESSMENT	• considering ESG material issues in the model for **identifying, assessing and monitoring business risks**
SUSTAINABILITY IN THE STRATEGY	• highlighting **the total value generated by the Group** with an integrated reading of economic and sustainable development
SUSTAINABILITY IN THE MBOs	• enhancing the objectives aimed at promoting sustainability impacts by integrating them into the **performance management systems**
CF SUSTAINABILITY CULTURE SPREAD	• involving internal and external stakeholders in the matter by disseminating the "**sustainability culture**"
FCR SUSTAINABILITY FOR SHAREHOLDERS AND LENDERS	• highlighting **ESG – Environmental, Social, Governance – elements** of corporate management **in relations with shareholders and investors**
SUSTAINABILITY IN THE REGULATION SECTOR	• identifying **sustainability-related topics** in **evolutionary trends in national and European regulations**
SUSTAINABILITY IN THE MANAGEMENT OF PEOPLE	• increasing the **organizational and personal well-being** of employees, identifying social needs through evolved and participatory industrial relations
SUSTAINABILITY IN PROCUREMENT	• introducingsustainability aspects into the management of the **supply chain**, considering the best procedures in the field

THE OPERATIONAL LEVEL OF THE 2019-2022 SUSTAINABILITY PLAN: SPECIFIC FEATURES OF THE 5 MACRO OBJECTIVES

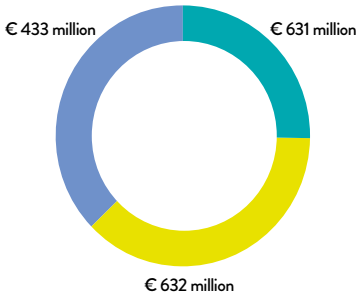
MACRO OBJECTIVE	STRATEGY
PROMOTING A FOCUS OF THE CUSTOMER	• reaching challenging levels of **commercial and technical quality of the supplied services** and improving the channels of contact to fully meet the customer requirements
VALUING PEOPLE FOR THE GROUP'S GROWTH	• **training**, expanding know-how (active ageing) and development plans, **sharing strategies**, **sustainability** in performance management systems and promoting **inclusion**
QUALIFYING PRESENCE IN THE REGIONS AND PROTECTING THE ENVIRONMENT	• more **resilient infrastructures** in relation to climate change, **contained impact** on the natural environment and territorial protection, more efficient use of resources and reduction of CO_2 emissions, development of **initiatives for circular economy**, promotion of sustainability along the supply chain and structured approach to involve the parties concerned
PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN	• prevention and **circulation of the culture of safety along the value chain**, internal and external, by means of training and awareness, increased **verification and control activities** and actions to ensure the health and safety of customers
INVESTING IN INNOVATION FOR SUSTAINABILITY	• experimentation of **new technologies and new ways of working**, research for the **development and resilience of infrastructure**, contribution to the development of the urban scenario with a view to develop **smart cities**

CHART NO. 8 – THE 2019-2022 SUSTAINABILITY PLAN IN NUMBERS

183 targets

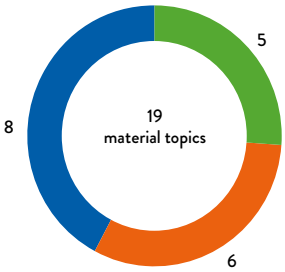
PROMOTING A FOCUS ON THE CUSTOMER	DEVELOPING PEOPLE FOR THE GROWTH OF THE GROUP	STRENGTHEN THE PRESENCE IN LOCAL COMMUNITIES AND PROTECTING THE ENVIRONMENT	PROMOTING HEALTH AND SAFETY THROUGHOUT THE VALUE CHAIN	INVESTING IN INNOVATION FOR SUSTAINABILITY
32 targets (17%)	**23 targets (13%)**	**73 targets (40%)**	**24 targets (13%)**	**31 targets (17%)**

total investments in sustainability for 2019-2022
€ 1.7 billion



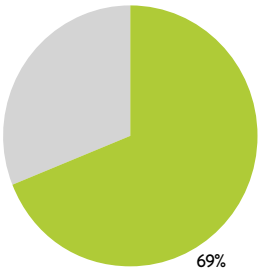
Water Segment · Energy Infrastructure Segment · Environment Segment

100% of the material topics covered (medium and high significance)



Environmental · Social · Governance

127/183 targets related to the **SDGs**



NOTE Each target can be related to multiple material topics and SDGs

ACEA SUSTAINABILITY DAY

Acea's first Sustainability Day was held in October 2019 and was an opportunity for the Company and representatives of institutions, research, businesses and experts in the field to **discuss the scenarios and challenges** posed by an economic and social system progressively marked by sustainable development.
The event, entitled ***Enterprise, sustainability and the future***, focused the dialog between the qualified participants on the evolutionary dynamics that the path towards a sustainable economy places on current business, production and development models, in a perspective that is even evident in the guidelines expressed by the new EU Commission. The Chairman and the Managing Director of Acea SpA took part in the **two round-table** discussions with the Chairman of Labsus, the Spokesperson of Asvis, the Chairman of GSE and ENEA, the Deputy Secretary General of Unione del Mediterraneo, and, representing the national institutions, the Chairman of ARERA and a representative of Consob. A further moment of sharing was dedicated to the initiatives on circular economy and innovation that engage Acea through its Companies and in partnership with research bodies and companies, and in the final session the participants shared their reflections on the renewed prominence of industrial organizations as agents of innovation, towards a company management characterized by forward-looking perspectives within an appropriate regulatory and institutional framework sensitive to these issues.

The **Policy for sustainability and the quality, environment, safety and energy system**[19] adopted in Acea reflects **the principles, values** and **commitments** undertaken by the company, placing them in the framework of the pursuit of sustainable development, and it is an **integral part of the Management Systems** compliant with ISO 9001, ISO 14001, ISO 45001 and ISO 50001 standards (see also the section titled *Management systems*). The Policy sees the following values as **fundamental elements for sustainability**, helping to integrate it more and more in the **planning and management of activities**:

- promotion of a **culture** of **quality**;
- **respect for the environment** and **preservation of ecosystems**;
- the **development of people** and **safety at workplace**;
- the efficient **management of resources**;
- a **risk assessment and responsible management of economic**, **social** and **environmental impacts**;
- **dialog with stakeholders**;
- the promotion of **sustainability in the value chain** involving the supply chain.

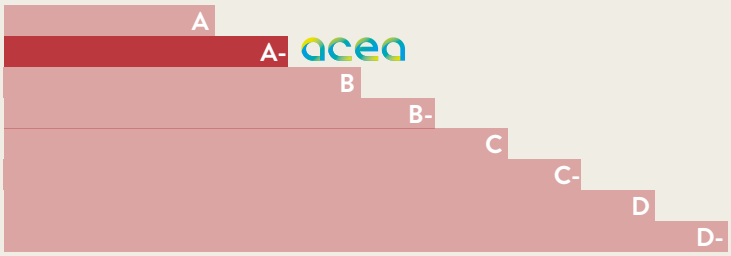
The guidelines expressed in the Group's two strategic industrial and sustainability planning documents, already related in operational management, lend themselves to an integrated interpretation, which enhances the peculiarities and complementarity between the two Plans – one focused on **aspects related to the economic solidity of industrial growth** and the other on the **expected results for stakeholders and from the social and environmental point of view** – in the framework of Acea material issues and the relevant UN sustainable development goals (SDGs). **An emblematic aspect**, consistent with the integrated perspective taken over and responding to one of the most significant challenges, is that of **climate change**. This issue is of particular importance and represents one of the elements demanding the greatest attention from a social, environmental and economic point of view, as evidenced by the positions expressed by the European Union or by qualified international bodies, like the TCFD (Task Force on Climate-related Financial Disclosures) set up within the Financial Stability Board. The initiatives taken by Acea to tackle climate change were highly appreciated as evident in the recognition noted in the latest CDP assessment (see the dedicated box).

ACEA INCLUDED IN THE LEADERSHIP CATEGORY OF THE CARBON DISCLOSURE PROJECT – CDP

CDP is an organization that offers investors a system to **measure climate change policies and performance**. The initiative, which for more than ten years has been supported by a pool of international investors with assets under management equaling $96 trillion dollars, analyses more than 8,000 companies in the world on performance linked to measures to combat climate change, endorsing the best in class in the strategic and operational management of risks and impacts inherent in the "climate" issue.
In 2019 CDP gave Acea a **score of A-**, improving on the score received in the previous year (B) and qualifying for the Leadership category. The rating (D-/A scale) is based on the assessment of various areas, such as the presence of targets and initiatives undertaken for the reduction of emissions, the analysis and management of risks, the assessment of financial impacts due to climate change, reporting, etc. The positioning obtained therefore recognizes Acea's constant and growing commitment to combating climate change through an increasingly sustainable business model that is attentive to the issues of the energy transition.

- **+ 8,300 companies** from around the world responded to CDP Climate Change, of **which 110 were based in Italy**
- The average score for energy utilities is B

CDP
DRIVING SUSTAINABLE ECONOMIES
CLIMATE



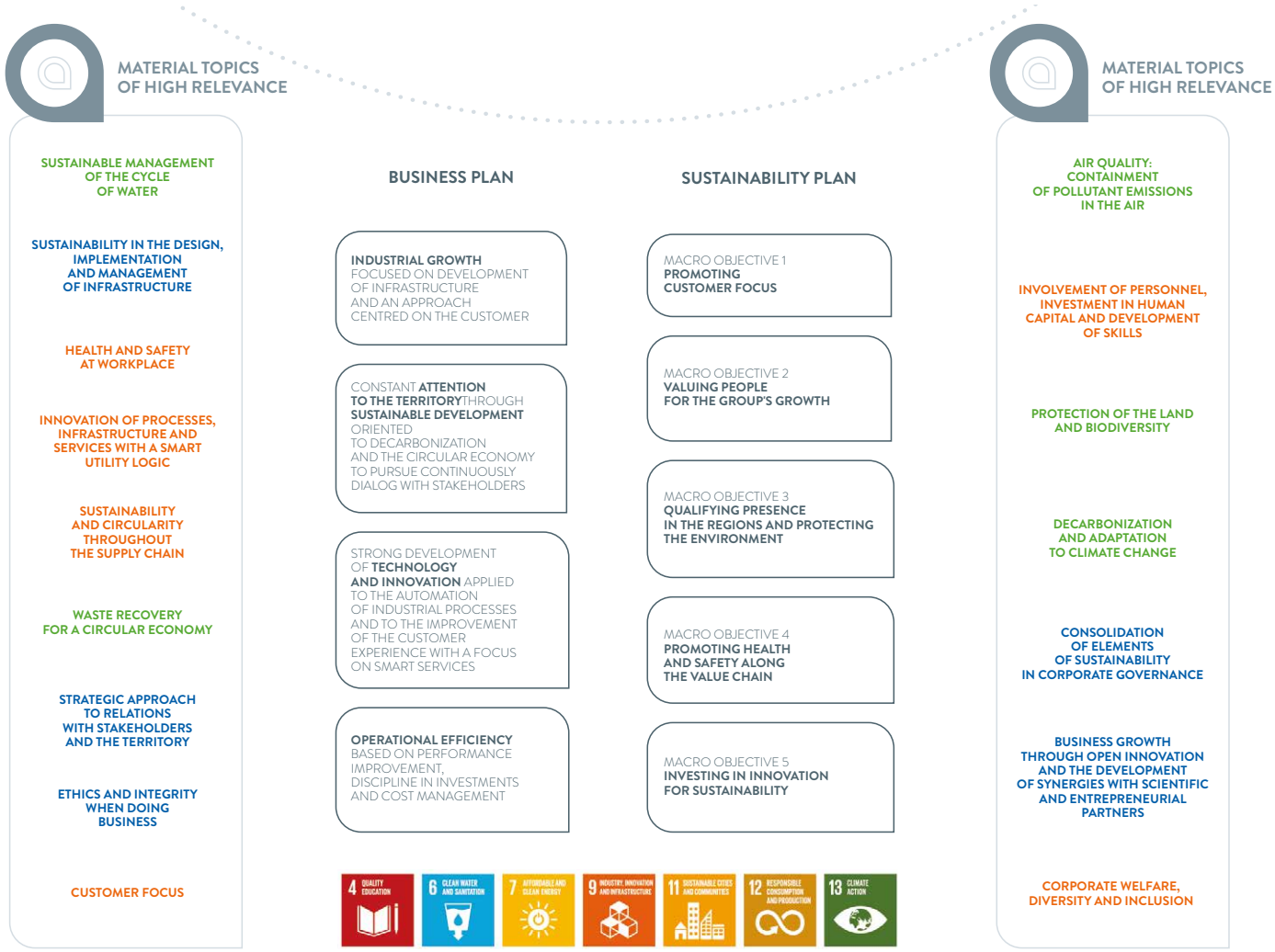
Fonte: CDP 2019 Score Report

A/A- : Leadership = Implementing current best procedures
B/B- : Management = Taking coordinated action on climate change issues
C/C- : Awareness = Knowledge of impacts on and of climate change issues
D/D- : Diclosure = Transparency about climate change issues
F: Failure = Please provide sufficient information to CDP to be avaluated for this purpose

More information can be found on the website: https://www.cdp.net.

[19] The Policy is available from the institutional website www.gruppo.acea.it.

CHART NO. 9 – KEY ELEMENTS OF THE STRATEGY



During the year, the Sustainability Unit, organizationally within the Parent Company's Risk & Compliance Department, was **regularly called up by the Board Committees** responsible for overseeing these issues (see the section titled *Corporate Governance and Management Systems*) and the ***Sustainability Advisory Board was operational***, a management body supporting the Acea Chairman and Managing Director (see the dedicated box) and a venue for sharing and analyzing the main developments and internal matters.

THE ACTIVITIES OF THE SUSTAINABILITY ADVISORY BOARD

The activities of the Sustainability. Since 2018, the Acea ***Sustainability Advisory Board***, a panel responsible for providing support to the Acea Chairman and CEO, began its activities in order to supervise the implementation of the Sustainability Plan – with regard to both governance level guidelines and operational level objectives – and its periodic review. The Board operates on the basis of its own Rules; its composition is approved by the Board of Directors and consists of the **main Functions and Departments of the Holding Company, which also have responsibility for the governance of sustainability planning**. To date, the Functions/Departments involved are: Administration, Finance and Control; Corporate Affairs and Services; External Relations and Communications; Procurement and Logistics; Human Resources Management; Innovation, Technology & Solution; Internal Audit; Investor Relations; Regulatory; Risk & Compliance; Human Capital Development; Secretary of the the Board of Directors. The Board met 3 times during 2019. Aside from discussing the process for updating and defining the new Sustainability Plan, the developments and evidence on important initiatives carried out by Acea were studied and shared, such as the Group's stakeholder engagement project, or the definition within the framework of the working group activated in the CSR manager network of a guideline to integrate sustainability and ERM systems, and finally the presentation of the first solicited ESG Standard Ethics rating requested and obtained by Acea.

The below section is a **summary image** of the Plan and **a detailed breakdown of the operating level, with the 2019 actions and related KPIs**.

PLAN FOR 2019-2022 AND THE OPERATIONAL GOALS

The **2019-2022 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

GOVERNANCE LEVEL
THE 8 OBJECTIVES

ACEA IS COMMITTED TO THE ADEQUATE INTEGRATION OF SUSTAINABILITY IN CORPORATE GOVERNANCE THROUGH:

- consideration of material ESG topics in its risk management model;
- an integrated reading of economic, financial and sustainability data so as to present the overall value generated by the Group;
- the inclusion of objectives in management performance systems oriented towards the promotion of impacts on sustainability;
- the dissemination of a "sustainability culture" through initiatives of awareness and engagement of internal and external stakeholders;
- a focus on ESG elements – Environmental, Social, Governance – in 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 industrial relations model able to meet to 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.

OPERATIONAL LEVEL THE 5 MACRO-OBJECTIVES

WITH A SPECIFIC FOCUS ON THE FOLLOWING 5 MACRO-OBJECTIVES AND ON THE RELATED AREAS OF ACTIONS AND OPERATIONAL OBJECTIVES(*)

PROMOTING A CUSTOMER FOCUS

Improving communication with customers

- Developing a web presence and digital channels consistent with communication and positioning needs of the Group

Improving the quality of services

- Improving the commercial quality of services
- Improving the technical quality of services

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

- Facilitating the implementation of the new execution organization
- Boosting the level of engagement of the company population
- Defining and promoting an employer branding plan

Organizational inclusion and well-being

- Identifying and improving the organizational well-being of the entire company population
- Enhancing diversity and promoting inclusion

5 macro Group operational objectives. **The 5 macro objectives** are broken down into **14 frameworks for action**, **26 operational objectives** as shown by the summary image, and **183 objectives** for **2022** and **related KPIs** that allow the **progressive achievement thereof to be monitored**, below. 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.

QUALIFYING PRESENCE IN THE TERRITORY 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 land and limit impacts on the natural environment
- Enhancing certified environmental and energy management systems
- 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 towards creating awareness on social and environmental matters
- Promoting the involvement of stakeholders in corporate projects to create shared value

PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN

Health and safety at workplace for Group workers

- Promoting health and safety culture at workplace

Health and safety at workplace for contractors and subcontractors

- Creating awareness among contractors on workplace health and safety

Health and safety of the communities with which the Group operates

- Ensuring the health and safety of the customers of the reference community for the various services provided

INVESTING IN INNOVATION FOR SUSTAINABILITY

Organizational 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.

DETAILED OBJECTIVES OF THE 2019-2022 SUSTAINABILITY PLAN: KPI AND ACTIONS FOR 2019

MACRO-OBJECTIVE NO. 1
Promoting customer focus

OPERATIONAL OBJECTIVES	TARGET FOR 2022 FUNCTIONS/OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS	2019 ACTIONS
AREA OF ACTION 1: Improving communication with customers			
Developing web presence and digital channels in compliance with the Group's communication and positioning needs	Adapting the structure of the website to the corporate and marketing communication needs, in terms of efficiency and transparency. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Digital and corporate media)	Reviewing the Group's digital identity (0-100%) = **100** **2022 target achieved**	Since June 2019, the new institutional website www.gruppo.acea.it has been live, clearly defining the Group's corporate identity, mission and new positioning using transparent, effective digital communication. Acea was the best improver in Webranking Italy for 2019-2020, i.e. having the best score growth for a listed company for both in Italy and abroad. It was also included in the "gold class" of .trust, the study that assesses the ability of listed companies in Italy to tell their story in a clear, engaging way.
	Creation of a website for Areti with effective, useful information intended for users of electricity distribution. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Digital and corporate media)	Website development: Yes/No = **No**	The planning of activities related to achieving the target has been started.
	Developing "corporate" social channels and monitoring the existing ones. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Digital and corporate media)	0-100% = **100** **2022 target achieved**	Since 2019, the Acea Group has been active on major social media channels: Facebook, LinkedIn, Twitter, YouTube and Instagram. An important step for the company's communication with its stakeholders.
	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.). ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	Yes/No = **Yes**	Two communications campaigns were carried out targeting Acea Ato 2 customers called "My Acea" and "Digital Services", disseminated on digital newspapers (ilmessaggero.it, Leggo.it, corriere.it, repubblica.it, iltempo.it, romatoday.it, dagospia.com, adnkronos.com) and through posters in Rome and its province
	Creating two information campaigns for the use of digital channels (webforms and online bills) through the call center and email, aimed at raising awareness on the use of digital channels among customers. ACEA ATO 5	No. of campaigns to be carried out/no. campaigns to be carried out = **1/2**	During the year, an information campaign aimed at customers via email was carried out to promote the use of digital channels (webform and web bills).
	Creating a mass communications campaign to raise awareness of the use of digital channels among customers. GORI	Campaign completed: Yes/No = **Yes** **2022 target achieved**	In November, the "Web Bill" information campaign was launched to bring users closer to the digital channels to be used to manage water operations more quickly, effectively and sustainably.

	Expanding commercial operations that can be carried out by the customer independently through digital channels up to 80%. ACEA ENERGIA	Commercial operations that can be carried out online / total commercial processes CRM = **25/34 that can be digitized, equal to 74%**	In 2019, thanks to the expansion of digital channels, 74% of commercial transactions can be carried out independently by the customer.
	Improving the customer experience, which can be measured by a real-time measurement of customer satisfaction through a Net Promoter Score, calculated on the basis of the answers to the following two questions: "Has the operator responded politely?" and "Has the operator responded professionally?". 2022 target: NPS >32%. ACEA8CENTO	No. toll-free numbers to serve the "free market" = **3** Net Promoter Score "Has the operator responded politely?" = **48.2%** "Has the operator responded professionally?" = **45.8%**	Real-time measurement of customer satisfaction was performed.
	Creating awareness among customers with reference to digital channels also through targeted campaigns and "drive to web" initiatives to be activated on the contact channels (counter, call center, post), with the aim of reaching 50% of accounts linked to MyAcea. ACEA ATO 2, in conjunction with ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS	No. of utilities registered on MyAcea /total active utilities of Acea Ato 2 = **201,309/692,949, equal to approximately 29%**	During the year, an awareness campaign was organized and sent to customers via email, to encourage them to use digital contact channels. In addition, the "Bottle at the counter" campaign was carried out, which included the distribution of drinking bottles to customers who subscribed to the web bill.
(cont.) **Developing web presence and digital channels in compliance with the Group's communication and positioning needs**	Increasing the number of active subscribers to the MyAcea website (reaching 25% of the total Acea Energia consumer and micro-business customer base each year with at least 1 access to the reserved area per year). ACEA ENERGIA	Customers who have accessed the reserved area at least once in the last 12 months/total consumer and micro-business customer base of Acea Energia = **223,150/1,096,124, equal to 20.4%**	In 2019, 20.4% of Acea Energia's customers accessed the reserved area (ML and MT) at least once. In detail, separating the data for ML and MT, the percentages are 25.2% and 18.3%, respectively.
	Increasing 5,500 users/year (46,000 by 2022) registered in the MY Acea website compared to 2018 data (20,818 registered with the online counter). ACEA ATO 5	No. of new members at the online counter/year = **9,338 for a total of 30,156 registered as at 31.12.2019**	In 2019, the activities carried out to encourage customers to subscribe to the MyAcea portal and use the app were: "Breakfast with the elderly" aimed at retirement homes with the aim of bringing senior citizens closer to digital tools, information campaigns on the advantages of using the portal on local websites and media, and a booth dedicated to the Company at the Christmas Village in Frosinone.
	Creating a web counter, exclusively dedicated to digital services, to be located at the sales counter. ACEA ATO 5, in conjunction with ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS	Yes/No = **Yes** **Target achieved**	2022 target achieved in 2018.
	Planning a communication campaign aimed at customers regarding the plan concerning the replacement of first generation meters with the second generation ones. Implementing the communications campaign on 30% of the customers affected by the replacement of the installed meters. ARETI, in conjunction with ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS	Defining communications campaign – Yes/No Customers reached by the campaign/customers whose meters have been replaced	The planning of the activity related to achieving the target has been started.
	Initiate an inbound and outbound contact model to support metering performance improvement actions. The model provides for the development of contact channels, particularly digital ones (text message, email, WhatsApp). By 2022 at least 30,000 inbound/outbound contacts. ARETI	Activation of contact channel: Yes/No = **Yes** Number of total inbound and outbound contacts = **26,542**	The experimentation of new contact methods to be used during the mass replacement of meters and to provide support to contractors in reading has begun.

AREA OF ACTION 2: Improving the quality of services			
Improve the sales quality of services	Improving the customer journey, which can be measured through the Net Promoter Score, assessed in real time based on the answers to the question "Would you recommend our services to a friend?". 2022 target: NPS > 22% ACEA ENERGIA	Net Promoter Score (NPS) = **23%**	Real-time measurement of customer satisfaction was performed.
	Maintaining waiting times at the counter < 10 minutes (target lower than the levels required by the Authorities). ACEA ATO 2	Customer average wait time at the counter = **5'19" counters in Rome 6'06" counters outside Rome**	In 2019, following the installation of queue management systems at the last 2 counters that didn't have them, Acea Ato 2 completed the installation of tools for managing user flows on all 14 counters.
	Reducing the average age of the customers' readings and at the same time reaching the implementation of smart meters, 80% of the billing amount entirely based on actual consumption. ACEA ATO 2	Turnover on actual consumption/total turnover = **79%**	During the year, approximately 17,000 smart meters were installed.
	Improving the quality of metering systems by replacing 21,000 meters per year (over 10 years of age). ACEA ATO 5	No. of meters replaced per year/21,000 meters = **32,028/21,000**	In order to improve the quality of the metering, 32,028 meters were replaced during the year.
	Consolidating and developing – including through at least 1 initiative per year – interaction with Consumer Associations aimed at enhancing relations between the Group and customers in the relevant territories. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Relations with the Stakeholders)	No. of initiatives organized = **2**	The Acea SpA ADR Body (Alternative Dispute Resolution) held two dialog initiatives with Consumer Associations.
	Improving management of appointments with end customers for technical/commercial performance. The target for 2022, relating to the % reduction in missed appointments, will be determined on the basis of data for the base year 2019. ARETI	Valid KPI from 2020: % reduction in missed appointments	New operating methods were introduced that facilitate contact with the customer. Among these: a single toll-free number that, in addition to being the only contact for malfunctions and utility management, adds a service to check the identity of the technician who is working on the problem; a service that sends reminders to users for appointments made; a service that facilitates new bookings in case of impossibility in performing the maintenance.
	Replacing 265,000 meters in the period from 2019 to 2022 to ensure the quality of the metering systems. GORI	Number of meters replaced/265,000 = **62,166/265,000**	About 62,000 meters were replaced.
Improving the technical quality of services	Checking the calibration of meters for water intended for human consumption and obtaining ACCREDIA accreditation of the test pursuant to UNI CEI EN ISO/IEC 17025:2015. ACEA ELABORI	Check of the calibration: Yes/No = **No** Test Accreditation: Yes/No = **No**	During the year, the benches were acquired for the calibration of the meters and training was carried out for their use.
	Implementing and maintaining UNI CEI EN ISO/IEC 17020 accreditation for "Verifying projects" pursuant to article. 26 of Legislative Decree no. 50/2016 extending the accreditation sector also to the "Works execution check. ACEA ELABORI	Implementing and maintaining "Project verification" accreditation: Yes/No = **Yes** Implementing and maintaining Accreditation for "Works execution check": Yes/No = **No**	Acea Elabori successfully passed the audits for maintaining UNI CEI EN ISO/IEC 17020 accreditation of the Project Verification Unit.

	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). Getting Envision certification on at least one strategic works project. ACEA ATO 2 and ACEA ELABORI	Applying of criteria/protocols during design: Yes/No = **Yes** Earn Envision Certification on the design of a strategic work: Yes/No = **No**	The staff responsible for the design and construction of the new upper section of the Peschiera Aqueduct and the new Marcio Aqueduct were trained on the Envision protocol.
	Reducing the average construction time by 10%, thus guaranteeing greater quality of processes through the direct supervision of all phases (ISO 9001:2015 certification in the EA28 sector; intra-group assignment of the construction of the works with a gross work amount > €25 million in 2022). ACEA ELABORI	Obtaining the extension of ISO 9001 to EA-28 Sector (Construction), Year 2019: Yes/No = **Yes** CONSTRUCTION work for amount > €7 milion Year 2020: Yes/No = **No** CONSTRUCTION work for amount > €14 million Year 2021: Yes/No = **No** CONSTRUCTION work for amount > €25 million Year 2022: Yes/No = **No** % reduction: [1- (average time from intercompany assignment to delivery of works (CONSTRUCTION)/ average time from publication of tender to delivery of works (STANDARD contract)]	During the year, ISO 9001:2015 certification was obtained for the EA-28 construction sector.
(cont.) **Improving the technical quality of services**	Expanding the purification capacity in 13 towns of the Ato 5 through works on 7 new purification plants and 6 existing purification plants: +4.8 times more than the population equivalent (PE) handled in 2017. ACEA ATO 5	Purification potential in PE/purification potential in PE in 2017 (target scope) = **12,000/9,500, equal to an increase of 1.26 times**	The treatment plant of Sant'Apollinare Rivolozzo in the province of Frosinone was built.
	Expanding the purification capacity in 14 towns of the Ato 2, in critical situations, through works on 13 existing purification plants and 3 new purification plants: +58% of population equivalent (PE) handled. ACEA ATO 2	Purification potential in PE/purification potential in PE in 2017 (target scope) = **193,675/163,975, equal to approximately 18% more than the equivalent PE**	Two projects have been completed to upgrade the treatment plants in the municipalities of Castelnuovo di Porto and Roiate.
	Achieving 92% coverage of the purification service with respect to the total active units (2017 data). ACEA ATO 2	% of users covered by the sewerage treatment service (compared to total users as of 2017) = **94%** **2022 target achieved**	2022 target achieved in 2018.
	Replacing 34% of the current 361 thermal substations serving the remote-heating network, for greater efficiency of the service and reliability of the user's service. ACEA PRODUZIONE	Substations replaced/ total substations serving district heating = **53/361**	In 2019, 53 thermal substations belonging to the remote heating network were replaced, accounting for approximately 15% of the total number of sub-plants.
	Replacement/installation of 22 valves on the district heating distribution network to perform out-of-service interventions, thus reducing the impact on serviced utilities ACEA PRODUZIONE	No. of valves replaced or installed/no. valves to be replaced or installed = **14/22**	14 priority valves were replaced
	Doubling the district heating network in the section exiting the plant in order to ensure the supply of heat and drinking water even in the event of heavy maintenance and/or malfunctions (section affected 600 meters). ACEA PRODUZIONE	Metres of network installed on the overall length of the network to be built	Activities for the completion of the target have begun.

(cont.) **Improving the technical quality of services**	Compared to 2018 base levels, reducing the troubleshooting times of Public Lighting systems in line with the zonal prioritization defined according to the relevance of the area (i.e. aggregation sites): critical – 6h; high – 1 day; average – 1 day; low – 2 days. Baseline levels recorded in 2018 by relevance: CRITICAL – 2.04 days, HIGH – 2.03 days, AVERAGE – 2.14 days and LOW – 3.07 days ARETI (Public Lighting)	CRITICAL = **1 day 12 hours** HIGH = **1 day 7 hours** MEDIUM = **1 day 11 hours** LOW = **1 day 11 hours**	The zonal prioritization was defined and the development of a reporting system of interventions for real-time monitoring of activities was started.

MACRO OBJECTIVE NO. 2
Enhancing staff for the Group's growth

OPERATIONAL OBJECTIVES	TARGET FOR 2022 FUNCTIONS/OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS	2019 ACTIONS
AREA OF ACTION 1: Professional enhancement, training and development of skills			
Enhancing and boosting Human Capital skills	Implementing training courses involving 80% of the population included in development programs annually, useful for defining specific career paths. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of persons trained/ total persons included in development programs = **81/82**	During the year, the Aurora programme was developed and implemented as part of the Managerial Academy project (63 employees involved). In addition, a pilot course of the "monographic" programme was carried out with the aim of expanding the knowledge of employees in the development areas (18 employees involved).
	Launching specific training programs through the Digital Academy, starting from the current level of coverage of strategic digital skills defined by Digital DNA through: - 2019: an initiative involving 100% of the staff for the AS-IS mapping of digital maturity and launch of the pilot Data Analytics program; - 2020: training programs to meet 70% of the needs identified each year ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of employees involved in digital maturity mapping/ no. of employees to be involved = **5,716/5,716** Launch of Data Analytics pilot program:Yes/No = **Yes** No. of employees trained/ no. of employees with training needs identified = **27/108**	Following the definition of key digital skills for the Group (Digital DNA), a survey was launched to identify these skills among the entire population and a pilot training course involving 27 employees was organized.
	Sustaining Active Ageing policies, thus ensuring each year the transfer of know-how for 100% of critical skills. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of training programs defined/no. of critical skills = **27/27**	Since 2018, 60 critical skills have been mapped with the involvement of 7 Group Companies (Acea Ato 2, Acea Ato 5, Areti, Acea Produzione, Acea Elabori, Aquaser and Acea SpA) and 72 trained Operating Company Trade Masters. In 2019, 27 training programs were defined to support the critical skills identified and 10 courses were launched.
	Developing the managerial skills of managers and office staff in positions of responsibility every year, using training processes involving 80% of the managers with identified training needs. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of managers trained/ total managers to be trained= **89/89**	During the year, as part of the Managerial Academy project, the Elios program was implemented for a total of 89 managers and office staff in positions of responsibility.
	Training 100% of the staff transferred each year from the regional facilities through targeted training courses. GORI	No. of employees trained/no. of employees transferred in the year = **131/156, equal to 84%**	Approximately 3,400 hours of training on environment, safety, quality, IT systems and technical and specialized activities were provided to incoming personnel from the acquired regional plants.

	Engaging 100% of the staff of the Group every year in at least one initiative aimed at implementing the Leadership Model and carry out a survey in 2020 intended for identifying the model's level of penetration. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of resources involved/total resources to be involved = **5,716/5,716**	In 2019, with regard to the Group Leadership model, the main stages of the development of human capital were defined in which to act on the model's behavior: selection, on-boarding, training, rewarding and development. The initiative was shared with the entire company through the new intranet and included in staff development activities.
Investing in the development and improvement of the staff assessment and recruitment system	Ensuring the use of the various dedicated tools (both conventional and innovative) aimed at the structured assessment of candidates and full traceability of the process, thus promoting the visibility of the brand on the external market with respect to the recruitment of staff, for 80% of the selections managed during the year. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	Internal processes – No. of selection processes activated by dedicated tools/total selection processes activated = **167/167** External processes – No. of searches activated in visual mode/total searches activated = **109/203**	During the year, Acea reviewed the personnel selection procedure and used various channels for the search for new resources, such as participation in Recruiting Day, Career Day and Job Meetings and collaboration with the local university placement offices. The recruiting of candidates was done with innovative tools and methods to optimize recruiting times and methods, such as gamification, useful for testing skills and candidates' digital mindset.
	Progressive extension of objectives aimed at promoting sustainability impacts to the entire population with respect to MBO assessed with performance management systems. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of resources with Sustainability objective in MBO/total resources with MBO = **229/471**	As part of the Group's performance management system, intended for executives and managers, the MBO Catalogue was developed, thus combining industrial planning objectives with those of sustainability.
AREA OF ACTION 2: Involving people in the Group's identity			
Facilitating the implementation of the new "execution" organization	Implementing the "execution" model: a new way of engaging the people in work cross-groups ("action team"), aimed at implementing improvement actions. Informing among 100% of the company population and activating at least 10 action teams/year. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of employees informed/total employees = **5,716/5,716** No. of action teams activated/total action teams to be activated = **10/10**	In 2019, the 10 Action Teams active within the "execution" model were completed, including: Cresco #2, Acea Blu Green, Intellectual property strategy, Key digital indicator, Acea holds your hand, Teams ambassador. Ideas for new project initiatives for 2020 were also gathered.
Boosting the level of engagement of the company population	Informing 100% of the employees of the initiatives, with local impact and aimed at boosting the sense of belonging in the company, thus involving the co-workers concerned. Implementing 4 initiatives/year. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of employees involved/total employees = **5,716/5,716** No. of initiatives launched/total initiatives to be launched = **5/4**	The launch of the new website, the activation of social channels, the renewed corporate intranet have favored the dissemination of information focused on stories, posts, photos and videos to present projects having an impact on employees, the local community and social context, including Teleworking, Managerial Academy, Role Model, Ideation, Intergeneration lab.

	Ensuring that 100% of the company population is informed of the strategic choices, mission and policies of the Group, by implementing at least 6 initiatives/year to this end. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Internal communications)	% of the company population reached by the information = **100** No. of initiatives carried out during the year/ initiatives to be carried out = **7/6**	In 2019, a total of 7 awareness-raising and information actions were carried out for the company population regarding various strategic issues, including Sustainability, Health and Safety, and Corporate Welfare.
	Measuring the level of information through 2 surveys to be implemented over the course of the Plan and that engages 100% of the company population. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Internal communications)	No. of surveys conducted % of the company population engaged	No action during the year.
(cont.) **Boosting the level of engagement of the company population**	Boosting the sense of team spirit and belonging of our employees with respect to the Group, thus promoting at least 2 initiatives per year. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Internal communications)	No. of initiatives carried out during the year/ initiatives to be carried out = **2/2**	To increase the sense of internal team spirit, two initiatives were organized during the year: the intragroup sports tournament (beach volleyball, swimming, burraco, triathlon, table football and cycling) and the delivery of Christmas packages, totally recyclable and with environmentally friendly packaging.
	Carrying out at least 2 initiatives per year aimed at boosting the sense of belonging in the company. GORI	No. of initiatives carried out/no. initiatives to be carried out = **2/2**	During the year, the "Family Fun Day" was held with a theme of Plastic Free, and another event dedicated to sustainability for employees.
	Developing and implementing a new corporate intranet as a tool for service and information/communication to the employee with the objective from 2020 to extend access to all Acea Group companies, thus promoting a sense of belonging and team spirit (100% of the company population). ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Internal communications)	Creation of a new intranet: Yes/No = **Yes** % company population reached = **100** **2022 target achieved**	In September, the new company intranet was launched, a real "service" tool accessible to all Group companies that has introduced a number of innovative features, including the ability to be accessed from mobile devices and the availability of a personal area.
Defining and promoting an employer branding plan	Reinforcing the employer brand identity so that employees act in accordance with Group values and shared rules of conduct, thus engaging 100% of the company population in specific initiatives. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of employees engaged/total employees = **5,716/5,716**	In order to increase the involvement of company employees, in 2019 the following initiatives were launched: Sustainability Innovators, Intergeneration Lab, Feedback Week.
AREA OF ACTION 3: Organizational inclusion and well-being			
Identifying and improving the organizational well-being of the entire company population	Reinforce employer satisfaction, developing an EVP (employee value proposition) consistent with the company's strategy as well as with the needs identified through internal organizational well-being survey, by identifying 3 improvement actions/year. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	Carrying out. internal organisational well-being surveys: Yes/No = **Yes** No. of improvement actions activated/total improvement actions to be activated = **2/3**	During the year, 3 initiatives were put in place to monitor the EVP of employees. In particular, the administration of a survey analyzing the expectations, satisfaction and perceptions of teleworking workers and managers, a focus group aimed at teleworking managers regarding remote work, and Feedback Week. These engagement activities generated improvement actions related to the union agreement on teleworking and the KPIs for assessing the impact of remote working on the performance of the workers involved.

(cont.) **Identifying and improving the organizational. well-being of the entire company population**	Analysis of the context, development and drafting of a work-related stress policy aimed at detailing the objectives set by the company and framing preventive interventions in the field of monitoring and prevention. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	Context analysis: Yes/No = **No** Development and drafting of a policy: Yes/No = **No**	Analysis and assessment of the organizational context preparatory to the development and drafting of the policy were initiated.
	Improving personnel's knowledge of stress-related risks and ability to adapt to work through primary prevention actions intended for 100% of employees. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	% of employees involved	In 2019, an information initiative was planned for all Acea SpA employees with the goal of introducing essential concepts to act on organizational well-being, starting with the training, listening and circular activation of the specific information related to this area.
	Establishing a listening desk aimed at offering support to people who experience an intense or disabling work conditions and/or personal discomfort. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	Establishment of the desk: Yes/No = **Yes** **2022 target achieved**	In 2019, a listening service was established dedicated to people in need of support for psychological and relational aspects related to the quality of working life.
Enhacing diversity and promoting inclusion	Establishing a listening desk aimed at offering support to people who experience an intense or disabling work conditions and/or personal discomfort. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of employees involved/total employees = **5,716/5,716** No. of initiatives launched/total initiatives to be launched = **3/2**	Acea signed the "Utilitalia Pact. Diversity makes the Difference" to increase diversity in the selection, training and development processes of the Group's personnel and made it available to all employees by communicating it through digital channels. The initiative was shared with the Sustainability Officers and Representatives present in the Group at a dedicated meeting. Moreover, the company implemented two initiatives in the field of diversity: the Intergeneration Lab Program on intergenerational diversity in work teams, and the Inspirational Talks Role Model for the promotion of STEM (Science, Technology, Engineering and Mathematics) training courses among female middle and high school students.
	Promotion of differences and support for diversity through initiatives aimed at different sub-groups of workers through workshops and opportunities for discussion, awareness, communication and engagement on specific issues. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	% of workers involved out of total workers to be involved	Analysis and assessment of the organizational context of Acea SpA and the actions undertaken in the field of disability management in the three-year period from 2017 to 2019 and reflection on the specific evidence found were initiated.
	Within the framework of workplace disability management, establishing the monitoring of sensitive resources with congenital and acquired disabilities (support for the process of integration and reintegration into the company), including assessing the possibility of meeting the specific needs of the various subgroups of workers. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	Monitoring started: Yes/No = **No**	Analysis and assessment of the organizational context of Acea SpA and the actions undertaken in the field of disability management in the three-year period from 2017 to 2019 and reflection on the specific evidence found were initiated.

MACRO-OBJECTIVE N.3
Qualify presence in the territories and protecting the environment

OPERATIONAL OBJECTIVES	TARGET FOR 2022 FUNCTIONS/OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS	2019 ACTIONS
AREA OF ACTION 1: Reduce the environmental impact			
Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)	Reducing the specific consumption of natural gas by 5% by reconverting the Tor di Valle thermal power station into a High Efficiency Cogeneration Plant (CAR). ACEA PRODUZIONE	% reduction in specific consumption of natural gas = **16.9% for the cogeneration section and 5.7% for auxiliary boilers 2022 target achieved**	2022 target achieved in 2018.
	Acquisition/construction of photovoltaic plants for a total of 150MW of installed power with consequent expected reduction of the emission intensity index of plants managed by Acea Production up to 55g CO2/kWh (-30% compared to 78g CO2/kWh in 2018). ACEA PRODUZIONE	MW installed power v. expected MW = **28 v. 150g** CO_2/kWh produced (and percentage reduction compared to 2018) = 70g CO2/kWh (10% less than 2018) = **70 g CO_2/kWh (10% less than 2018)**	During the year, photovoltaic systems were acquired for a total capacity of 28 MW.
	Reducing the energy (electrical and gas) consumption of the company headquarters through specific projects (replacement of lighting with LED lamps; refurbishment of the balcony air conditioning system; replacement of fixtures; installation of photovoltaic panels), with a total energy savings of 232MWh/y and 13,800Sm³/y with respect to pre-construction consumption (referring to the entire company headquarters), equal respectively to: 3,780MWh/y and 115,500Sm³/y. ACEA SpA (Energy Manager) in cooperation with ECOGENA	MWh pre-construction – MWh post-construction Sm³ pre-construction – Sm³ post-construction	During the year, the work for the refurbishment of the balcony air conditioning system was completed and the possibility of continuing to replace traditional lamps with low-energy LED ones was considered.
	Reducing the electrical energy consumption of the Data Center (CEDET) through specific projects (modification of the air conditioning system, compartmentalization of the "hot corridors" and "cold corridors", change in the air conditioning of the rooms of the Uninterruptible Power Supply (UPS) and their replacement) with a total energy savings of about 700MWh/y with respect to pre-construction consumption, equal to 4,337MWh/y.. ACEA SpA (Energy Manager) in cooperation with ECOGENA	MWh/y pre-construction – MWh/y post-construction	The planning of activities related to the target has been started.
	Implementing energy leakage reduction interventions on the grid (voltage change, low-leakage transformers, etc.) and other efficiency enhancement interventions that will enable achieving about 18,000MWh energy savings, about 6,500t of reduction of emission of CO_2 and saving about 3,400TOEs as compared to the 2016 data. ARETI	MWh saved/net MWh distributed = **1,350/9,828,737 t** CO_2 not emitted = **486 (3,006 also considering the savings achieved in 2018)** TOE saved = **252 (1,561 also considering the savings achieved in 2018)**	The main energy efficiency measures of the year concerned the installation of transformers with very low leaks and the upgrading of some sections of the electricity distribution grid from 8.4 to 20 kV.
	Reduction of about 430t of CO2 emissions by replacing 100 conventional combustion vehicles with at least 55 electric vehicles. ARETI	No. of electric vehicles purchased = **25** t of CO_2 avoided = **6.2 net of emissions from electric energy consumed by the vehicles**	Internal car sharing was introduced with the inclusion of 25 electric vehicles replacing 40 traditional cars.
	Increasing the resilience of the electrical system through 200 maintenance/network development projects with a consequent reduction of the intervention risk index (IRI) by 40%. ARETI	No. of interventions carried out = **37** Change in the annual percentage of the IRI = (post-intervention value/pre-intervention value) – **4.8%**	37 interventions were completed, including: adaptation of the MV-LV equipment of the secondary cabins of 39 lines concerned and reconfiguration of the network diagram of 12 MV lines.

	Achieving at least 40% of the events organized by the companies of the Group that can be classified as "eco-sustainable". ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events) in conjunction with CORPORATE AFFAIRS AND SERVICES (Procurement and Logistics)	No. of eco-sustainable events/total events organized	The Group Guidelines for the organization of more sustainable corporate events are being defined. In 2019, Acea's Rome by Light project (illumination of Via del Corso) created a lighting system with technological, innovative and interactive lights and lighting fixtures having a low environmental impact using LED technology capable of minimizing light pollution and CO_2 emissions into the atmosphere.
	Preparing a recovery system in the water production cycle of the 1st and 2nd rainwater at the Terni e San Vittore del Lazio plants. ACEA AMBIENTE	Preparation of 1st and 2nd rainwater recovery system at the San Vittore plant: Yes/No = **Yes** Preparation of 1st and 2nd rainwater recovery system at the Terni plant: Yes/No = **Yes (in 2018) 2022 target achieved**	At the Terni plant, the recovery system was set up in the 1st and 2nd rainwater production cycle.
	Enhancing efficiency and reducing the energy consumption of the saturated vapor condensation system by 20%, in the recovery plants (Terni waste-to-energy plant). ACEA AMBIENTE	Energy consumption/ pre-construction energy consumption	Activities related to the achievement of the target have been planned.
(cont.) **Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)**	Developing biogas cogeneration (39,000MWh of energy generated from biogas/year) in 4 compost plants, thus ensuing reduction of CO_2 (14,000t CO_2 avoided per year). ACEA AMBIENTE	MWh/year from renewable sources of biogas = **6,720**	The adaptation of the composting plants of Monterotondo Marittimo and Aprilia, which generated about 5MWh of electricity during the year, was completed. The Orvieto plant, already equipped with a cogeneration solution, produced 6,715MWh of electricity. Overall, the plants generated 6,720MWh and achieved savings of about 2,400 tonnes of CO_2.
	Obtaining white certificates for 2 energy efficiency projects in the water and purification industry for an energy efficiency of 420TOE. ACEA ATO 2	No. of projects approved TOE white certificates/ TOE total plants involved prior to works	With the support of Ecogena, Acea Ato 2 identified two possible energy efficiency projects at the Casilino Water Center and the Purifier in Southern Rome.
	Increasing the resilience of the aqueduct system serving Rome and the Metropolitan City through the manufacture of new strategic works on the Peschiera and Marcio aqueducts with technical solutions aimed at innovation and sustainability. ACEA ATO 2	Progress of work execution schedule/ expected completion times	Following the renewal of the regional water permit for the Peschiera – Le Capore spring system, Acea Ato 2 commissioned the Acea Elabori Group Company to design the "New Upper Branch of the Peschiera Aqueduct"..
	Developing a quality-quantity assessment programfor at least 70% of the managed sewerage system to orient actions and mitigate the effects of parasitic water/rainwater and improving the resilience of systems to exceptional weather events. ACEA ATO 2	km verified sewerage system/km total managed sewerage system = **793/6,837, equal to approximately 12% of the managed sewerage system**	In 2019, 16 studies of parasitic waters were completed.

(cont.) **Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)**	Implementation of management and structural interventions in the Integrated Water Service systems that involve an improved energy efficiency of 8GWh. ACEA ATO 2	% of target achieved = **98%**	During the year, energy efficiency projects were carried out on 12 purifiers that concerned: the installation of timers, the adjustment of dissolved oxygen, the replacement of surface aerators and the automatic adjustment of oxidation valves.
	Overall reduction of 2% of total consumption of Acea Ato 5 (2018 figure: 76,583,659 kWh) through the efficiency of 11 plants (10 relating to the water network and one to the purification network). ACEA ATO 5	kWh saved in the year/2018 consumption = **680,000/76,583,659, equal to approximately 1%**	During the year, efficiency works were carried out at some plants (water lifting and wells), with calculated energy savings of about 680MWh.
	Developing customer sensitivity to reduce emissions through specific initiatives aimed at promoting and increasing the purchase of "green" energy. ACEA ENERGIA	awareness-raising activities: Yes/No= **No** MWh of green energy sold to customers in the open market (reporting year)/MWh of green energy sold to customers in the open market (previous year) = **1,144,000/890,000**	No awareness-raising activities aimed at customers were carried out during the year, however the sale of clean energy to final customers increased.
	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 6MW. ECOGENA	MW	A market analysis with Milan Polytechnic in the field of cogeneration was carried out and scouting of business customers was started. The Ecogena Board of Directors approved the acquisition of two cogeneration plants with a power greater than 5MW.
	Reducing the consumption of primary energy sources through the manufacture of at least 5 insulation systems for thermal insulation (thermal cladding) on residential customer facilities. ECOGENA AND ACEA ENERGIA	no. of interventions carried out	Key partners for the development of the commercial network and structured partnership agreements for the development of the market have been identified. With regard to residential customer scouting, the contact list was generated and 10 preliminary offers and 8 commercial offers were sent.
	Maintaining full use of "green energy" to meet the internal electricity needs of the main Group Companies, equal to about 400,000MWh/year and over 140,000 tonnes of CO_2 avoided. ACEA ENERGY and ACEA ENERGY MANAGEMENT	MWh (internal consumption) supplied with green energy = **424,000** t CO_2 avoided = **about 153,000**	During the year, the consumption of 7 Group Companies was covered by green GO energy, for a total of about 424GWh (equivalent to about 153,000 tonnes of CO_2 avoided).
	Reducing electrical energy consumption for lighting corporate offices and sites (10 sites, including operational offices and installations): 35% reduction in consumption with respect to pre-construction consumptions records (equal to 30,156.30 kWh), by installing LED solutions. ACEA ATO 5	% kWh saved compared to historical consumption prior to operation	No action during the year.
	Quality-quantitative hydrogeological analysis, measurements and physical modelling of the main local aquifers, aimed at the sustainable exploitation of the resource and its management even with deficits due to climatic variations. GORI	Hydrogeological analysis: Yes/No = **No** Major physical measurements and modelling of aquifers: Yes/No = **No**	An agreement has been signed with the Department of Earth Sciences of the Federico II University of Naples for technical and scientific support in the design of a hydrogeological monitoring network for the main aquifers.

(cont.) **Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)**	Reduction of 5% (compared to the 0.45 kWh/m³) of the average specific energy consumption of 5 among the energy plants (Mercato Palazzo, Centrale di Nola, S. M. La Foce, Campitelli and Santa Marina di Lavorate). GORI	Reduction % kWh/m³ = **- 4% approx. – 0.43 kWh/m³ in 2019**	Efficiency works were carried out on the plants of Mercato Palazzo, S. M. La Foce, Campitelli and Santa Marina di Lavorate.
Promoting an efficient use of resources, thus facilitating circular economy	Reducing lost volumes of water by 25% compared to 2016 (2016 figure: 384Mm³ volume lost). ACEA ATO 2	% reduction in lost volume of water compared to 2016 = **approx. 21%**	During the year the division into districts of the water networks of the town of Rome and 12 other towns was carried out. Interventions were also performed, aimed at improving the efficient use of water and identification of abuses.
	Reducing by 5% the volume of water injected into the distribution network (base year 2018 volume: 107,797,030m³). ACEA ATO 5	% reduction in volume injected into the network (base year 2018) = **approx. 2%**	The activities carried out during the year to reduce the volumes of water leaks were: searches for leaks, network pressure adjustment, water network district planning, calibration of wells and springs and adjustments to the supply branches.
	Boosting the River Tevere water potability systems as an emergency reserve for the town of Rome (about 500l/s), to supplement the water resources that can be drawn from Bracciano Lake. ACEA ATO 2	l/s of reserve water available for the city of Rome purified from the Tiber river = **500 l/s 2022 target achieved**	2022 target achieved in 2018.
	Installation of 1,500 pressure and flow gauges for monitoring water districts and the efficient management of water networks. ACEA ATO 2	No. of pressure and flow gauges installed = **520**	520 flow and pressure gauges were installed to monitor the networks and water districts managed.
	Carrying out projects to recycle purified wastewater mainly for irrigation or for production processes up to 7Mm3/year of reused wastewater. ACEA ATO 2	Mm³/year of reused wastewater	In 2019, the treatment system for the reuse of wastewater discharged from the Cobis purification plant was completed and work began on revamping the industrial water network at the Purifier in Southern Rome.
	Increasing the overall waste treatment capacity by about 1,100,000 tonnes (equivalent to about 120% more with respect to the 2017 data). ACEA AMBIENTE	overall t of treated waste/ overall t of treated waste (2017 data) = **1,219,000/1,077,000, equal to 13% more (data from scope of consolidation)**	The expansion of the composting plants of Monterotondo Marittimo and Aprilia was completed and 2 waste treatment plants (DEMAP and Berg) were acquired. Work has begun for the manufacture and/or acquisition of new plants.
	Manufacturing an organic sludge management and treatment system and transformation into biolignite (10% of the dehydrated sludge treated). ACEA AMBIENTE	t of biolignite produced/ organic sludge treated	No action during the year.
	Operation of recently purchased milk whey drying plants for transformation into powder for use in the zootechnics industry (30,000t of whey recovered/year). ACEA AMBIENTE	t whey recovered = **48,894 2022 target achieved**	Target achieved in 2018.

(cont.) **Promoting an efficient use of resources, thus facilitating circular economy**	Acquiring a platform for selecting light multi-material coming from separated collection (recovery of 65% of the managed waste). ACEA AMBIENTE	t of recovered material/t of managed waste	The Turin DEMAP plant was acquired during the year, a secondary sorting centre (SSC) affiliated with Corepla that deals with the recovery, sorting and recycling of single-material or multi-material plastic packaging (e.g. plastic with iron, aluminium and cardboard, with a maximum of 22% foreign fraction).
	Through plant development/acquisition, launch at least 4 material recovery initiatives in line with the circular economy. ACEA AMBIENTE	No. of initiatives organized = **4**	In addition to the acquisition of 90% of DEMAP, the acquisitions of 3 plants for the recovery of plastic, paper and the sorting of other waste fractions are also being finalized.
	Reducing by 4% the volume of water injected into the managed distribution network compared to 2018 levels (equal to 44,931m³/d), resulting in a reduction in leaks of about 2% compared to the same year (equal to 19,450m³/d) GESESA	% reduction in volume injected into the network (base year 2018) % reduction in lost volume of water (base year 2018)	During the year, Gesesa continued to develop the division of water networks into districts.
	Reducing the volume of leaks by replacing 80km of deteriorated pipelines. GORI	km of pipelines replaced/ km of pipelines to be replaced = **63/80** volume losses year/ volume lost per year – 1 = **99.96 Mm³/105.09 Mm³, equal to approx. 7% less**	Sections of the water network with a high failure rate were replaced by installing new pipelines and user connections.
	Implementing systems to minimize the production of sewage sludge with the definition of waste treatment methods, aimed at the recovery of material (phosphorus or other minerals, aggregates) and the energy recovery of these residues (on at least 6 plants). ACEA ELABORI	No. of minimization technologies implemented No. of plants involved	The study for the identification of technologies for the treatment of dehydrated purification sludge and the recovery of phosphorus was completed and the technical documentation was prepared to install the technology studied on a pilot site.
	Implementing waste recovery and waste energy recovery technologies on an industrial scale. ACEA ELABORI	No. of recovery technologies/projects implemented	In 2019, in cooperation with Acea Ambiente, the analysis for the identification of the best technology for the energy recovery of sludge and waste was completed and the technical documentation was prepared to install the technology studied on a pilot site.
Taking initiatives to protect the territory and limit impacts on the natural environment	Boosting the use of online bills: 300,000 digital bills (equivalent to about 42t of paper saved/year). ACEA ATO 2	No. of active web bills = **83,909** t paper saved per year = **12**	During the year, an awareness campaign was organized and sent to customers via email, to encourage them using digital contact channels. In addition, the "Bottle at the counter" campaign was carried out, which included the distribution of drinking bottles to customers who subscribed to the web bill.
	Boost the use of online bills: 300,000 digital bills (equivalent to about 42 t of paper saved/year). ACEA ENERGIA	No. of active supplies with web bill option = **263,244** t paper saved per year = **36.7**	The information campaigns carried out over time by the company have helped to increase the number of customers with web bills.

	Further reduction of use of paper by digitizing processes, especially in sales relations (new activities): 80% of digitized contracts. ACEA ENERGIA	% of digitized contracts = **58**	The updating of the software for the digitization of the customer contract has been started, which will be able to receive and accept the contract through a web platform.
	Removing 167 pylons, by modernization of the electrical supply system as well as high and ultra-high voltage transmission. ARETI	No. of pylons removed/ no. of pylons to be removed = **44/167 (of which 39 were removed in 2018)**	5 supports of the 60kV Collatina – Tiburtino line were demolished.
	Completing the supplementation of the Tiber River and River Aniene quality monitoring system as concerns the Rome city center fluvial section (7 control units by 2022). ACEA ELABORI	No. of control units/total number of control units to be implemented = **7/7 2022 target achieved**	2022 target achieved in 2018.
	Increasing purification efficiency by 5% in terms of reduction of BOD5 on 5 purification plants being upgraded (purification efficiency of the BOD5 in 2018 equal to 89%). ACEA ATO 5	(BOD5in-BOD5 out/BOD5in)*100/ (BOD5in-BOD5 out/ BOD5in)*100 (year-1)	Work began on increasing the purification efficiency of the Ceccano and Sant'Andrea del Garigliano plants.
	Monitoring 83 sewerage basins and 1,025km of sewerage network activating specific checks to prevent critical issues related to pollutants present in the sewerage conveyed. ACEA ATO2	No. of sewerage basins monitored/total basins to be monitored = **13/83** km network monitored/ km to be monitored = **210/1,025**	During the year, 13 studies were completed on the same number of sewerage basins.
(cont.) **Taking initiatives to protect the territory and limit impacts on the natural environment**	Developing new infrastructure monitoring systems (aqueduct sections and strategic installations) by using drones and/or satellite systems. ACEA ATO 2	Yes/No = **Yes 2022 target achieved**	2022 target achieved in 2018.
	Reducing the annual amount of dehydrated/dried sludge leaving the purification plants managed by Acea Ato 2 by 40% (compared to 2017 volumes equal to 107,205 tonnes) by means of actions aimed at improving the efficiency and industrialization/innovation of sludge lines. ACEA ATO 2	% reduction = **about 35% The data reflect the sludge emergency created in 2018**	After experiments at the Ostia purification plant, the ozone depletion technique was put into operation and the process for the construction of a solar dryer was initiated. A dryer has been in operation at the Purifier in Northern Rome since this year and the anaerobic digestion process started in the plant in Southern Rome.
	Increasing purification efficiency by 5% with respect to 2019 (year of acquisition of purification plants > 100,000 inhabitants) in terms of reducing SST of all plants managed. GORI	Valid KPI from 2020: (SSTin – SSTout / SSTin) x 100	Efficiency of maintenance and management was improved and checks of purification plants were increased.
	Reduction of 30% of non-dried sludge (180 t) compared to 2018 (equal to 623 t). GESESA	% reduction of non-dehydrated sludge	During the year, work was carried out to improve the efficiency of the drying processes of the Reullo purification plant in Sant'Agata de' Goti and work was planned for the manufacture of a centrifuge at the Ponte Delle Tavole plant in the province of Benevento, so there is still no appreciable percentage reduction. Moreover, training was provided to employees on the use of mechanical sludge dehydration systems.

(cont.) **Taking initiatives to protect the territory and limit impacts on the natural environment**	Increasing the number of web bills to at least 10% of total users (57,404 total users in 2018). GESESA	No. of users with web bill/total users (as of 2018) = **2,482/57,404, equal to 4% of total users**	To increase the number of activations of web bills, Gesesa launched the advertising campaign "All of GESESA...in one click!" on social channels, traditional local media and through local posters.
	Boosting the use of web bills to about 78,000 (90% more than the 41,000 web bills as at 31.12.2018) equivalent to about 11t/year saved. GORI	No. of active web bills/ No. of active web bills 2018 = **58,515/41,000** t paper saved per year = **5.2**	In addition to the Web Bill campaign, in 2019 training was provided to call center and contact point staff in order to promote the activation of electronic bills among customers.
Enhacing certified environmental and energy management systems	Reaching 100% of ISO14001 certification for companies within the scope (13 companies). Obtaining ISO 50001 certification for energy companies (>10,000 TOE equivalent) (7 companies). Maintaining the currently valid environmental and energy management system certificates. ACEA SpA – RISK & COMPLIANCE (Certification integrated systems)	ISO 14001 certified companies/companies in scope = **10/13** ISO 50001 certified companies/energy companies in scope = **5/7**	During the year, the audits for the maintenance of the certifications of the environmental and energy management systems were carried out successfully.
	Integrating the environmental management system with certified quality and safety management systems. GORI	System integration: Yes/ No = **No**	Activities for achieving the target have begun.
Implementing sustainability logics in procurement procedures	Achievement of an average of 20 points (15 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. ACEA ATO 2; ACEA ATO 5; ARETI	Sum of Green score awarded x Purchase Order amount/Total tender amount for calls carried out with the most competitive bid for the supply of supplies and services. **Acea Ato 2 = 14.06** **Acea Ato 5 = 12.64**	During the year, green and sustainability criteria were included in the tenders published with OEPV.
	Extension of the sustainable development training plan in the integrated water service for 100% of process managers to allow greater integration of sustainability issues in the supply chain. ACEA ATO 2	Process managers trained/total process managers = **3/50, equal to 6%**	Training on Green Public Procurement (GPP) and environmental management systems was provided to 8 company employees, including 3 Process Managers. In addition, one employee attended the Green Manager course promoted by the Lazio Region.
	Introducing self-assessment in terms of quality, environment, safety, energy and social responsibility (QASER), where relevant, for all economic operators registered in the goods/ services/labour procurement qualification systems. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Procurement and logistics)	No. of QASER self-assessed suppliers/total qualified suppliers = **345/396, equal to 87%**	In 2019, 87% of suppliers performed a self-assessment on quality, environment, safety, energy and social responsibility (QASER) during the qualification phase.

(cont.) **Implementing sustainability logics in procurement procedures**	As concerns 50% of the Classes of Commodities regarding procurement of compatible Goods and Services, defining one or more sustainability criteria applicable when defining technical and/or awarding requirements according to the most competitive bid criterion. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Procurement and logistics) with contribution from Operative companies	No. of product categories with defined criteria/ total compatible product categories = **11/30, about 37% of the compatible product categories**	For the 11 product categories with defined criteria, of the 30 total product categories, 71% of the tenders were carried out using rewarding criteria of "sustainability" in the assessment of the technical offer (ISO 9001, ISO 14001, OHSAS 18001/ISO45001, ISO 37001, ISO 50001, the joint presence of another certification, energy efficiency, eco-sustainability, sustainable waste management, ecological vehicles, hydraulic efficiency).
	Use of at least 90% of the applicable CAMs (Minimum Environmental Criteria), pursuant to the respective Italian Ministerial Decrees when defining technical and/or awarding requirements in procurement processes regarding multicompany contracts managed centrally. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Procurement and logistics)	No. of CAMs applied / total no. of CAMs applicable to common contracts valid during the period of reference = **9/10, equal to approximately 90%**	During the year, 3 CAM tenders were launched, of which 2 were awarded for the supply of digital equipment and printer cartridges.
AREA OF ACTION 2: Contributing to the well-being of the community			
	Supporting at least 3 social-oriented initiatives per year aimed at promoting sports. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	No. of social initiatives to promote sponsored sports = **8**	In 2019, Acea supported 8 major sporting initiatives, including the Acea Marathon in Rome, the Rome-Ostia Half Marathon, the Via Pacis Marathon in Rome, the Rugby 6-nation Tournament, the Volleyball School Trophy.
Promoting activities with positive impact on the collectivity and on the territories where the company works	Carrying out at least 5 cultural events/communication initiatives per year related to the core business to consolidate and improve relations with the local community, disseminate the contents and corporate values including through the development of industrial sites and facilities of the Group's companies. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	No. of events held = **2** No. of industrial sites/ plants developed = **12**	During the year, Acea promoted a number of initiatives aimed at improving relations with the local community, including events related to the inauguration of company facilities such as the Monterotondo Marittimo plant and the commercial desks in Frosinone and surveys to plants and sites of the Group (the Chiocciola, the Bomba Dam, the Eur Water Centre and the Maneuvers Chamber of the Trevi Fountain) that involved about 2,300 people.

(cont.) **Promoting activities with positive impact on the collectivity and on the territories where the company works**	Promoting at least 1 initiative or project dedicated to the development of the Roman territory to support the improvement of the city. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	No. of initiatives promoted = **5**	A partnership with the ACLIs of Rome (Associazioni Cristiane dei Lavoratori Italiani) was launched to organize the online charity auction "Together for water" that envisages the donation of posters of the Acea "Why?" campaign on water conservation. The funds raised will be used for the construction of works for the benefit of the local community and for solidarity purposes. Acea also promoted the Rome Museum Exhibition, an international initiative to promote culture as an element of social cohesion, well-being and cooperation between peoples, and various initiatives for urban livability such as the renovation of public and artistic lighting of monuments.
AREA OF ACTION 3: Consolidating relations with the territory			
	Support or management of at least 4 awareness initiatives per year and promotion of socially useful campaigns (prevention of cancer, women's rights, promoting diversity). ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	No. of initiatives supported and/or managed = **12**	During the year, Acea supported various awareness-raising and social promotion initiatives, including: the exhibition on the Holocaust Shoah Memorial, Fiaba Day, the National Day for eliminating architectural barriers, support for the Gay Center for diversity and against violence, the Pink Ribbon awareness-raising campaign for the prevention of breast cancer.
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 6,000 students per year). ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	No. of students involved per year/no. of students to be involved = **about 10,000 students/6,000**	Once again this year, Acea carried out the Acea School project at the Conciliation Auditorium in Rome to raise awareness among school students about the correct use of natural resources in and around Rome. The initiative involved 10,000 young people and included the award of the best Acea School project "Let's defend water". Awareness-raising actions on the responsible use of resources also involved other events for young people, including the Volleyball School Trophy, Acea Camp and the Difference "Me too" initiative.

	Creating at least 1 campaign per year or awareness initiatives addressing saving water, energy and environmental protection targeting the collectivity. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events) and Group companies	No. of campaigns or initiatives carried out during the year = **5**	In addition to the campaign to promote the Acea School project, a communications campaign was organized for Acea's first Sustainability Day in October, published in the main newspapers. The Group also participated in Ecomondo and Sustainability Island, with booths presenting innovative environmental projects such as Acea Smart Comp.
(cont.) **Contributing to create awareness on social and environmental matters**	Supporting an initiative/event aimed at promoting the reduction of pollution in the environment (plastic free initiatives, recycled material projects and redevelopment of culturally significant areas). ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Sponsorship and Value Liberality)	Promotion of environmental impact reduction project: Yes/No = **Yes** **2022 target achieved**	Acea supported the Indoor Rowing sporting event by making drinking water tankers available to participants to fill refillable bottles, thus limiting the use of plastic water bottles.
	Checking compliance with requirements in terms of quality, environment, safety, energy and social responsibility (QASER) for all the main economic operators registered in the works and waste management qualification systems, holding a currently valid contract worth more than €50,000. ACEA SpA – RISK & COMPLIANCE (Certification integrated systems – supplier audits)	No. of QASER verified suppliers/total suppliers of certified works and waste management services holding currently valid contracts > € 50,000 = **40/100**	In 2019, the Unit carried out 40 audits with as many contracted economic operators registered in the works and waste management qualification systems.
	Increasing the awareness of suppliers registered in the works and waste management qualification systems holding a current contract on QASER issues. ACEA SpA – RISK & COMPLIANCE (Certification integrated systems – supplier audits)	Average of the final score of suppliers per year of reference > average of the final score of suppliers in the previous year = **81.26 < 83.18**	Audits carried out in 2019 on suppliers' premises regarding compliance with QASER requirements found a worsening of about 2% in the suppliers' final scores.
Facilitating the engagement of stakeholders in company projects with the aim of creating shared values	Planning and carrying out Work-Study projects reserved for local Technical Secondary School students (engaging 150 students/ year for 10 hours of work-study per student/year). Project involving the following Acea Group companies: Acea Ato 2, Acea Ato 5, Gesesa, Gori, Acea Elabori, Areti, Acea Produzione, Acea Ambiente. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of students involved/students to be involved = **360/150** No. of hours of work-study/student = **22**	The Work-Study programs involved 360 students during the year who were given a total of 7,920 hours of training.
	Implementation of the "Acea Group Stakeholder Engagement Project" aimed at implementing a program that allows the Group integrating stakeholder engagement within its processes and business activities. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Relations with the stakeholders) in collaboration with the main operating companies	Method and tool definition (0/100%) = **25%** Group stakeholder mapping status (0/100%) = **60%**	In 2019, following the survey and analysis of the status quo of stakeholder engagement at a Group level, a draft of the Stakeholder Engagement Policy was drafted, a model and operational tools were developed and the first application of the pilot project in two Group Companies was planned.

(cont.) **Facilitating the engagement of stakeholders in company projects with the aim of creating shared values**	Designing and implementing at least 1 stakeholder engagement initiative per year and promoting it within the Group, in agreement with the Group companies/Areas/Functions. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Relations with the Stakeholders)	No. of stakeholder engagement initiatives carried out during the year = **2**	Two internal engagement initiatives were carried out aimed at co-designing stakeholder engagement tools through the establishment of an inter-functional and inter-company Working Group that involved company representatives at a Group level.
	Creating a historical and current photographic and documentary archive that can be used by the Group Companies and that is also accessible from the outside ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	Archive created: Yes/No = **No**	The images for the photographic archive have been selected and partly uploaded to the dedicated platform.
	Implementation of the project dedicated to the creation of a Water Museum. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Sponsorship and Value Liberality and Advertising, Brand Image and Events)	Planning of the Water Museum (year 2019): Yes/No = **Yes** Construction of the Water Museum (year 2022): Yes/No = **No**	The project has been drafted, the site that will host the Museum has been identified and the team of experts has been set up to deal with the historical and scientific issues to be managed.
	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. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Sponsorship and Value Liberality) in partnership with Areti and other Group Companies	No. of initiatives carried out during the year = at least **5**	The main urban redevelopment initiatives concerned the renovation of the lighting of the Synagogue, Piazza dei Gerani and Piazza Mignanelli in Rome and the Church of Sant'Ilario in Port'Aurea in the province of Benevento. Moreover, Acea designed and manufactured the Christmas lighting of Via Veneto in Rome.
	Attending at least 10 Work Groups and/or technical-regulatory workshops headed by organizations of the industry or scientific bodies for conveying management-operational needs and critical issues in the implementation of future guidelines and recommendations. ACEA ELABORI	No. of initiatives organized = **5**	During the year, participation in institutional Working Groups and technical tables on strategic issues for the Group was increased: Platform P, Water Strategy, GdL Utilitalia Technological Innovation, Unichim tables on Material Control and Continuous Monitoring.

MACRO OBJECTIVE NO. 4
Promoting health and safety along the value chain

OPERATIONAL OBJECTIVES	TARGET FOR 2022 FUNCTIONS/OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS	2019 ACTIONS
AREA OF ACTION 1: Health and safety at workplace for Group workers			
Promoting a culture of health and safety at workplace	Training 100% of the dispatched staff who use company vehicles, promoting proper driving behavior. ACEA SpA – HUMAN CAPITAL DEVELOPMENT (Training)	No. of employees trained/ no. of employees to be trained = **679/1,200, of which 519 trained in 2018**	Eleven editions of the Safe Driving course were provided, involving 160 employees of the companies Areti, Acea Ato 2, Acea Ato 5 and Acea SpA.
	Consolidating the downward trend in the Group's accident indices (SI, FI). ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	SI, FI < reporting year -1 = **SI: 0.26; FI:7.73 (in 2018, they were SI 0.30; FI 8.02)*** * To allow comparison with the previous year, the data do not include the Gori Company, which entered the NFS reporting scope in 2019. Including Gori, accident rates for the year increase: SI: 0.30; FI: 9.74.	During the year initiatives were taken to prevent accidents, including the implementation of the "Safety Leadership" campaign to increase the safety culture; the establishment of RSPP Coordination Committees (Prevention and Protection Service Managers) in all companies; the establishment of work tables on safety performance, technical issues, the development of synergies and sharing of best practices, and the drafting of guidelines.
	Creating an HSE dashboard and using it to increase awareness of health and safety at workplace issues by presenting data in at least 30 formal meetings per year (Steering Committees, training sessions, safety meetings, Group RSPP coordination, etc.). ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	Creation of HSE Dashboard: Yes/No = **Yes** No. of meetings where the HSE dashboard is shown/no. of expected meetings per year = **60/30** **2022 target achieved**	In 2019, a Group safety performance monitoring dashboard was designed. The performance, periodically updated, is explained during training courses and formal meetings.
	Carrying out a health and safety awareness campaign each year involving 100% of Group employees (NFS scope). ACEA SpA – CORPORATE AFFAIRS and SERVICES (Safety at Work) in cooperation with EXTERNAL RELATIONS AND COMMUNICATIONS (Internal communications)	No. of employees involved/no. of employees expected = **2,392/5,716, equal to approximately 42%**	Acea carried out the "Acea Sicura di Te" campaign that included workshops, coaching sessions and safety training for Group managers, ambassadors and employees.
	Each year organizing information/training – in addition to the mandatory training – involving 100% of the operating personnel transferred from regional plants and/or newly hired on company safety quality standards. GORI	No. of employees trained/no. of employees to be trained = **86/91, equal to 96%**	Provision of training – in addition to mandatory sessions – on safety and the environment to all operational personnel transferred from the plants previously managed by the Campania Region.
	Providing dispatched employees, who work in confined spaces, with a safety system of ALERTS on TABLET ("Smart PPE") with the aim of enhancing their protection and timely assistance in case of unwellness or injury. ACEA ATO 2	Yes/No = **No**	Preparation for the acquisition of 400 oxygen gas detectors with man down have begun.
	Planning and implementing a special activity addressing smoking cessation. ACEA ENERGIA, ACEA8CENTO	Yes/No = **No**	Employee enrollment has begun for the program planned to help stop smoking.

AREA OF ACTION 2: Health and safety at the workplace for contractors and subcontractors

Creating awareness among contractors on workplace health and safety at workplace	Creating safety communication tools (information pamphlets, brochures, videos, manual, etc.), on the types of risk underlying the managed plants, in various languages (i.e. English, Romanian, Polish) with the aim of facilitating learning efficiency by the laborers of the contractor companies. ACEA ATO 5, in conjunction with ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS	Yes/No = **No**	In 2019, the brochure was prepared in Italian and a survey was completed to identify the languages spoken by foreign workers in the contracted companies in order to translate the document.
	Working with suppliers for the development of at least 2 communications initiatives/tools to increase safety awareness of company workers. ACEA ATO 2	Awareness-raising initiatives/tools implemented = **1**	In 2019, Acea Ato 2 presented its company safety procedures to 7 suppliers, involving about 82 people, for a total of 421 hours.
	Creating an annual safety award aimed at creating awareness on safety issues regarding contractors and subcontractors. ACEA ATO 5	Yes/No = **No**	The contest rules were defined during the year.
	Extending the introduction of awarding criteria related to health and safety issues to all contracts on networks and plants. ARETI	No. of contracts featuring awarding criteria related to health and safety/ total number of contracts in the year	Activities related to achieving the target have begun.
	Increasing annual inspections aimed at verifying the application of safety procedures and regulations on network maintenance contracts monitored by the Procurement Safety Unit by 30% (equal to 11,270 in 2018). ACEA ELABORI	No. of safety inspections/ no. of inspections as of 2018 = **12,481/11,270**	Acea Elabori carried out 12,481 safety inspections with an increase of 11% compared to 2018.
	Dissemination of safety culture to the companies executing the works (contractors and subcontractors) through the standardization of the Model defined by the Procurement Safety Unit and verification of its correct application for 100% of the contracts managed, with an expected reduction of 10% per year in the ratio between penalties found and inspections carried out. ACEA ELABORI	No. of contracts that adopt the standard of the Procurement Safety Unit/total no. of contracts managed by the Procurement Safety Unit = **63/100, equal to approximately 60%** No. of penalties found/ no. inspections carried out = **1,741/12,481, equal to approximately 14%**	During the year, Acea Elabori's Procurement Safety Unit held 63 meetings with contractors to promote safety culture and disseminate the adoption of its procedures in this area. As part of its verification, the unit also checked for the application of these rules.
	Activation of a "rating on emergency orders" for the automatic generation of site inspections to handle onsite checks and safety of contractors. GORI	Rating put in place: Yes/No No. of automatically generated site inspections	Activities for achieving the target have begun.
	Reaching 100% of OHSAS 18001/ISO 45001 certifications for companies within the scope (13 companies). ACEA SpA – RISK & COMPLIANCE (Certification integrated systems)	Certified companies/ companies in scope = **12/13, equal to 92% of companies in scope**	Acea Ato 2 and Areti have passed the audits to maintain their occupational health and safety certification; Acea SpA, Acea Elabori, Acea Energia and Acea Produzione have made the transition to the new edition of the standard.

(cont.) **Creating awareness among contractors on health and safety at workplace**	Promoting a culture of company safety throughout Acea's value chain with at least one awareness-raising session per year to selected contractors based on workers' risk exposure. Acea SpA – CORPORATE AFFAIRS AND SERVICES (Safety at Work)	No. of contractors involved/no. of contractors to be involved= **8/8**	During the year, 10 awareness-raising meetings were organized for contractors of Acea SpA on the subject of occupational safety, involving a total of 40 people.
	Application of awarding criteria related to health and safety, in 80% of the related tender contracts, awarded according to the most competitive bid criterion. ACEA SpA – CORPORATE AFFAIRS AND SERVICES (Procurement and logistics)	No. of tenders with H&S criteria/ no. of tenders awarded with the most competitive bid = **23/23**	For all tenders awarded to the most competitive bid, rewarding criteria have been included regarding additional training and safety certifications.
AREA OF ACTION 3: Health and safety of the communities with which the Group works			
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 springs/ population served by Acea Ato 2. ACEA ATO 2	Population served by springs with WSP/total population served Acea Ato 2 = **350,000/3,600,000**	Work is in progress on the implementation of Water Safety Plans (WSPs) for water collection and supply processes, which will be completed in 2020.
	Drawing up risk prevention/mitigation plans according to the guidelines of the Water Safety Plan for 2 springs serving 70,000 people. ACEA ATO 5	Population served by springs with WSP/target population	The planning of activities related to achieving the target has been started.
	Drawing up risk prevention/mitigation plans according to the guidelines of the Water Safety Plan for springs that serve at least 50% of the total population. GESESA	Population served by springs with WSP/total population served	Training courses for employees involved in the Water Safety Plan project were conducted.
	Drawing up risk prevention/mitigation plans according to the guidelines of the Water Safety Plan for 100% of springs/ population served. GORI	Population served by springs with WSP/total population served	During the year, a multidisciplinary team was set up to prepare the Water Safety Plan for the Sarnese spring system and the risk assessment was started.
	Conducting information campaigns on the good quality of the drinking water distributed to increase its use by customers. GORI	Information campaigns: Yes/No = **Yes** % increase of users (customer satisfaction sample) who report regularly or occasionally drinking tap water = **6%**	During the year, the #SorSi Sorgente Sicura information campaign was launched to promote the use of tap water among customers. Surveys showed an increase of 0.7% compared to last year for those who said they regularly drink tap water and 5.3% for those who said they occasionally drink tap water.
	Improving the monitoring of the disinfection process of the water drawn through remote acquisition/TLC of data from chlorine residual meters (18 to be restored/activated) useful to ensure a constant level of residual chlorine in the network necessary to eliminate any microbiological contamination. ACEA ATO 5	No. of chlorine residual meters installed/ activated= **6** No. of chlorine residual meters in TLC	6 chlorine residual meters were installed at strategic points to verify the measurements.
	Reducing response times by 30% (with respect to 2018) for complex laboratory analysis and expanding the analytical survey spectrum with the aim of reducing risks (WSP – potable water), by implementing high technology analytical techniques (off-target techniques), robotics and early warnings. ACEA ELABORI	% reduction (response time for the year under review/response time 2018) No. techniques/survey systems introduced = **1**	During the year, new systems were acquired for automatic weighing of SST in wastewater and a screening method was developed to search for unconventional micropollutants (no-target).

MACRO OBJECTIVE NO. 5
Investing in innovation for sustainability

OPERATIONAL OBJECTIVES	TARGET FOR 2022 FUNCTIONS/OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS	2019 ACTIONS
AREA OF ACTION 1: Organizational innovation			
Promoting "smart" processes and working methods	Activating teleworking as an agile working method for the entire Group, thus satisfying 100% of the requests for participation received from the interested population eligible under the union agreement. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of employees involved/no. of employees interested and eligible under the agreement = **508/1,500**	In 2019, the teleworking project called "Smart People" continued, thus involving over 500 people. The union agreement on agile work was also revised and the Smart Working 2020 project was launched.
	Designing and opening at least 5 environments (physical and virtual) for company and extra-company co-working to promote smart ways of working. ACEA SpA – HUMAN CAPITAL DEVELOPMENT	No. of co-working environments opened/ no. of environments to be opened = **1/5**	During the year, at the same time as the start of teleworking, the Microsoft Teams application was launched, a virtual remote workplace that allows sharing and storing files, exchanging instant messages, making video calls and holding meetings online.
	Implementing a Group innovation model that defines governance procedures (roles and responsibilities), business processes and dedicated tools. ACEA SpA – Information, Technology & Solutions (Open Innovation)	Yes/No = **Yes** **2022 target achieved**	2022 target achieved in 2018.
AREA OF ACTION 2: Technological and process innovation			
Promoting the resilience of the urban territory and innovation from a smart city perspective	Installation of a pilot system for monitoring weather conditions with the aim of estimating the resilience of the power supply network. ARETI	Yes/No = **Yes** **2022 target achieved**	2022 target achieved in 2018.
	Identification (intermediate target at 2020) and implementation of actions to improve the resilience of the power supply network following the monitoring of weather conditions. ARETI	No. of actions identified No. of actions carried out	Starting preparation for the creation of a platform for the real-time acquisition and monitoring of data of weather capable of altering the network's operating conditions.
	Implementing broadband connectivity on an optical fiber network owned by the company (or any other broadband connection) serving the operation of the power supply network covering all 70 main cabinets (CP) and 250 secondary cabinets (CS). ARETI	No. of CPs with broadband connection/70 CPs No. of CSs with broadband connection/250 CSs	No action during the year.
	Equipping 1,500 Public Lighting poles with intelligent equipment (Luce +). ARETI	No. of poles equipped with intelligent equipment	Activities related to achieving the target have begun.
	Analytics tools in business intelligence applications with a target associated with the amount of data analysed (8,000 Tbytes) and analysis size (2,800). ARETI	Quantity of data analyzed Analysis size	The definition of the model for the development of a single integrated database (data lake) for the Business Units of the Energy Infrastructure segment was completed.

(cont.) **Promoting the resilience of the urban territory and innovation from a smart city perspective**	Optimization of IP infrastructure maintenance through the implementation and progressive application of Advanced Analytics systems. The target for 2022 is the use of the system for about 50% of interventions. ARETI (Public Lighting)	Development of Advanced Analytics systems: Yes/No = **Yes** Maintenance interventions carried out with the application of Advanced Analytics/total interventions = **19/200, equal to approximately 10%**	A breakdown monitoring system has been put in place, with territorial aggregation of the interventions, and a new intervention management system is being implemented.
	Smart services applied to the organic fraction of waste: prototyping, industrialization and distribution of local composting systems for the transformation of organic fraction compost. ACEA ELABORI	No. of facilities installed = **1**	Following the development of the prototype, the first SMART machine was installed in the canteen of Acea's main offices in 2019. Activities for installing a second machine on a customer's premises have begun.
	Electric mobility experimentation project in both the CPO (Charge Point Operator) area, with the installation of at least 1,500 columns, and the MSP (Mobility Service Provider) area, with the creation of a mobility services platform. ACEA SpA – Information, Technology & Solutions (Open Innovation) and ECOGENA	Installation of columns (CPO area)= **6** Creation of mobility services platform (MSP area): Yes/No = **Yes**	During the year, the project was started experimenting on a platform for mobility services and the installation of 6 columns.
	Conveying information to the public in conjunction with local authorities using 100% of the Water Kiosks. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	% of Water Kiosks through which information can be conveyed: = **100** **2022 target achieved**	In 2019, the video content to be conveyed with the Water Kiosks was updated and the implementation of the related management platform was initiated.
	In collaboration with start-ups , innovative SMEs, universities, research centers, 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 analyzed, 10 trials/year (PoCs) launched and 1 industrialized process/year. ACEA SpA – Information, Technology & Solutions (Open Innovation)	No. of innovative ideas/ proposals analysed= **300** Trials started (PoC)= **12** Projects industrialised = **1**	In 2019, Acea established national and international partnerships and collaborations aimed at activating startup scouting deal flows and innovative solutions in the Group's areas of interest. In addition, 12 PoCs launched during the year were concluded and an innovative project was industrialized.
	Providing visibility to collaborations with start-ups through the organization of events/initiatives in synergy with universities, institutions, etc. ACEA SpA – EXTERNAL RELATIONS AND COMMUNICATIONS (Advertising, Brand Image and Events)	No. of events/initiatives held = **2**	Acea organized its first Innovation Day, involving a total of 300 stakeholders representing national and international companies, start-ups, institutions and academia. In addition, the company participated in the 2019 edition of Maker Faire, the largest European event on innovation.
Implementing remote control systems and remote interventions	Installing remote-read meters for users with bi-monthly billing (200). ACEA ATO 5	Number of remote-read meters installed/200 = **5/200**	5 pilot meters were installed to carry out signal tests and send readings to the Company's Data Management Centre.

(cont.) **Implementing remote control systems and remote interventions**	Installing smart meters for 70% of the Acea Ato 2 users. ACEA ATO 2	No. of users with smart meter/no. of users of Acea Ato 2 (662,000 in 2017) = **17,095/662,000, equal to approximately 3%**	During the year, 17,095 smart meters were installed with the proteus module, a transmitter that allows remote sending of counter data.
	Remote control of 100% of the IP plants. ARETI (Public Lighting)	% of remote-controlled control panels = **28.5%**	1,226 remote-controlled panels have been activated.
	Implementing the current remote control system (225 plants) with the aim of reaching a total of 450 plants remotely. ACEA ATO 5	no. plants connected via TLC = **278 of which 91 in 2019**	91 remote control plants were installed.
	Remotely control at least 15% of the total number of LV lines. ARETI	% of remote controlled LV lines	The pilot project for the remote control of LV lines on 20 cabins was implemented.
	Remote control 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 city of Benevento (27 plants). GESESA	No. of purification plants > 2000 PE remotely controlled/no. of purification plants > 2000 PE total No. of remotely controlled sewerage lifting plants/no. of total sewerage lifting plants No. of remotely controlled Benevento aqueduct plants/no. of total Benevento aqueduct plants	During the year, interventions were carried out to: adapt TLC hardware and software, redirect remote control stations, replace and modernize sensors and implement alarm systems. There are 26 sites equipped with remote control technology as at 31.12.2019.
	Application of new IoT technologies and advanced sensors with the installation of 300 sensors for environmental protection with the remote monitoring of wastewater dischargers. GORI	Application of technologies: Yes/No No. of sensors installed/ no. of sensors to be installed	Activities for achieving the target have begun.
Applying new technologies in leak detection and other operations	Testing 5 new leakage detection technologies and dividing the Roman purification zone into districts. ACEA ELABORI	No. of technologies tested = **3**	Pilot tests of 3 satellite techniques were completed.
	Expanding the analysis of solids deriving from waste treatment by implementing hi-tech analytical techniques. ACEA ELABORI	No. of studies introduced = **2**	Mass spectrometric research on decabromodiphenyl ether, pentachlorophenol and derivatives for the assessment of solids' eligibility for landfills has been introduced. A method for the determination of the organic chlorine content in purification sludge is being tested.
	Implementing techniques for detecting microplastics in environmental areas (treated water – Tiber, wastewater and sludge) and apply them in monitoring plans for environmental areas. ACEA ELABORI	Implementation of microplastic detection techniques: Yes/No = **Yes** Application in environmental area monitoring plan: Yes/No = **No**	Identified the Raman Microscopy technique for the identification and quantification of microplastics even below 5 µm and defined an agreement with ENEA and La Sapienza University of Rome for the development of water research and monitoring programmes.
	Application of new IoT technologies and advanced sensors with the installation of 300 sensors for the development of remote water network systems and leak detection. GORI	Application of technologies: Yes/No = **Yes** No. of sensors installed/ no. of sensors to be installed = **55/300**	Installation of a total of 55 devices including pressure monitoring devices based on the LoRaWAN standard and flow meters connected to the NB-IoT standard.

AREA OF ACTION 3: Creating and promoting knowledge

Developing research projects in partnership with other competent organizations	Expanding cooperation with the national and international scientific community on research and environmental sustainability issues of interest to businesses managed through Framework Agreements for collaboration with the scientific community (ENEA, ISS, University, IRSA CNR). ACEA ELABORI	No. of projects funded with Acea participation No. of formal scientific partnerships = **3** No. of scientific publications or presentations at major conferences = **11**	In order to create a Technology Research Hub at the headquarters in Grottarossa, discussions were held and Framework Agreements signed with leading institutional entities in the area (ENEA, La Sapienza University – DICEA, University of Tuscia)
	Developing further methods for the research of at least 10 emerging organic micro-pollutant chemical classes – MOE (interfering endocrines, drugs, antibiotics, therapeutic substances, abused drugs) and implement a monitoring plan (drinking water/wastewater) for the research of MOE. ACEA ELABORI	No. chemical classes of micropollutants studied = **19/10** Implementation of monitoring plan for MOE research in drinking water: Yes/No = **Yes** Implementation of monitoring plan for MOE research on wastewater: Yes/No = **Yes** **2022 target achieved**	During the year, the number of compounds sought while monitoring drinking water and wastewater increased, introducing 19 new pollutants belonging to 12 chemical classes (alkaloids, amphetamines, anticoagulants, cannabinoids, diaminopyridines, dibenzazepines, estrogens, NSAIDs, lincosamides, cocaine metabolites, steroid hormones, sulfamides).
	Promoting internships and job placement by recruiting from schools and the local community, thus encouraging employment growth (4/year). ACEA ATO 5	No. of internships/job placement = **3**	3 internships were offered in agreement with the University of Cassino.
	IInvolving at least 200 people/year in innovation activities: participation in the innovation community, events and activities aimed at fostering a culture of innovation and entrepreneurship, collaboration on innovative projects ACEA SpA – Information, Technology & Solutions (Open Innovation)	No. of persons involved = **289**	The Acea Innovation Garage program and the idea generation workshops held during the year involved 289 people.
	Promoting idea generation through the implementation of at least 4 initiatives per year (workshops, calls, contests, etc.) addressed both internally and externally. ACEA SpA – Information, Technology & Solutions (Open Innovation)	No. of initiatives carried out/no. initiatives to be carried out = **9/4**	During the year, in addition to the Acea Innovation Garage program, dedicated to the entrepreneurship of its employees, 8 workshops were held with a focus on idea generation.
	Participating in funded projects involving environmental research and sustainability at a national and/or EU level. GORI	No. of projects = **4**	Gori has participated in 4 calls for proposals for financing projects at a national and European level.

CORPORATE GOVERNANCE AND MANAGEMENT SYSTEMS

CORPORATE GOVERNANCE AT ACEA

The governance model adopted by Acea complies with the recommendations of the *Corporate Governance Code for listed companies* 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.
According to the best practices of the Corporate Governance Code, three committees were set up within the Board with propositional and advisory functions: the **Control and Risk Committee**, the **Appointments and Remuneration Committee** and the **Ethics and Sustainability Committee**.
Two other bodies are also operational: the **Committee for Related Party Transactions**, in implementation of Consob regulations and composed of independent directors, and the **Executive Committee**, set up in accordance with the Italian Civil Code (art. 2381) and the By-laws (art. 20, para. 1), composed of the Chairperson and Managing Director of Acea SpA and two independent Directors, one of whom chairs it, with powers relating to institutional affairs, sponsorships and donations, to be managed within the budget established by the Board of Directors.
Lastly, the Board of Statutory Auditors performs supervisory duties, according to the traditional model in force.

CHART NO. 10 – ACTIVITIES OF 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 11 MEETINGS IN 2019	Issues a prior opinion to the Board of Directors 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 10 MEETINGS IN 2019	Provides opinions to the Board of Directors regarding its composition: **size, adequacy of skills, compatibility of positions**. 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 8 MEETINGS IN 2019	In a proactive and advisory manner, supports the Board of Directors in the context of **corporate ethics and environmental, social and governance topics**. Promotes the **integration of sustainability into the corporate strategy and culture**. Supervises the main sustainability issues related to business activities and interactions with stakeholders. Examines the guidelines of **the Sustainability Plan** and, once approved by the Board of Directors, supervises its monitoring. Checks the adequacy and implementation of **the Code of Ethics**. **Promotes a culture of diversity** and fighting discrimination in the company.

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. The members of the BoD – identified and appointed according to Acea's By-laws, according to applicable law – remain in office for three financial years and can be re-elected.
The method for selecting the members of the Board guarantees the **representation of the genders**, an adequate number of **Directors representing the minorities** and **independent Directors** in accordance with the law[20].
The **Board in office**, appointed in April 2017, **is composed of 9 directors**, 5 of whom are women. In April 2019, following the resignation of the Director Luca Lanzalone, the Shareholders' Meeting appointed Ms Maria Verbena Sterpetti to the Board of Directors. In December 2019, following the resignation of the Director Fabrice Rossignol, the Board of Directors co-opted Diane Galbe.

The Board of Directors met 13 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 institutional website (**www.gruppo.acea.it**), provides information about the Directors of Acea SpA: **CVs, diversity, qualification of independence**, presence in meetings of the Board and the Committees they are members of and any positions in other Companies listed in regulated markets, including abroad, in financial, banking or insurance companies or of significant size.

[20] 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 31/12/2019, 7 directors are effectively independent.

TABLE NO. 8 – STRUCTURE OF THE BOARD OF DIRECTORS AND COMMITTEES OF ACEA SPA (AS AT 31.12.2019)

	ROLE IN THE BoD	EXECUTIVE COMMITTEE	APPOINTMENT AND REMUNERATION COMMITTEE	CONTROL AND RISKS COMMITTEE	ETHICS AND SUSTAINABILITY COMMITTEE	EXECUTIVE DIRECTOR	INDEPENDENT DIRECTOR
MRS. MICHAELA CASTELLI	Chairman	De jure component		Member	Member		
MR. STEFANO ANTONIO DONNARUMMA	MD	De jure component				X	
MRS. LILIANA GODINO	Director		Chairman	Chairman			X
MRS. GABRIELLA CHIELLINO	Director		Member		Chairman		X
MR. LUCA ALFREDO LANZALONE	Director until 15/3/2019						
MRS. MARIA VERBENA STERPETTI	Director since 17/4/2019						X
MR. MASSIMILIANO CAPECE MINUTOLO DEL SASSO	Director	Member	Member	Member			X
MR. ALESSANDRO CALTAGIRONE	Director						X
MR. GIOVANNI GIANI	Director	Chairman	Member	Member	Member		X
MR. FABRICE ROSSIGNOL	Director until 06/12/2019						X
MRS. DIANE GALBE	Director since 11/12/2019						X

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 *Code of Conduct* 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 *Code of Conduct* and appointing their members;
- Adopting the *Organization, 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.

FUNCTIONS OF THE CHAIRMAN, 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. He/she has powers relating to: overseeing the activities of the Group, verifying the implementation of Board resolutions and corporate governance rules; verifying and monitoring delivered and perceived quality indicators and issues related to **corporate social responsibility**. Supervises the corporate secretariat of the parent company and chairs the Tenders Supervisory Committee.
The **Managing Director** 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 organizational and procedural changes to the Parent Company's activities consistent with the guidelines issued by the BoD. The current Managing Director is identified by the Board of Directors as the Director in charge of the SCIGR and performs the duties of Head of the Foreign Industrial Area and Business Development Strategies.
The Chairman 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 verify the legitimacy of such operations.

TOWARDS AN INTEGRATED GOVERNANCE STRATEGY: 2019 INTEGRATED GOVERNANCE INDEX AND ACEA POSITIONING

The **Integrated Governance Index** (IGI) clearly and succinctly expresses the positioning of companies in relation to sustainability governance (or integrated governance). Developed by ETicaNews, the project reached its fourth edition in 2019. With an expanding panel of companies involved, the index was applied to the first 100 companies listed on the Milan Stock Exchange, to the companies that publish a Non-Financial Statement pursuant to Legislative Decree no. 254/2016, and to the first 50 non-listed and industrial companies in the Mediobanca classification. Based on a questionnaire, the index calculates the assessment according to a predetermined score.

The **questionnaire** consists **of an ordinary area, divided into eight areas of investigation**, and **an extraordinary area, which varies each year**, and explores challenging issues. In 2019 the Extraordinary Area concerned the management of ESGs by the Human Resources function. The topics examined by the Ordinary Area were: Code of self-discipline and sustainability; Diversity, professionalism, independence of the board; ESG integrated into remuneration; ESG integrated into business strategies; Board committees and sustainability; Materiality, Succession plans; ESG Finance.

In the third year of participation in the IGI survey, **Acea** scored 62.78 (scale 0-100), ranking 23rd out of 61 respondents. In particular, the areas where Acea performed best were **compliance with the Corporate Governance Code**, **the composition of the Board of Directors** in terms of diversity and skills, **the Board Committees with particular focus on the Ethics and Sustainability Committee** and the **Materiality Analysis**. The aspects with a lower score were those relating to the **integration of the ESGs in remuneration**, **succession plans** and **ESG Finance**.

Note: The data and information related to the Integrated Governance Index were prepared with the cooperation of ETicaNews.

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.

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[21].

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.

The Parent Company has a number of **Company Committees** that operate on a continuous or periodic basis, chaired by the Managing Director of Acea SpA or by a Business Area Manager, where the Managers of the Industrial Segments and Functions of Acea SpA take part. The matters dealt with may be the subject of reports to the Board of Directors. The following Committees are set up with technical and advisory functions that are carried out in synergy, facilitating decision-making processes and increasing the ability to respond to emerging problems promptly and in a coordinated manner:

- the **Steering Committee**, composed of the first reports of the Managing Director;
- the **Business Review Committee** for the analysis of data and economic-financial performance;
- the **Business Strategy Committee**, which analyses the possibility of developing core and non-core activities in Italy;
- the **Post Audit Committee**, which analyses the corrective actions taken to overcome any critical issues identified in audit reports;
- the **Procurement Supervisory Committee**, which the Chairperson also participates in, which monitors the application of current legislation and company procurement procedures as well as the progress of the tender procedures and execution of the most significant contracts (in terms of economic value, strategic value and executive risks); informs the company bodies of new tenders and potential risks and impacts on existing and planned tender procedures.

Finally, at the industrial segment level, ad hoc committees work in specific operational areas: the **Investment Committee**, the **Public Lighting Committee**, the **Private Electricity Grid Committee**, the **Group Water Company Committee**, the **Aqueduct Development Committee** and the **Treatment Development 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 may set the fixed emoluments of the Board members throughout their term of office and, furthermore, issues a non-binding resolution on the Policy pursuant to Article 123-ter, paragraph 6, of the Finance Act) on remuneration. In relation thereto, the remuneration was confirmed for the Board members, as established by resolution of 5 June 2014 whereas, in exercising its competence in setting the payments for the Directors with special offices, the Board of Directors resolved on the retributive references for the Chairman and the Chief Executive Officer throughout their term in office.

For further details, see the *Remuneration Report Financial Year 2019* available on the website www.acea.it.

[21] 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 2019.

Acea's **Internal Control and Risk Management System** (**SCIGR**), which solidifies the Group's corporate governance structure, consists of a set of people, tools and organizational structures whose objectives are:

- **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 framework of a widespread knowledge of the risks and the level of propensity for them established by the Board of Directors, 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 **SCIGR Guidelines**, which were updated in 2019 and approved at the beginning of 2020, promote the proper management of the Group consistent with the corporate objectives through an adequate process of identification, measurement, management and monitoring of the main risks and the structuring of the information flows necessary to ensure sharing and coordination between the various SCIGR actors. The Guidelines, which 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 Organizations of the Treadway Commission*), 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 the principles and responsibilities** of the governance, management and monitoring of the risks connected to the Company's activities;
- Provide for **control activities** at all operational levels and identify tasks and responsibilities to ensure coordination between the main subjects involved in the SCIGR.

Risk management is a **cross-cutting process** with **widespread responsibilities involving all the parties of the company in various ways**: 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 Supervisory Body and the Internal Audit Function.

CHART NO. 11 – THE ARCHITECTURE OF THE SCIGR

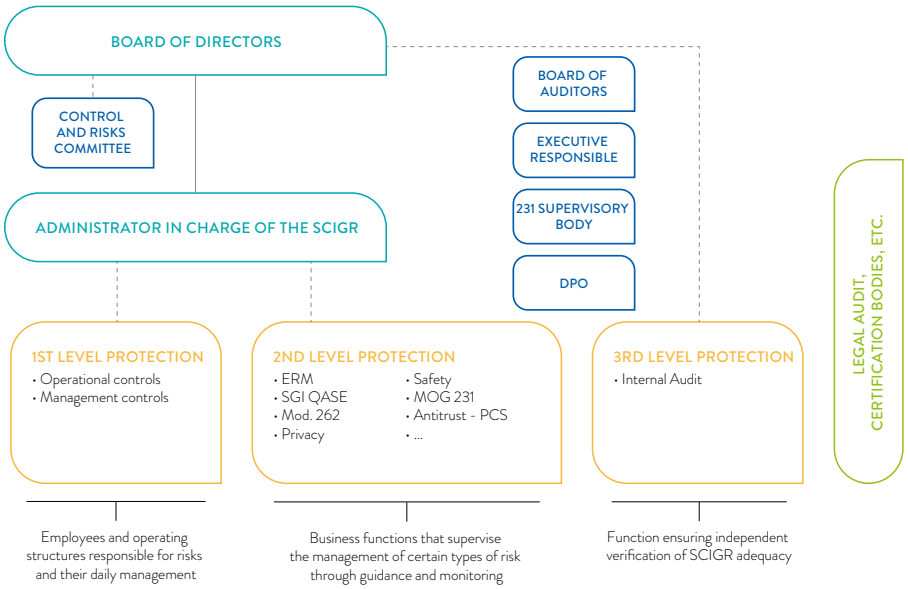


CHART NO. 12 – THE KEY PLAYERS OF THE SCIGR

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
MANAGER RESPONSIBLE FOR PREPARING THE COMPANY'S FINANCIAL REPORTS: responsible for instituting and maintaining the System of Internal Audit on the financial information
RISK & COMPLIANCE – ERM: defines the risk assessment and prioritisation methodology and coordinates the management of the periodic Risk Assessment process
SUPERVISORY BODY: assigned with the powers of initiative and intervention for the operation of MOG 231
INTERNAL AUDIT: carries out independent audits on the operations and suitability of the SCIGR using and 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 Parent Company have the task of creating and adopting **specific models** for monitoring risks, including those relating to the commission of crimes.

TABLE NO. 9 – MODELS AND CONTROLS

	OVERSIGHT AREAS
Organization, Management and Control Model as per Legislative Decree 231/01	Risk of committing **crimes and administrative offences** in the performance of the Company's activities
Guidelines of the Management and Control Model pursuant to Law 262/05 (updated in 2019 together with the Regulations of the Financial Reporting Officer)	Risks **the Group's Financial Statement**
Privacy Governance Model	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 ISO45001 and ISO14001	Monitoring **workplace health and safety risks and environmental risks** in accordance with international standards
Oversight of Cyber Security	**Cyber** risk management, also in compliance with EU Directive 1148/2016 on European Information Systems and Networks (NIS)

COMPLIANCE WITH EU PERSONAL DATA REGULATION (GDPR)

The programme of compliance with the European Regulation on the protection of personal data (GDPR) launched in Acea in 2017 is developed according to a modular logic. After the definition and implementation of the **Privacy Governance Model** for the Group last year, **topical follow-ups were carried out in 2019** on areas and processes with a high privacy impact. The **3rd phase of the GDPR compliance programme** was then launched, dedicated to identifying the specificities of the company, ensuring the widespread dissemination of the Model including through personalized training initiatives, and at the same time to achieve the refinement of the actions implemented at the central level to verify their effectiveness and correct any inefficiencies for the benefit of the Parent Company's processes, with effects on the entire corporate scope.
The **internal network between the structures** (the Parent Company's DPO, the DPO Office and the Privacy departments within the Risk & Compliance Units of the Operating Companies) **has been consolidated** by sharing information and support tools released over time and with a cross-cutting impact. In accordance with the Regulation, **the privacy risk assessment methodology applied to some processing was validated**, also to develop the corresponding DPIA (data protection impact assessment), identifying the sources of risk (threats), their impact and mitigation measures (or controls).
The online **training programme**, already carried out in the Parent Company, has been extended to the Companies to achieve the first level of compliance for Data Controllers with regard to the training of Data Processors, on individual corporate processes (for example, commercial activities, IT Systems).
No cyber incidents have been reported affecting the personal data held by Group companies.

ANTITRUST COMPLIANCE PROGRAMME

The Acea Group pays constant attention to compliance with antitrust law and consumer protection regulations. Following Acea's adoption of the **Antitrust Compliance Programme** aimed at strengthening internal controls, implementing organizational and regulatory instruments and promoting **the principles of fair competition and consumer rights** and the appointment of **the Holding Company Antitrust Officer**, activities already carried out last year, **in 2019** the **main Group companies** adopted **the Antitrust Compliance Programme** in line with the indications of the Holding Company, and set up organizational structures to which **Company Antitrust Officers** were appointed. These have the task of implementing the programme, depending on the specific characteristics of the company, the regulatory provisions and the market context they operate in. To this end, the Group companies are responsible for the implementation of the Compliance Programme in their own organizations. Corporate representatives also received specific training and support coordinated by the Holding Company's Antitrust Officer, aimed at implementing their technical and regulatory skills.

Within the framework of the internal control and risk management system, Group companies adopt their own **organization, 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 top 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 **updated** in response to changes in the organization or activities carried out, or following the introduction of new cases in the catalogue of predicate offences of the aforementioned legislative decree. The **Supervisory Body** (**SB**) has **full and autonomous powers** of initiative, action and control **regarding the operation, effectiveness and observance of the specific Models**[22].

[22] In December 2019 an oversight organization was set up to ensure the auditing and monitoring of the instrumental processes covered by Legislative Decree no. 231/01 and envisaged in the Annual Audit Plan, to prepare the reports at the end of the individual audits and ensure the flow of information to the Supervisory Body.

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 crimes pursuant to Legislative Decree no. 231/2001, as well as being a ready reference for all those who are addressed by the Code.
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 2019, **about 81.4% of the Plan activities** concerned **corporate processes deemed as exposed** to the **risks as per Legislative Decree no. 231/01**, amongst which the crimes regarding **corruption** and the **environment**, and in violation of **injury prevention laws and the laws safeguarding health in the workplace**.
With regard to audits of processes **related to risks of corruption**, there are in particular periodic audits of "Sponsorships", "Consulting", "Personnel selection", "Purchasing and payments".
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 **fraud detection** activities, 5 Fraud Key Risk Indicators have been adopted for the purchasing area, which are analysed every six months.

REPORTS RECEIVED RELATED TO THE CODE OF ETHICS

Acea has adopted a procedure that can be **followed by both employees and external parties** for the reception, analysis and processing of **reports** – so-called "**Whistleblowing**" – relating to any failure to comply with the law, internal rules and the Code of Ethics, as well as issues relating to the Internal control system, corporate notices, the administrative responsibility of the Company (Legislative Decree no. 231/01), fraud and conflicts of interest.
This procedure requires an assurance of the **maximum level of confidentiality and privacy** in the processing of communications received, **protecting those voicing their concerns and those responsible**.
In coordination with other competent corporate Functions when necessary, the **Internal Audit Function** is responsible for acquiring, registering and ascertaining the existence of violations, and in 2019 analysed **5 cases of presumed violations** of the *Code of Ethics*. One was attributable to Article 13 "Relations with customers" and the other four to Article 14 "Management, employees and collaborators". **There are no reports related to discrimination**.
The Internal Audit Function prepares **periodic reports** on the progress of the findings, forwarding the most relevant cases to the Control Bodies.
In December 2019, the **Ethics Officer was established** as a collective Group Body whose purpose is to manage the system for reporting alleged violations for non-compliance with the law, internal regulations and the *Code of Ethics* and to monitor compliance with the values of transparency, legality, fairness and ethical integrity in relations with employees, suppliers, customers and all stakeholders.

INTEGRATED ANALYSIS AND RISK MANAGEMENT METHOD

To **improve an integrated vision of risks and their proactive management** within a structured and continuous process, in 2019 Acea further developed the **ERM Programme** based on the **COSO framework** "Enterprise Risk Management (ERM) – Integrating with Strategy and Performance" 2017.
The purpose of the ERM Programme is to:

- Represent the **type and significance** (probability and economic-financial and/or reputational impact) **of the main risks, including sustainability risks, that may jeopardize the achievement of the Group's strategic and business objectives**;
- Address strategies and subsequent additional mitigation actions.

The methodology implemented and the tools developed to identify risks and assess their severity in a consistent manner at a Group level – **definition of the Risk Model** – included **ESG aspects** and risk scenarios associated with the **issues that emerged from the Materiality Analysis.** The first evidence from the risk assessment, which represents the risk scenarios related to the material issues with the possible impacts and monitoring procedures prepared by Acea, are shown in table no. 10.
The results of the ERM Programme are also taken into account when **planning actions to mitigate risks and seize opportunities** by Group companies with certified Management Systems.
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. 13).

CHART NO. 13 – THE ERM UNIT AND THE CORPORATE FOCAL POINTS

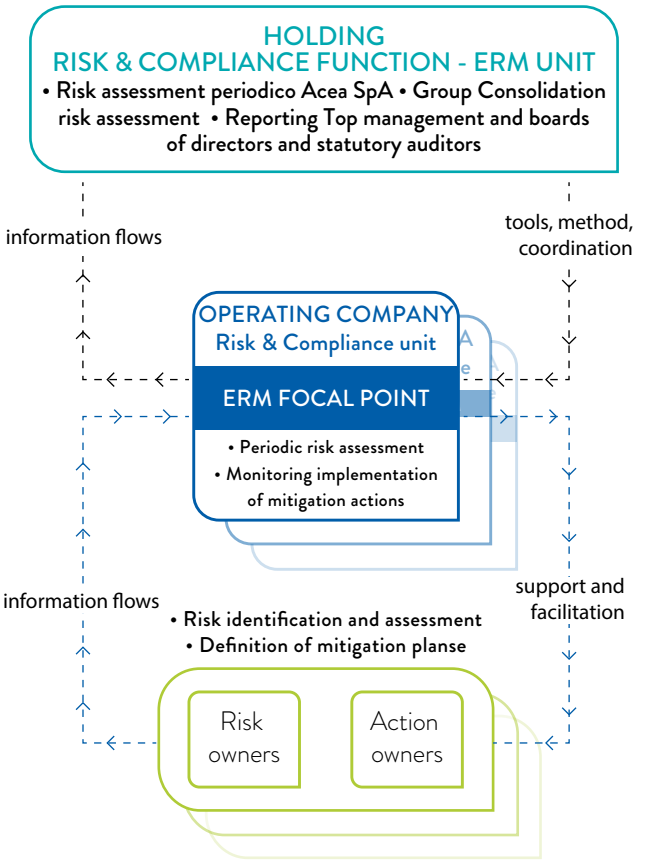


TABLE NO. 10 – MATERIAL TOPICS, RISKS AND MANAGEMENT METHODS

HIGHLY SIGNIFICANT MATERIAL TOPICS AND RELATED RISK	POTENTIAL IMPACT ON ACEA	POTENTIAL IMPACT ON STAKEHOLDERS AND CAPITAL	RISK MANAGEMENT METHOD
SUSTAINABLE WATER CYCLE MANAGEMENT Unfavourable natural events and/or climate change; authorisation delays impacting on optimal management conditions; monitoring and analysis	economic/financial reputational	*environment and community* natural and social-relational capital	- system of procedures and emergency plans – ad hoc maintenance – disciplined relations with institutions and authorising bodies – ISO 17025 accreditation Analysis laboratories
SUSTAINABILITY IN INFRASTRUCTURE DESIGN, CONSTRUCTION AND MANAGEMENT Environmental and social impacts from inadequate and failed design, construction and/or management of plants/networks	economic/financial reputational	*environment, community, institutions, suppliers* natural, production and social-relational capital	- design procedures – monitoring and reporting of the progress of the authorisation/design process – asset monitoring and inspection
OCCUPATIONAL HEALTH AND SAFETY Accidents at work	reputational	*employees*	- company policies and compliance guidelines – training and communication plans – ISO 45001 health and safety management systems
INNOVATION OF SMART UTILITY PROCESSES, INFRASTRUCTURE AND SERVICES Operational inefficiency due to technological and innovative inadequacy	economic/financial reputational	*community* and *business partners* production, intellectual and social-relational capital	- monitoring the technical and technological progress of projects
SUSTAINABILITY AND CIRCULARITY ALONG THE SUPPLY CHAIN Failure to control the purchasing process – failure of suppliers to comply with the requirements (health and safety, environmental, anti-corruption)	economic/financial reputational	*environment and suppliers* natural, human and social-relational capital	- system of procedures – quality monitoring of goods/services received – ISO 45001 health and safety management systems – qualified suppliers register
RECOVERY OF WASTE FOR A CIRCULAR ECONOMY Failure to comply with regulations; obstacles in the waste treatment and delivery market	economic/financial	*environment* natural capital	- monitoring and control plans for Integrated Environmental Authorisations – ISO14001 and EMAS environmental management system
STRATEGIC APPROACH TO STAKEHOLDER RELATIONS Tensions with stakeholder representatives in the region with negative effects on the development of activities	economic/financial reputational	*community* social-relational capital	- stakeholder engagement activities – Code of Ethics
BUSINESS ETHICS AND INTEGRITY Conduct contrary to binding regulations, internal rules and standards of reference	economic/financial reputational	*community, institutions* and *business partners* production, intellectual and social-relational capital	- 231/01 organization, management and control model – Code of Ethics – whistleblowing system – training and communication plans
CUSTOMER FOCUS Failure to achieve service quality levels until they are discontinued	economic/financial reputational	*customers* social-relational capital	- customer analysis – analysis of services – monitoring of regulatory framework of reference (e.g. Consumer Code) – ISO 9001 quality management system
AIR QUALITY: CONTAINMENT OF POLLUTANT EMISSIONS INTO THE ATMOSPHERE Exceeding the emission limits envisaged by laws and authorisation decrees	economic/financial reputational	*environment and community* natural capital	- monitoring and control plans (Integrated Environmental Authorisations) – ISO 14001 and EMAS environmental management system
INVOLVEMENT OF PERSONNEL, INVESTMENT IN HUMAN CAPITAL AND DEVELOPMENT OF SKILLS Lack of adequacy both in terms of skills and organic plants	economic/financial	*employees* human capital	- remuneration and incentive policies – performance evaluation system – training and education plans
PROTECTION OF THE COMMUNITY AND BIODIVERSITY Impacts on environmental balance conditions caused by plants that unexpectedly do not comply with legal limits	economic/financial reputational	*environment* natural capital	- plant management procedures – control and monitoring – training plans – ISO14001 and EMAS environmental management system
DECARBONISATION AND ADAPTATION TO CLIMATE CHANGE Failure to build sustainable plants and to adapt operating practices to the evolution of climate change (production of energy from renewable sources, resilience of the electricity grid, availability of water)	economic/financial reputational	*environment and community* natural and production capital	- monitoring and reporting – ISO 14001 and EMAS environmental management system – ISO 50001 energy management system

TABLE NO. 10 – MATERIAL TOPICS, RISKS AND MANAGEMENT METHODS (cont.)

HIGHLY SIGNIFICANT MATERIAL TOPICS AND RELATED RISK	POTENTIAL IMPACT ON ACEA	POTENTIAL IMPACT ON STAKEHOLDERS AND CAPITAL	RISK MANAGEMENT METHOD
CONSOLIDATION OF SUSTAINABILITY ELEMENTS IN CORPORATE GOVERNANCE Violation of Italian Legislative Decree 254/16; inadequacy of the internal regulatory system with respect to the guidelines of the Corporate Governance Code	reputational	*shareholders* economic-financial and intellectual capital	- auditor's assurance – activities of the board committees (Ethics and Sustainability, Control and Risks) – Sustainability consultation table – certification of data managers – updating and verification of information systems and organization
BUSINESS EVOLUTION THROUGH OPEN INNOVATION AND DEVELOPMENT OF SYNERGIES WITH SCIENTIFIC AND ENTREPRENEURIAL PARTNERS Inability to seize opportunities deriving from technological innovations and their integration into business processes	economic/financial	*community, institutions* and *business partners* production, intellectual and social-relational capital	- organizational structure responsible for innovation (innovation board and ITS function)
COMPANY WELL-BEING, DIVERSITY AND INCLUSION Increased absenteeism rate; negative company climate; possible lawsuits from employees	reputational	*employees* intellectual and social-relational capital	- "Protection, inclusion, promotion of diversity and workers' well-being" procedure – teleworking – diversification of working hours and economic adjustments – Code of Ethics – Diversity management charter – health plans (health check-ups)

● ECONOMIC GOVERNANCE TOPICS ● SOCIAL TOPICS ● ENVIRONMENTAL TOPICS

ACEA AT THE CSR MANAGER NETWORK WORKING GROUP ON ERM AND SUSTAINABILITY

The growing legislative and self-regulatory attention to the management of corporate risks, financial and otherwise, has stimulated companies to deal with these new challenges, pushing them towards an integrated approach to the Internal Control and Risk Management System, also thanks to the role assumed by the Management and Supervisory Bodies.
The CSR Manager Network, a national association that brings together professionals engaged in the management of sustainability issues related to business activities, has selected the proposal formulated by Acea and SCS Consulting to establish a working group between ESG and ERM representatives, to **share and analyse the experiences of integration of sustainability issues in risk management**. The first phase of the activity was aimed at sharing and analysing the experiences of sustainability integration in the field of ERM, both with regard to international best practices and initiatives already developed within the companies participating in the working group. To this end, an online **survey was prepared** thanks to which companies were able to compare their business models with reference to the areas of governance, materiality and risks and the ESG risk management process. Parallel to the survey, an analysis was done of NFSs from 2018 prepared pursuant to Legislative Decree no. 254/2016, and the corporate documents produced by the companies in the FTSE MIB and by the companies of the working group. The second phase led to the development of Operating Guidelines, including procedures and tools, for the management of risks related to ESG issues.

As shown by the CDP (formerly Carbon Disclosure Project) questionnaire, one of the ways that Acea monitors **climate change** is through the assessment of risks and opportunities related to its activities in the **short and medium term**. Table no. 11 provides a representation of the main evidence: short- and medium-term scenario and more significant implications for the company in terms of financial, reputational, environmental and customer impact.

TABLE NO. 11 – RISKS AND OPPORTUNITIES RELATED TO CLIMATE CHANGE: CDP EVIDENCE

TYPE OF RISK	DESCRIPTION OF THE RISK	MOST IMPACTED INDUSTRIAL AREAS
TRANSITION Risks arising from the ongoing transition to a decarbonized economic system (e.g. regulatory, technological, market)	The main risks identified relate to the **political-regulatory** sphere. The expected scenarios related to a transition to an economic system committed to tackling climate change take the following forms: increasing carbon tax policies; changes in incentive programmes; tightening of the values associated with the Emission Trading Scheme (both in terms of allowances – paid or not – and actual emission allowance costs); increased legal and financial risks for non-compliance with performance standards (fines and incremental compliance costs).	Energy production (thermoelectric and waste-to-energy) Management of electrical grids Management of water

TABLE NO. 11 – RISKS AND OPPORTUNITIES RELATED TO CLIMATE CHANGE: CDP EVIDENCE (cont.)

TYPE OF RISK	DESCRIPTION OF THE RISK	MOST IMPACTED INDUSTRIAL AREAS
PHYSICAL Risks arising from the physical effects of climatic events (acute if related to episodic phenomena, or chronic if related to long-term changes)	The main risks identified relate to both extreme weather events and possible **chronic environmental changes**: stress on the resilience of the power grid due to extreme weather events; changed weather conditions with impact on the availability of water for human consumption.	Management of electrical grids Management of water
	OPPORTUNITIES	
Circular economy	Opportunities to promote circular economy models and waste recovery projects, for example with thermal renewal processes combined with material recovery (sodium).	Environment Segment
Development of photovoltaic plants	Opportunities related to the 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
Increase in network resilience	Opportunities arising from investments promoted by the Authority for the safety of the electricity network.	Distribution of electricity
Market and services	Opportunities arising from the change in energy demand related to changes in peak ambient temperatures, with an impact on price growth and volumes sold.	Energy sales

ANALYSIS OF POTENTIAL ENVIRONMENTAL RISKS

The companies operating in the industrial segments of **Water, Energy Infrastructure and the Environment** with ISO 14001:2015 certified environmental management systems have identified the **potential negative environmental impacts** generated by the activities. Therefore, specific events have been hypothesised with respect to the different operations, which could have a significant impact on the environment.
For **the Water sector**, the main risks are due to the effects of acute or chronic climatic phenomena: 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 sewerage 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 Infrastructure**, for the transformation of electricity and transport for delivery to end users, the main risks are attributable to: existence of overhead and underground systems with impacts in terms of land use and subsoil; generation of waste and impacts on ecosystems; generation of electromagnetic fields with impacts in terms of exposure; maintenance of transformation plants with potential soil and subsoil contamination with hazardous materials; maintenance and construction of plants with impacts in terms of production of special waste. With reference to electricity production using renewable and conventional power plants, the potential environmental risks concern the accidental spillage of pollutants or the exceeding of threshold values in emissions (into the atmosphere, surface water and sewerage) in the ordinary management of plants or in the event of critical events like fires or explosions. 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), which could affect the territory downstream of the plants (e.g. floods).
For the **Environmental** industrial segment – operating in the treatment, recovery and disposal of waste, the recovery of materials and energy through waste-to-energy and composting plants and the collection, transport, recovery and disposal of non-hazardous waste produced by waste treatment plants – the potential risks with environmental impact could arise with spills of hazardous substances and consequent contamination of the soil and aquifers or surface waters or with emissions into the atmosphere above specific prescribed limits.

MANAGEMENT SYSTEMS

A complex ***internal rule system*** supervises the organizational system, from the definition of the general directives to the statement of the particular business aspects, according to the following criteria:

- **Group guidelines:** principles, policies 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 the roles and responsibilities in detail. The procedures also define the forms to be used and the records to be archived. Each corporate structure responsible for issues subject to internal regulation (*Process Owner*) draws up the procedure directly.

In order to ensure the **overall consistency and compliance of the**

internal rules, before publication on the intranet they are subject to verification by specific units, such as Organization and planning, Compliance, etc.

The **Integrated Certification Systems Unit** within the Risk & Compliance Function defines the methods and standards of reference for the implementation of **QASE certified management systems** (Quality, Environment, Safety and Energy) as well as for further certifications and accreditations that the Acea Group intends to acquire, and operates in synergy with the Risk & Compliance Units of the Operating Companies, to which the certified Management Systems are ascribed. 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 relies on professional profiles such as the **Energy Manager** – in the Parent company and in the Companies – and the **Mobility Manager**, whose duty is to respond to the demands for optimum management of internal energy consumption and staff mobility. They seek **systemic efficiencies and savings** in important aspects related to the running of an organization, such as use of energy and employees' transfers, which also create **positive external effects** in terms of lower use of resources and **reduction in greenhouse gas emissions** and optimisation of travelling times and routes for employees, respectively, while increasing **road safety and reducing urban traffic**. The Energy manager, in particular, has the duty of implementing actions regarding **energy efficiency**, reduction of consumption and cost control, in order to ensure the progressive optimisation of the Group's energy costs, activating coordination with Energy managers in the Companies.

CHART NO. 14 – THE CERTIFIED INTEGRATED MANAGEMENT SYSTEM

The management of quality, the environment, safety and energy is a central aspect in corporate operations, as can be deduced from the number of Group companies which have implemented certified integrated management systems over time.
In 2019 **12 of the Group companies had certified management Systems** (see table no. 12) and the **Acea Ambiente** plants located in Terni, San Vittore del Lazio and Orvieto were **EMAS registered**.

New developments during the year include:
- ISO 9001 certification for **Acea Energia** and the implementation of stage 1 for obtaining ISO 14001 certification;
- ISO 9001 certification in the EA28 sector (construction and installation) for **Acea Elabori**;
- **Ecogena**'s implementation of stage 1 for obtaining ISO 50001 certification.

Considering all the Companies in the scope:
- **more than 80%** have **a quality** certification;
- **77%** have **an environmental** certification (100% in the Water and Environment business areas);
- **more than 90%** have a **safety** certification (100% in the Water, Environment and Infrastructure business segments);
- **about 40%** have a certified **energy** management system (this percentage includes the most energy-intensive companies, with consumption of at least 10,000 TOE).

TABLE NO. 12 – CERTIFIED MANAGEMENT SYSTEMS IN THE ACEA GROUP (AS AT 31.12.2019)

	QUALITY (ISO 9001)	ENVIRONMENT (ISO 14001)	SAFETY (OHSAS 18001/ ISO 45001)	ENERGY (ISO 50001)	OTHER
Acea SpA	X	X	X (ISO 45001)	X	
WATER AND ENGINEERING SEGMENT					
Acea Ato 2	X	X	X	X	
Acea Ato 5	X	X	X (ISO 45001)	X	
Gesesa	X	X	X		
Gori (*)	X	X	X		
Acea Elabori	X	X	X (ISO 45001)		UNI CEI EN ISO/IEC 17025:2005 Accreditation of lab analyses UNI CEI EN ISO/IEC 17020:2012 Accreditation of inspection bodies
ENERGY INFRASTRUCTURE SEGMENT					
Areti	X	X	X	X	
Acea Produzione		X	X (ISO 45001)		
Ecogena	X		X (ISO 45001)		UNI CEI 11352
COMMERCIAL AND TRADING SEGMENT					
Acea Energia	X		X		
Acea8cento					
ENVIRONMENT SEGMENT					
Acea Ambiente	X	X	X	X	EMAS
Aquaser	X	X	X		ISO 39001:2012

(*) Quality and Environment certifications specifically cover engineering, design and project management activities; analysis (chemical-physical-biological and microbiological); control of industrial waste discharges.

Each company with certified Management systems carries out an **annual managent review** with the aim of assessing the **effectiveness of quality, environment, safety and energy management systems**, proposing possible improvements and verifying the progress of activities. On these occasions, which are 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 a Group level; risk assessment; process performance; significant environmental and energy aspects; changes in legal requirements and those relating to workplace health and safety, environment and energy; supplier performance; customer satisfaction levels; analysis of complaints; accidents and injuries; objectives.
The results of the review for 2019, finding no criticalities, **confirmed the adequacy and efficiency of the management Systems**.

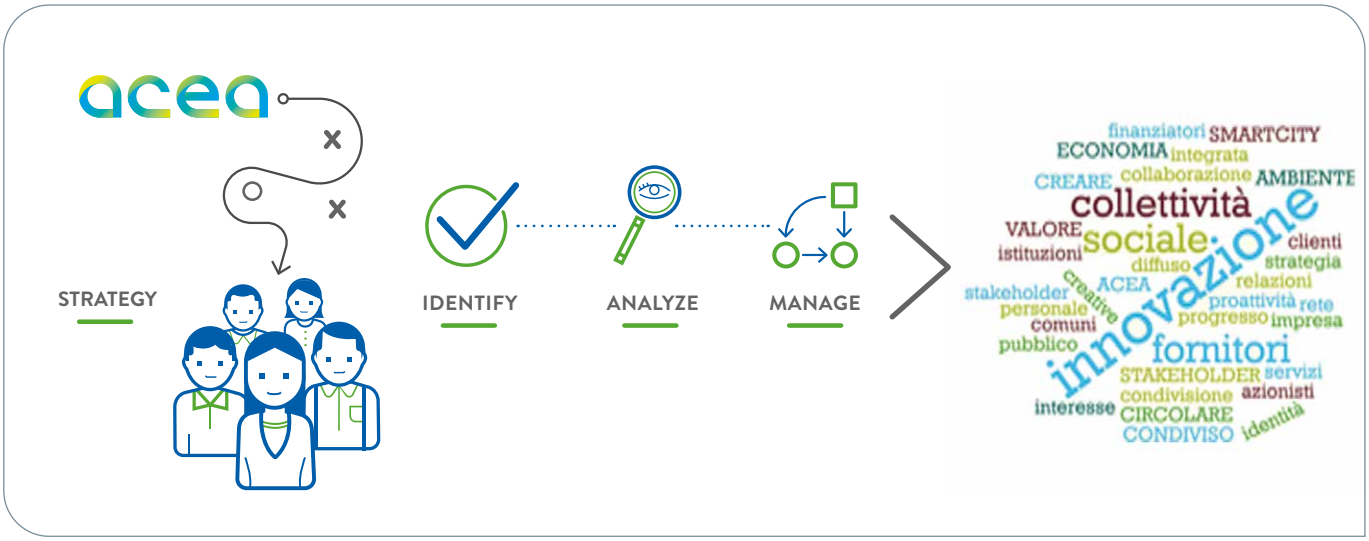
Finally, it should be noted that Acea – continuing the process of integration initialized and formalized the Sustainability Policy and the environmental, safety and energy quality system – **continued to manage the objectives required by the Management system in an integrated manner with the objectives of the 2019-2022 Sustainability Plan** approved by the Board of Directors.

STAKEHOLDERS AND ALLOCATION OF GENERATED VALUE

STAKEHOLDERS AND THEIR INVOLVEMENT

Acea promotes the involvement of stakeholders[23] in line with the commitments expressed in the ***Sustainability Policy and the Quality, Environment, Safety and Energy System*** and the principles set out in the ***Code of Ethics***, with a constructive approach that tends to rely on the results of dialogue and discussion.
Identifying, analysing and managing interactions between the stakeholders and the Company are continuous and dynamic activities **stemming from both company actions and objectives as well as inputs from outside**.
The **stakeholder identification** phase makes it possible to identify the parties directly or indirectly involved in company activities in order to assess their level of qualitative and quantitative impact. The **analysis** phase is used to perform a structured evaluation of **the existing interactions** both between the company and the stakeholders as well as among the stakeholders themselves so that dialogue and shared accountability paths may be developed.
Lastly, the **management** phase leads to the **identification of answers** to the questions raised by the stakeholders or the company in order to pursue the achievement of company goals consistent with expectations.

CHART NO. 15 – STAKEHOLDERS AND THEIR INVOLVEMENT



ACEA GROUP STAKEHOLDER ENGAGEMENT PROJECT

In July 2019, the ***Acea Group Stakeholder Engagement Project*** was launched, managed by the Stakeholder Relations Unit (External Relations and Communications Department), to **incorporate structured stakeholder engagement within business processes and activities**, contribute to the achievement of the objectives set out in the 2019-2022 Sustainability Plan and spread the culture of a strategic approach towards stakeholders in light of the evolution of the context of reference and the Group's development prospects.
Expected to last 15 months, the Project is based on the following guidelines: developing existing practices in this area; promoting a bottom-up and top-down approach with the involvement of Group companies; creating an integrated system and developing internal skills. All activities are carried out with the **direct involvement** of the Acea Group Companies/Industrial Segments/Functions/Departments in a specific phase through an **inter-functional and inter-company Working Group**.
During the year, the business plan provided for an **assessment of the status quo** through **24 one-to-one interviews with the top figures** of all the Group's Functions/Departments/Industrial Segments and Companies and **14 interviews with their operating references** to gather more detailed information on projects and business initiatives that have been implemented.
16 categories of stakeholders were **identified and mapped** and in turn divided into **105 subcategories**, and the first guidelines of **the Group policy document on Stakeholder engagement were drawn up**. A **first active training session** on stakeholder engagement was also carried out within the Working Group.
Two **pilot projects** of the initiative will be carried out in collaboration with **Gori and the Environment industrial segment**.

[23] Stakeholders (concerned parties) are those entities – individuals, groups, organizations – having significant relations with the company and whose interests are involved in the corporate activity for various reasons for the exchange relations held with the latter or because they are significantly influenced by them.

ACEA GROUP STAKEHOLDER ENGAGEMENT PROJECT (cont.)

THE RESULTS OF THE FIRST PHASE OF STAKEHOLDER MAPPING

CHART NO. 16 – STAKEHOLDER MAP

For stakeholders, engagement initiatives are organized with the aim of establishing collaborations in a perspective of shared value, to pursue advantages that benefit both the company – consolidating its legitimacy to operate and the pursuit of strategic objectives – and stakeholders, promoting responses to their expectations.
The boxes below illustrate the year's most significant interactions with the main categories of stakeholders.

CUSTOMERS

Acea is one of the **main Italian multi-utilities by territory and customers served**. Its customer base includes approximately 1.2 million in the energy sector and more than 190,000 gas customers, more than 1.6 million withdrawal points for energy distribution, 2.6 million water users, equal to 8.6 million inhabitants served – for all water companies operating in Italy. Acea is committed to monitoring their satisfaction and to meeting their constantly developing needs. Customers are becoming **increasingly engaged, aware and digitized**. There is a constant increase in the number of **prosumers** – both customers and energy producers – in the Areti distribution network (13,591 customers, +9% compared to 2018) and the **use of digital tools** (180,000 MyAcea app installations, +63% compared to 2018). Water and energy are fundamental elements for the dignity and quality of life, to be used and delivered in the most correct and sustainable forms. One of the initiatives for these purposes is the **social water and electricity bonus**, regulated by the public system (ARERA) for customers in difficult conditions. In this regard, Acea promotes **the awareness of its users** through **information campaigns**. The company is proactively committed to adopting initiatives that maintain the highest level of trust and good customer relations. In addition to the activities of the **ADR Body** for the out-of-court settlement of disputes, worthy of note are initiatives aimed at promoting the **elimination of abuse** in the water sector and important results in **preventing cases of unfair commercial practices** (60 cases reported to sales agencies during the year, compared with 539 cases in 2018) **or anti-competitive conduct** (the fine imposed by the AGCM for abuse of a dominant position was fully voided by the Lazio Regional Administrative Court).
Finally, taking into account the requests of an increasingly sensitive customer base, Acea **has promoted a style of sustainable consumption**: in 2019 the total amount of **green energy** sold was **1,144 GWh**, an increase of about 28.5% compared to 2018 (890 GWh).

INSTITUTIONS

For a company that delivers essential public services, mostly subject to **regulation by the public authorities**, the relationship with institutions is essential both for planning and perfporming the company activities. Moreover, Acea is a **strategic player in the multi-level group of public and private entities** that contribute to protect higher public interest needs. For this reason it participates in working groups of high institutional profile, in particular on prevention and management of critical events, and guarantees support in case of emergencies to the relevant Authorities in the field of public health, civil protection and public safety. Among the most relevant issues is the threat to the IT networks of services of general interest. In this area, Acea collaborates with the Computer Emergency Response Team (CERT) of the **Ministry of Economic Development**, the Network and Information Security Authorities (NIS) of the **Ministry of the Environment** and the National Anti-Crime Information Centre for the Protection of Critical Infrastructure (CNAIPIC) of the **Ministry of the Interior**. Finally, in 2019 an important example of the Company's participation in initiatives of institutional interest was joining the Italian platform coordinated by ENEA and called ICESP (**Italian Circular Economy Stakeholder Platform**) to promote a national approach to circular economy.

COMPANY

The **Business Plan, updated during the year**, consolidates the important results already achieved and, confirming the current strategic pillars, sets new and challenging objectives for the Group. **Investments** as at 2022 reach the figure of **4 billion** – the largest commitment ever made by Acea, with an increase of a further 900 million compared to the previous version of the Plan – of which 1.7 billion in projects directly related to sustainability objectives. At the same time, consistent with the industrial lines, the material issues and the sustainability objectives of Agenda 2030, thanks to widespread participation and sharing within Acea the **Sustainability Plan** was also updated, both at the governance level (guidelines for the Holding Functions) and at the operating level (target of operating companies/Holding Functions). The Group developed in all business segments: in the **water** segment, strengthening its leadership through the consolidation of companies within the Group and the start of the project to make the Peschiera and Marcio system safe, in the **energy** segment with the development of photovoltaic production and the resilience of the electricity grid, in the **environmental** segment with development initiatives on waste recovery and treatment plants.
Acea pays the utmost attention to maintaining **an internal organizational infrastructure** (procedures, rules, and organizational structures) adequate to the challenges and ready to seize the opportunities emerging from the market. For example, a constant analysis and implementation of the best organizational solutions, like the **expansion of Risk & Compliance controls** within the Operating Companies or the establishment in the Water Companies of **Units responsible for water resource protection initiatives**. An enabling driver of the ongoing changes is innovation, as applied to business processes. During the year, **Acea Innovation** was established to develop projects for the Group and create an ecosystem conducive to innovation and an entrepreneurship culture, and a Memorandum of Understanding was signed with **Google Cloud** to accelerate the implementation of digital innovation. Finally, particularly worthy of note is the signing of a Network Contract for the establishment of the first **Italian Research and Industrial Development Centre** engaged in the development of the circular economy and environmental sustainability together with 13 other companies and research centres.

SHAREHOLDERS AND INVESTORS

The relationship with the **capital markets** guarantees the best conditions thanks to a careful diversification of sources. About 78% of the debt stems from bond **placement operations**. With regard to bank loans, which are worth about 17%, Acea mainly borrows from **institutional operators (EIB, Cassa Depositi e Prestiti)** whose mission is to **support strategic infrastructure**. Relationships with analysts, credit rating agencies and investors are frequently monitored in important national and foreign markets like Milan, London, Paris and New York. During the year, meetings and roadshows were organized **with around 130 investors and analysts**, for the presentation of annual and interim results and the 2019-2022 Business Plan. There was a growing **presence of ESG investors** (environmental, social, governance), representing 4% of the share capital and 26% of institutional investors. Because of this, Acea's interactions with **ESG analysts** are in **continuous development**. During the year, Acea confirmed its presence in the **Ethibel excellence investment register**, improved its score (A-) in the **Carbon Disclosure Project** thus being included in the Leadership category and maintained its rating (C+) with **ISS ESG**. Acea received the first sustainability solicited rating from the **Standard Ethics** agency, an EE- (investment grade) with a positive long-term outlook.
Finally, Acea was evaluated in its performance by leading sustainability analysts like Sustainalytics, VigeoEiris, Gaia Rating and FTSE Russel ESG.

SUPPLIERS

In 2019, the value of contracts for goods, services and works procured was **about € 1.2 billion**, with **about 1,400 suppliers**, up 27% compared to last year's supplier portfolio. **81%** of total volumes were procured through the use of **competitive tendering** procedures. This year Acea launched a system for monitoring supplier **payment times**. The protection of suppliers' personnel was the subject of specific actions between Acea and its social partners. It renewed its commitment to promoting the fight against **forms of work that are illegal** or inconsistent with applicable national collective bargaining agreements. And for tenders relating to water contracts and the contact centre service (water and electricity) rules relating to the so-called **"social clause"** were defined and implemented.
For all tenders relating to works, as well as for numerous contracts for goods and services, suppliers must have an **ISO 9001 certified management system and sustainability criteria** have been defined for 11 product categories of goods and services (out of 30 compatible categories) to be applied in the tender. Similarly, **MEC references** (minimum environmental criteria) have been applied in 9 out of 10 cases, according to the product categories being procured. Acea assesses its suppliers' ESG approaches, starting from registration with Qualification Systems. This year **more than 87% of qualified suppliers** completed the self-assessment questionnaire on quality, environment, safety, energy and social responsibility management systems. Worker **safety**, which is a fundamental element for the services provided to the Group, was verified through **12,481 on-site inspections** (+11% compared to 2018).

EMPLOYEES

Employees are the company's most important asset. Acea is committed to creating the best conditions of **stability**, promoting **safety** and developing a sense of **cohesion** and **participation** in the company's mission. The percentage of resources with a **permanent contract (98%)** and the **average duration of the employment relationship** (64% of the people who left the Group during the year served for between 30 and 50 years) testify to a **structured and long-lasting relationship** with the company. The presence of **women is 22%** of the total workforce. Considering the **governing bodies** (Board of Directors, Board of Statutory Auditors and 231 Supervisory Bodies), the percentage of women in the companies within the scope, excluding the Holding Company, with 55.6%, is **33.5%**.
The favourable climate of industrial relations is the foundation for the trade union agreement from which the **Group Welfare Plan** was born, which made numerous services available to participants, based on the needs carefully identified in the company's population and used by **over 2,700 people**. Acea sought to further boost employees' participation in the Plan by **redeploying part of the tax relief enjoyed**, both by making additional payments and by offering healthcare services and preventive check-ups.
With regard to the **protection of employee safety**, Acea has developed tools aimed at improving the operating management of occupational safety, including the **HSE dashboard** (Health, Safety, Environmental) to monitor the performance data underlying the improvement measures, and the new **Group Safety Guidelines** drawn up also taking into account the findings of the meetings with the Group's Prevention and Protection Managers. In 2019 the **Acea SiCura di te** campaign for the prevention of accidents took place, which involved 31 managers, 206 safety specialists and 84 Ambassadors and included 174 cascading sessions. Finally, the relationship of responsibility and mutual trust between the company and its workers and the participation of the latter in the company's mission is highlighted by two significant results: the number of **smart workers**, which in the year was 508 (295 in 2018), testifying to the participation in the Acea leadership model at a widespread level. Moreover, sharing the objectives set by Acea for its development, **50%** of the company population included in the MBO system has **set individual goals with an impact on sustainability**.

ENVIRONMENT

The **natural context** is the framework within which Acea's activities find their **origin, purpose and limit**. Acea is engaged in areas where this evidence is confirmed: from **technological innovation to circular economy, from climate to water management**. An example of the virtuous link between technology and circular economy is represented by the **SmartComp** project, which involves the development of community composting through mini-plants for the local treatment of organic waste dedicated to large users, for the local treatment of organic waste. When fully operational (250 systems installed), the project will reduce the **transport by 25,000 tonnes/year of waste, saving 3,600 tonnes of CO_2**. Combining advanced technology, attention to the local communities and environmental solutions with a view to circular economy, in Tuscany Acea has one of the **largest anaerobic digestion composting plants in central Italy**, with a treatment capacity of 70,000 tonnes of waste per year, which will produce compost and **biogas** for energy equal to 6 GWh per year. Efforts to **combat climate change** include initiatives involving decarbonisation. With the increase in production from renewable energy sources, thanks to the **photovoltaic development plan** promoted by the recent Business Plan and with the increase in the efficiency of internal energy end-uses and process uses, the Group continues to maintain **carbon intensity** values (gCO_2/kWh produced) **among the lowest** in the industry. In addition, in support of energy transition and responding to the evolution of the type of consumption of its customers in the free market (+28.5% volumes of green energy consumed), Acea Energia has signed the **first two PPAs (Power Purchase Agreement)** for the supply of **1.5 TWh of renewable energy** for resale to customers in the period 2020-2022. In the water segment, Acea's attention is expressed through initiatives that involve the entire supply chain, from the project **to make the Peschiera e Marcio safe** to increase the resilience of the water system in Rome, to the network's division into districts to optimize management, facilitating maintenance and reducing losses. Attention to water is applied in Acea both with the implementation of **Water Safety Plans** (WSPs) to **reduce the risk assessed based on the probability of pollution or water shortages** and with the promotion of reuse.

COMMUNITY

The Group's mission and values include **dialogue with the local territories** and communities, seeking opportunities to create shared value. During the year Acea launched the **stakeholder engagement project** with the aim of increasingly integrating the point of view and contribution of stakeholders into the company's processes and activities. Acea has expanded its role and its sphere of intervention, generating positive effects at the local level. This includes support for many sport, social and cultural initiatives. **New generations and schools** have always been a particular area of attention for the Group. The Acea Scuola environmental education programme, just to mention the most important one, involved **10,000 students from Roman schools during the year**, and the **IdeAzione** work-study programme involved 360 students from high schools in Lazio and Campania. In addition to these initiatives, there is the well-established **support programme** to raise awareness regarding fundamental **social issues**, managed in a structured manner by the Sponsorship and Value Liberality Unit. Finally, it is worth mentioning some public events organized thanks to the support offered by Acea: the **Rome Marathon**, the 49th edition of **Earth Day Italy, Fiaba Day**, a national day for the removal of physical, cultural and psychological barriers and for the dissemination of the culture of equal opportunities.

TOOLS AND ACTIONS FOR SUSTAINABILITY

The Group works towards spreading sustainability values, culture and practices, both within the organization and in the contexts it operates in, adopting tools and policies which today cover the most important phases of planning, management and accounting.

CHART NO. 17 – SUSTAINABILITY TOOLS

RULES AND PROCEDURES
- Code of Ethics – Committee for Ethics and Sustainability
- Sustainability Policy and QASE
- Quality, Environment, Safety Energy, EMAS certified management systems
- ERM
- Regulatory provisions (like Antitrust, DPO)
- Sustainable corporate controls
- Management by Objective

REPORTING AND COMMUNICATION
- Sustainability Report (NFS)
- Website
- Communication On Progress (Global Compact)
- CDP
- Events and campaigns (Sustainability Day and Innovation Day)

LISTENING AND ENGAGEMENT
- Awareness-raising and training
- Studies and research
- Materiality Analysis
- Engagement with stakeholders (projects with specific categories)
- Sponsorships and donations

MEMBERSHIPS AND RATINGS
- CSR Manager Network
- Global Compact Network Italy
- Sustainable Development Foundation
- Ratings and ESG Indices (environment, social, governance)

THE DISTRIBUTION OF THE VALUE GENERATED BY ACEA

The overall economic value generated by the Acea Group in 2019 is **€ 3,245.9 million** (€ 3,102.8 million in 2018).

Below is a breakdown of the above figure amongst the stakeholders: 59.5% to **suppliers**, 19.8% to the **company** as resources to be reinvested; 7.6% to **employees**; 5.8% to **shareholders** in the form of dividends; 3.3% to **financiers** in the form of interest on capital provided; 3.8% to the **public administration**[24] in the form of taxes paid and 0.2% to the **community** by way of sponsorships and donations for events and similar endeavours.

TABLE NO. 13 – ECONOMIC VALUE DIRECTLY GENERATED AND DISTRIBUTED (2018-2019)

(in € million)	2018	2019
TOTAL ECONOMIC VALUE DIRECTLY GENERATED	3,102.8	3,245.9
DISTRIBUTION TO STAKEHOLDERS		
operating costs (suppliers)	1,915	1,930.4
employees	219.6	248.9
shareholders(*)	164.1	189.2
financiers	100.6	106.1
public administration	124.3	123.2
community	3.9	6
company	575.3	642.1

(*) Includes any dividends from reserves and minority interests.

TABLE NO. 14 – BREAKDOWN OF VALUE GENERATED BY STAKEHOLDER (2018-2019)

	2018 (%)	2019 (%)
suppliers	61.7	59.5
employees	7.1	7.6
shareholders	5.3	5.8
financiers	3.2	3.3
public administration	4	3.8
community	0.1	0.2
company	18.6	19.8

[24] The amount paid to the public administration net of state and regional public contributions which Acea receives from such stakeholder (equal to € 11.1 million) is € 112.1 million.

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RELATIONS WITH THE STAKEHOLDERS

CUSTOMERS AND THE COMMUNITY

SCOPE OF REFERENCE

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 and Gori, also includes data related to 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 and, where possible, Gesesa and Gori – and the Parent Company – as recalled in the text.

ACEA GROUP'S CUSTOMERS: ELECTRICITY AND WATER SERVICES

MORE THAN **1.2 million**
CUSTOMERS
FOR ELECTRICITY SALES
AND MORE THAN **192,100**
GAS CUSTOMERS

MORE THAN **1.6 million**
WITHDRAWAL POINTS
FOR ELECTRICITY
DISTRIBUTION

892,716 water users in Lazio
(ACEA ATO 2 AND ACEA ATO 5)
EQUAL TO ABOUT
4.2 million
INHABITANTS SERVED

2.6 million
WATER USER ACCOUNTS
IN ITALY EQUALLING ABOUT
8.6 million
RESIDENTS SERVED

According to the latest data from the Regulation Authority for Energy, Networks and the Environment (ARERA)[25], **Acea Energia** is **Italy's tenth largest operator** in terms of volumes of electricity sold on the final and **third** market, with a 3.3% market share, for **energy sold to families** ("domestic customers"). In 2019, the company was also **the second largest national operator** in terms of volumes sold to customers of the **standard market**, with a 5% market share, and **18th** in terms of volumes sold to the **free market**, with a 1.3%

[25] See the Annual report on the status of services and activities carried out, 2019 edition (on 2018 data), *Structure, pricing and quality in the electricity sector* available online on the Authority's (ARERA) website; the Authority specifies that the data are to be considered provisional.

market share. Between the sale of electricity and gas (open market and standard market[26]), as of 31.12.2019 Acea Energy manages **over 1,365,000 supply contracts** (+2% compared to 2018). This increase depends on the **growth of active supply points in all segments of the free market**, only partly offset by the reduction in the standard market electricity service (see table no. 15).

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 3.6% of the market share (4.6% in the "domestic" and 3.3% in the "non-domestic") and **Italy's second largest operator** in terms of **withdrawal points**[27]. As at 31.12.2019, it manages **1,634,917 withdrawal points**. The growth of the customer base, which generally shows slight changes, is due both to urban expansion and disposals resulting, for example, from discontinued operations (see table no. 15).

PROSUMERS CONNECTED TO ACEA NETWORKS: +9% IN 2019

A **prosumer** is both a **producer** and **consumer of energy**, capable of partially or totally ensuring its own energy supply and transferring any surplus produced to the grid. This protagonist of the **new energy model** interacts in new ways with both the distributor and the party responsible for selling/withdrawing energy. Acea is open and proactive with regard to the **forms of innovation** introduced by the new energy model, and in particular to the **development of the capacity of the connection, transmission and distribution systems**.
As at 31.12.2019, Areti registered **13,591 active prosumers** on its distribution network, **more than 82%** of whom (11,170) are **"domestic" customers** and at the same time **small energy producers**, while the remaining 2,421 are qualified as "other uses", i.e. non-domestic users (businesses, professional and artisanal activities). The overall figure, **up 9%** compared to 12,458 prosumers active in 2018, marks a **steady and regular increase over the three-year period**. About 7,000 of the prosumers on the Acea network are fed Acea Energia customers. **The energy injected into the grid** by these subjects was **77.07 GWh** in 2019, **about 75% photovoltaic**.

INCREASING NUMBER OF USERS OF THE ELECTRICITY SOCIAL BONUS AGAIN IN 2019

For customers who are **under financial hardship**, also in relation to large family numbers, and customers who because of their **health** require the use of energy-consuming medical equipment[28], ARERA, acting on the advice of the government, has made the "**electricity bonus**" operational, a discount applied to the cost of the electricity consumed. In recent years, the upward trend in the number of users has confirmed the **growth of social distress**. **In 2019 the number of Acea customers benefiting from the bonus**, on both the protected market and the free market, **totalled 29,894**[29] (**about 26% more** compared to the 23,746 clients accepted in 2018): 29,159, equal to **98% of the total**, due to financial difficulties and 735 due to physical hardship (health). Overall, **the electric bonus system saved the participating Acea Energia customers about € 3 million in annual revenues**.
In addition, in the region served by **Areti's distribution network** there are **11,712 customers eligible for the electricity bonus** (11,429 for economic hardship, 283 for physical hardship), **about 28%** more than the 9,174 in 2018, served for the "sales" component by companies other than Acea Energia.

Acea is also Italy's **leading integrated water service operator** (catchment, supply, purification, wastewater collection and treatment) in terms of **population covered**, with **more than 2.6 million connected users** and an overall base consisting of **8.6 million inhabitants in Italy** (see table no. 15). Within the area of Rome and province alone, managed by Acea Ato 2, there are **about 693,000 users** and a served population equal to about **3.7 million people**. Starting from this area – Ato 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.

SUSTAINABILITY OF WATER SERVICES: ARREARS AND WATER BONUSES

With regard to **arrears**, in 2019, after consulting the stakeholders, the Authority published Resolution 311/2019/R/idr containing the attached Regulation of arrears in the integrated water service (REMSI), in force since 1 January 2020. The measure introduces **greater protection of residential domestic users**: a provision not to stop the supply by termination of the contract and removal of the meter, except in a few well-defined cases, and a prohibition against charging penalties for reactivating the supply. It also illustrates the **categories of end users who cannot be disconnected**, as well as the timing and methods of notice, deactivation, suspension, limitation and reactivation of the supply. Provisions are made to **protect the accounts of apartment complexes**, such as the prohibition against procedures for restriction, suspension or deactivation of the water supply against partial payments, provided that they are made within the due date and equal to at least half of the amount due. The Area Governing Body (AGB) must promote the installation of a meter for each individual real estate unit, allowing for selective deactivation. REMSI envisages au-

[26] The relevant national Authority accurately defines the energy market segments. See the ARERA website.
[27] See the Annual report on the status of services and activities carried out, 2019 edition (on 2018 data), Structure, pricing and quality in the electricity sector available online on the ARERA website.
[28] For details of the conditions legitimising the request and granting of the electricity bonus, see the specific section of the ARERA website.
[29] 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.

SUSTAINABILITY OF WATER SERVICES: ARREARS AND WATER BONUSES (cont.)

tomatic compensation that is additional to any provisions for contractual quality in the event of non-compliance with the measures on the regulation of late payments. With the **new** IWS **User Regulation** in OTA 2 Central Lazio, approved by the Conference of Mayors in July 2019, **Acea Ato 2 extended the protections for "fragile" users**, including resident domestic users in conditions of physical hardship among those users who cannot be disconnected.

The **social water bonus**, regulated by the Authority since 2017 with the approval of the application methods (TIBSI)[30], provides for a discount for the supply of water to domestic users with ascertained socio-economic hardship, based on specific thresholds of the ISEE indicator[31]. The bonus is calculated by each operator 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 "**supplementary water bonus**".

INFORMATION CAMPAIGNS AND WATER BONUS USERS FOR ACEA GROUP COMPANIES

In 2019, Water Companies launched information campaigns on the water bonus aimed at users. In particular, to facilitate access to the discount, **Acea Ato 2** launched a **communications campaign aimed at residents of the capital and the metropolitan area** in major Roman newspapers and information websites, produced a brochure to be distributed to citizens and posted over **4,500 posters in Rome and 90 municipalities in the province**. Acea Ato 2 also recognizes on a local basis the **supplementary water bonus** approved by the AGB and communicated through the aforementioned campaigns. During the year, **Acea Ato 2 accepted 7,910 applications** for the use of the water bonus[32] for a financial value of about **€ 56,700**. **Acea Ato 5 informed users** about the possibility and methods of accessing the discount, also noting the increase in the ISEE threshold defined by the Authority, and **accepted 2,828 requests for the use of the bonus** that generated a total financial savings for the beneficiaries of **about € 63,000**. **Gesesa accepted 1,324 applications** for water bonuses from resident domestic users, for a financial value of **about € 51,100**. Between October and April 2019 **Gori** launched **a multichannel communications campaign on the water bonus**, broadcast on the company pages of **Instagram, Twitter, LinkedIn** and on **Facebook** "Water Bonus". In addition, the municipalities managed by Gori have received all the necessary informative materials from the company, both in paper and digital formats. In order to reinforce the message, a **public service video** was also made in which 20 mayors of municipalities in the managed area explained the operation and the requirements for access to the bonus using infographics and simple, clear language. **Gori** accepted **18,396 applications** for water bonuses, **with savings for beneficiaries of about € 511,000.** Therefore, for the four Water Companies in the scope, the **water bonus system saved the beneficiaries about € 682,000 in total**.

TABLE NO. 15 – ACEA GROUP CUSTOMERS (ENERGY AND WATER SECTORS) (2017-2019)

	m. u.	2017	2018	2019
ENERGY AND GAS SALES (Acea Energia)				
standard market service	no. of. withdrawal points	892,877	832,719	774,823
free market – mass market	no. of withdrawal points	275,688	286,714	322,037
free market – large customers	no. of withdrawal points	43,020	44,364	76,902
free market gas	no. of redelivery points	167,337	172,755	192,107
total	**no. of supply contracts**	**1,378,922**	**1,336,552**	**1,365,869**
ENERGY DISTRIBUTION (Areti)				
domestic customers, low voltage	no. of withdrawal points	1,316,339	1,319,118	1,326,078
non-domestic customers, low voltage	no. of withdrawal points	311,141	307,961	305,925
customers at medium voltage	no. of withdrawal points	2,886	2,894	2,907
customers at high voltage	no. of withdrawal points	7	7	7
total	**no. of withdrawal points**	**1,630,373**	**1,629,980**	**1,634,917**
WATER SALE AND DISTRIBUTION (main water Companies of Acea Group)				
Acea Ato 2	no. of users	649,319	689,827	692,893
Acea Ato 5	no. of users	194,360	197,821	199,823
Gori	no. of users	523,352	526,808	528,437
Gesesa	no. of users	55,253	57,404	57,142
Acque	no. of users	325,912	327,323	328,208
Publiacqua(*)	no. of users	393,091	395,635	397,682
AdF(*)	no. of users	231,482	231,563	231,771

30 Resolution 897/2017, integrated text of the implementing rules for the social water bonus – TIBSI and subsequent amendments and additions in 2019 (resolution 165/2019/R/com and resolution 1/2019 – DACU) to update the measure to the regulatory provisions contained in Law 26/2019 (urgent provisions on national income and pensions), establishing that beneficiaries of universal income/pensions may also apply for the bonus from 20 May 2019.

31 With Resolution 499/2019/R/com, the value of the ISEE threshold allowing access to the discount was updated and increased, starting from 1 January 2020.

32 The 2019 data for all water operating companies are not comparable with the previous year as the possibility of submitting the application was made available in July 2018.

TABLE NO. 15 – ACEA GROUP CUSTOMERS (ENERGY AND WATER SECTORS) (2017-2019) (cont.)

	m. u.	2017	2018	2019
Umbra Acque	no. of users	232,910	233,405	233,460
total	**no. of users**	**2,605,679**	**2,659,786**	**2,669,416**
Acea Ato 2	population served	3,631,529	3,703,160	3,704,931
Acea Ato 5(*)	population served	481,000	469,836	469,836
Gori(**)	population served	1,439,091	1,446,004	1,456,462
Gesesa(*)	population served	109,841	118,044	120,574
Acque	population served	740,299	738,903	737,455
Publiacqua(*)	population served	1,243,649	1,247,216	1,247,216
AdF	population served	403,084	403,016	402,083
Umbra Acque	population served	504,155	502,065	501,186
total	**population served**	**8,552,648**	**8,628,244**	**8,639,743**

(*) Some of the data relating to users and/or "population served" in 2017 and/or 2018 has been corrected by the Companies Gesesa, AdF and Publiacqua, modifying the totals accordingly. The 2019 data of the population served by Publiacqua and Acea Ato 5 are also estimated.
(**)The 2019 figure refers to the resident population at 1 January 2019.

QUALITY PERCEIVED

SURVEYS OF CUSTOMER AND PUBLIC SATISFACTION WITH SERVICES DELIVERED:
more than 28,690 people interviewed

THE **overall ratings** FOR SERVICES DELIVERED IN 2019 (RATING 1-10):
ELECTRIC SERVICE "SALES" AND "DISTRIBUTION": **7.8**
PUBLIC LIGHTING SERVICE: **6.5**
WATER SERVICE IN ROME AND VICINITY: **7.8** AND **7**
IN FROSINONE AND VICINITY: **6.1**
IN SARNESE VESUVIANO: **6.4**
IN BENEVENTO AND VICINITY: **6.9**

The Stakeholder Relations Unit of the Parent Company (External Relations and Communications Department) **coordinates the process of measuring the satisfaction of customers and the public with the services provided** in the electrical, water[33] and Public Lighting sectors. It works in concert with the operating companies that manage the services and **supports the Top Management in analysing the data collected**. **Customer satisfaction surveys** ("perceived quality") are carried out **twice a year** by an institute specialising in demographic research, selected by tender.
The 2019 semi-annual surveys, conducted using THE CATI[34] method, made it possible to calculate the following primary indicators:

- the **overall judgement** of the quality of the service (**from 1 to 10**), which expresses **an instinctive assessment** by the customers;
- **summary satisfaction indices** (Customer Satisfaction Index – CSI, **index 0-100**), both overall and partial, based on the **percentage of customers who stated they were satisfied** and the **importance attached to each aspect** of the service;
- **satisfaction degree indices** (Customer Satisfaction Index – CSI, **expressed in % of satisfied customers – threshold value 75%**) which measure "to what extent" the customers are satisfied or dissatisfied with the service.

Interviews on the "**contact channels**" involve **customers** selected using the "**call back**" method **among those who have recently used the services** (toll free number for commercial information or reporting faults, website, helpdesk, technical interventions) and gave their authorisation to be called back.

During the year **28,694 people** overall **were interviewed** about the quality of the services provided by the Companies Acea Energia, Areti, Acea Ato 2, Acea Ato 5, Gori and Gesesa. The **overall ratings** received by each service are **all in the area of an intermediate level of satisfaction**, between 6.1 and 7.8.

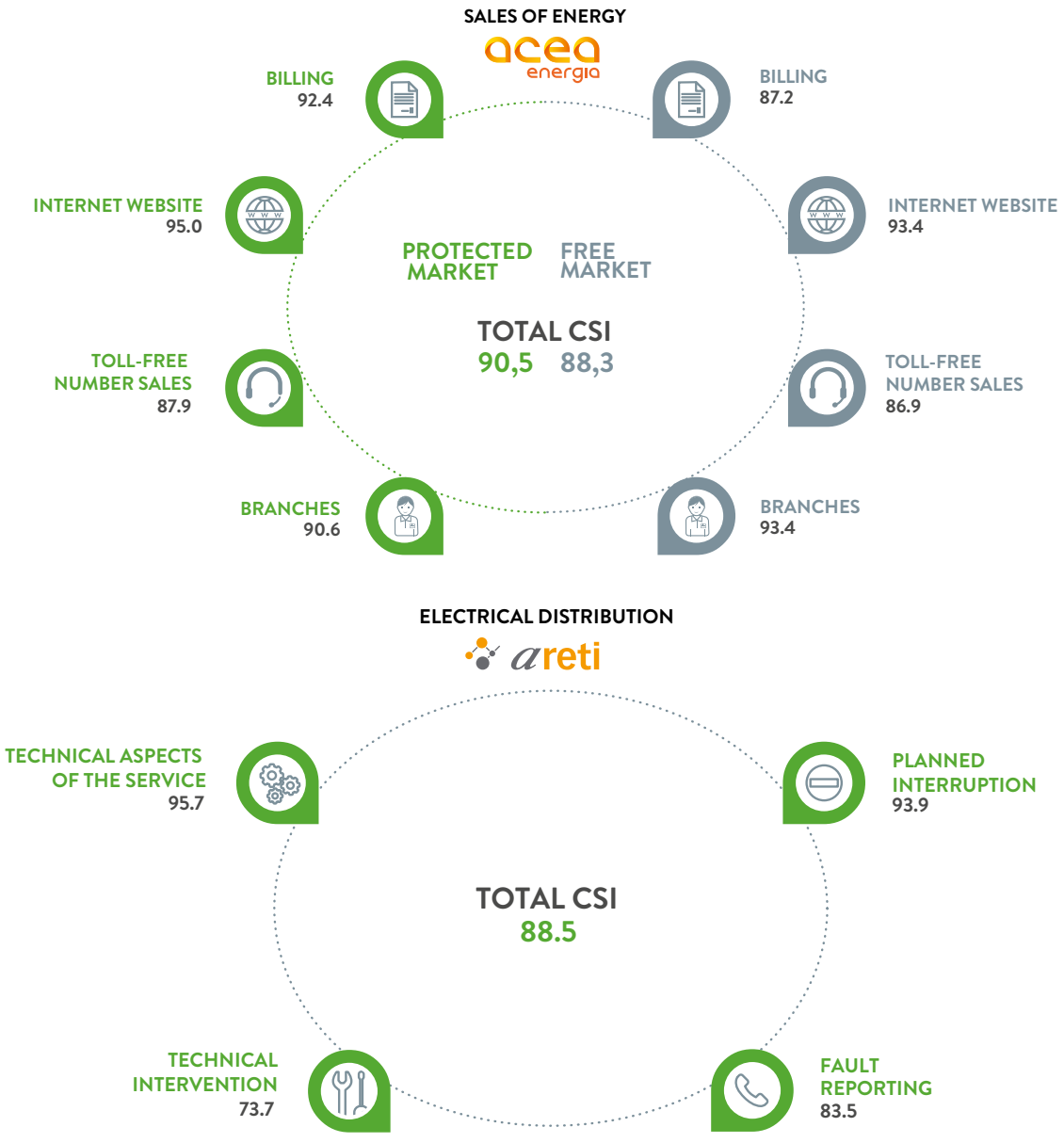
For **sales** by Acea Energia, compared to last year the total and partial Customer Satisfaction Index for the **electricity service** show a slightly lower assessment of "billing" and the "toll-free number" and improvements on "branch" and "website", which received excellent ratings. **The distribution** managed by Areti saw slight declines in satisfaction for all aspects assessed, more marked for "fault reporting" and "technical intervention", although the areas "technical aspects of the service" and "scheduled interruption" remained high. Residents of the municipalities of Rome and Formello were interviewed about the **Public Lighting service** for all areas. The "fault reporting" satisfaction level, while remaining very good, dropped compared to previous surveys. Both for electricity service (sales and distribution) and for public lighting the **overall CSIs remain positive**.

[33] 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 province) and Acea Ato 5 (Frosinone and province) operating in the Lazio area, and Gesesa and Gori, both operating in Campania.
[34] 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 +/- 2.3% and a maximum of +/- 4.4% and the level of significance is 95%.

As regards the water service (sale and distribution of water), the satisfaction of the **customers in Acea Ato 2** (Rome and vicinity) and **Acea Ato 5** (Frosinone and vicinity) in Lazio and the customers of **Gori** and **Gesesa**, operating in Campania, was measured. **The overall satisfaction level** for the service provided by **Acea Ato 2 in Rome and Fiumicino is very high** and is improving, the declines in the assessment of some aspects, in particular "fault reporting", are in fact offset by the improvement of others, especially the "technical intervention" area. There were excellent ratings for "technical aspects of the service" and "branch". For **Acea Ato 5**, in the area of Frosinone and vicinity, the **overall satisfaction index** for the service **improved**. More specifically, the satisfaction levels for "technical aspects of the service" and "billing" increased and the ratings of other aspects, such as "branch" and "sales toll-free number" remained high or excellent. Also for **Gori**, which manages the service in the area of the Sorrento peninsula and the Vesuvian region between the provinces of Naples and Salerno, the **overall satisfaction level**, already positive, **is improving**. The declines recorded in some areas, in particular "fault reporting", are offset by the increase in the ratings for "technical intervention" and "branch". Finally, for **Gesesa**, operating in Benevento and its vicinity, the customer satisfaction survey was **introduced in the second half of 2018** and replicated in the two 2019 cycles. Therefore, pending comparable two-year data, the results of the survey are illustrated only in the text and not in the table. Given the size of the sample of customers interviewed (about 500 per cycle), the survey calculated the **overall assessment and that of the individual aspects of the service**, expressed with a **rating of 1 to 10**. The **overall rating** as an average of the two surveys is **6.9/10**, with a percentage of satisfaction of 87%. **The technical aspects** of the service receive a rating of **7/10**, with 86.8% of respondents satisfied with the quality factor "continuity of service". For **billing** the rating is **6.8/10**, with 84.5% of respondents satisfied with the "correctness of the amounts in the bill" and 83.2% satisfied with the "clarity and ease of reading of bills", the two quality factors of the service considered most important.

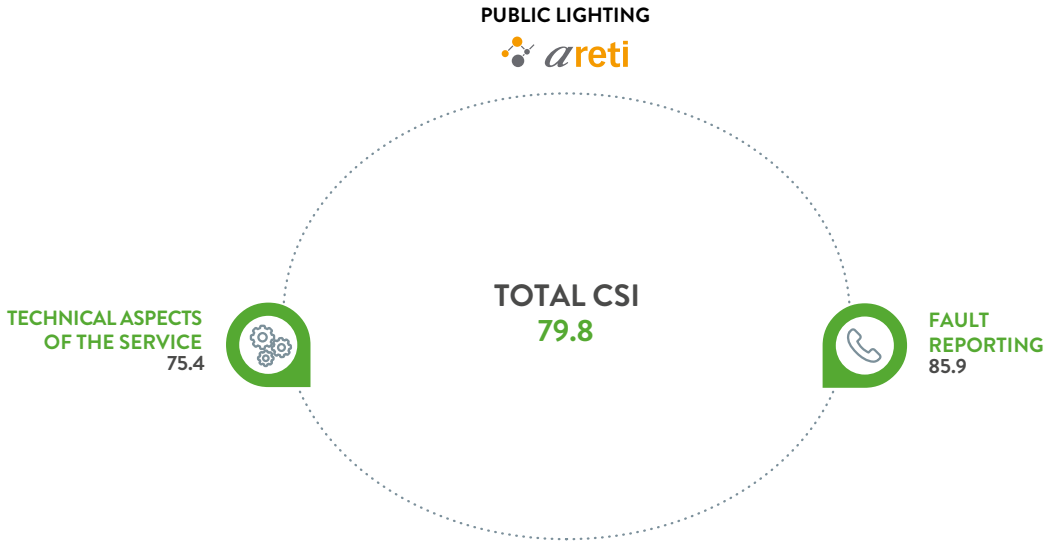
The charts below illustrate the **2019 satisfaction levels (CSI – index 0-100)** for each service as an average of the two surveys for the year, and for Gesesa the opinions expressed on a scale of 1-10. **table no. 16** also shows the **percentages of satisfied customers** on the most important **factors of the quality** of the services and **comparison with the previous year**, with evidence of significant deviations.

CHART NO. 18 – OVERALL CSI AND ON ELECTRICITY SERVICE ASPECTS – SALE AND DISTRIBUTION OF ENERGY (2019) (INDEX 0-100)



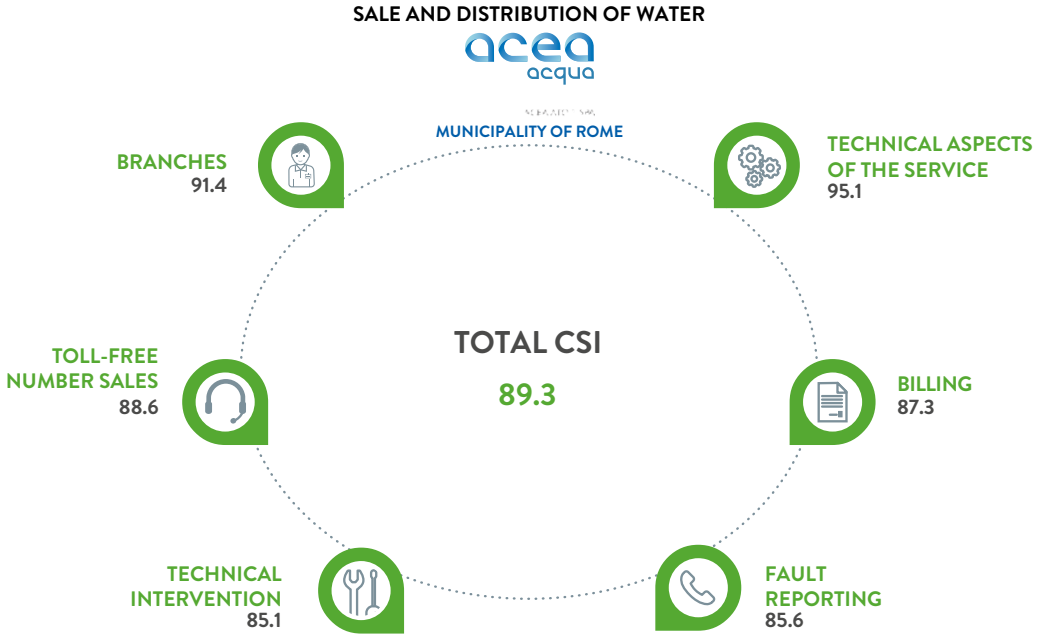
NOTE The Customer Satisfaction Indexes – overall and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

CHART NO. 19 – OVERALL CSI AND ON ASPECTS OF THE PUBLIC LIGHTING SERVICE IN ROME AND FORMELLO (2018) (INDEX 0-100)



NOTE The Customer Satisfaction Indexes – overall and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys. The "technical aspects of the service" include both factors directly dependent on Acea and those that do not depend on the company, as both contribute to the calculation of the overall CSI.

CHART NO. 20 – OVERALL CSI AND ON ASPECTS OF THE WATER SERVICE – SALE AND DISTRIBUTION OF WATER IN ROME AND FIUMICINO (2019) (INDEX 0-100)



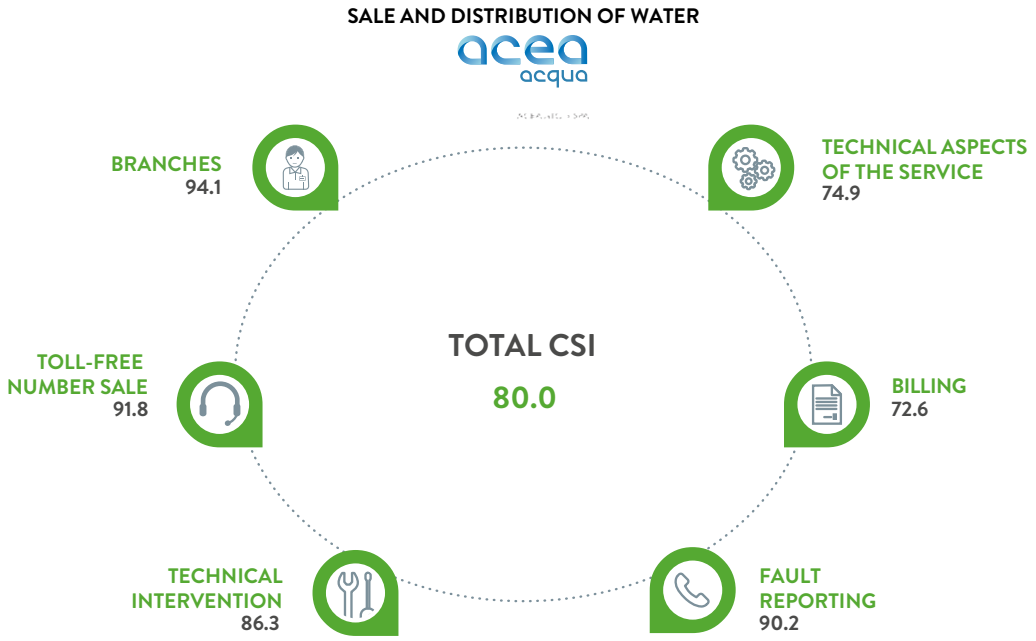
NOTE The Customer Satisfaction Indexes – overall and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

SURVEYS ON CUSTOMER SATISFACTION WITH WATER SERVICE DELIVERED IN OTHER OTA 2 MUNICIPALITIES – CENTRAL LAZIO

Customer satisfaction surveys were also conducted in some other municipalities in the province of Rome. The two semi-annual surveys in 2019 involved a sample of 1,000 residents, representative of all of the direct or apartment complex accounts present in the four "sentinel" municipalities – **Colleferro, Formello, Palestrina and Velletri** – within Optimal Territorial Area 2, Province of Rome and **different from the municipalities monitored with the previous survey cycles**. The **overall rating** recorded was **7 out of 10**.

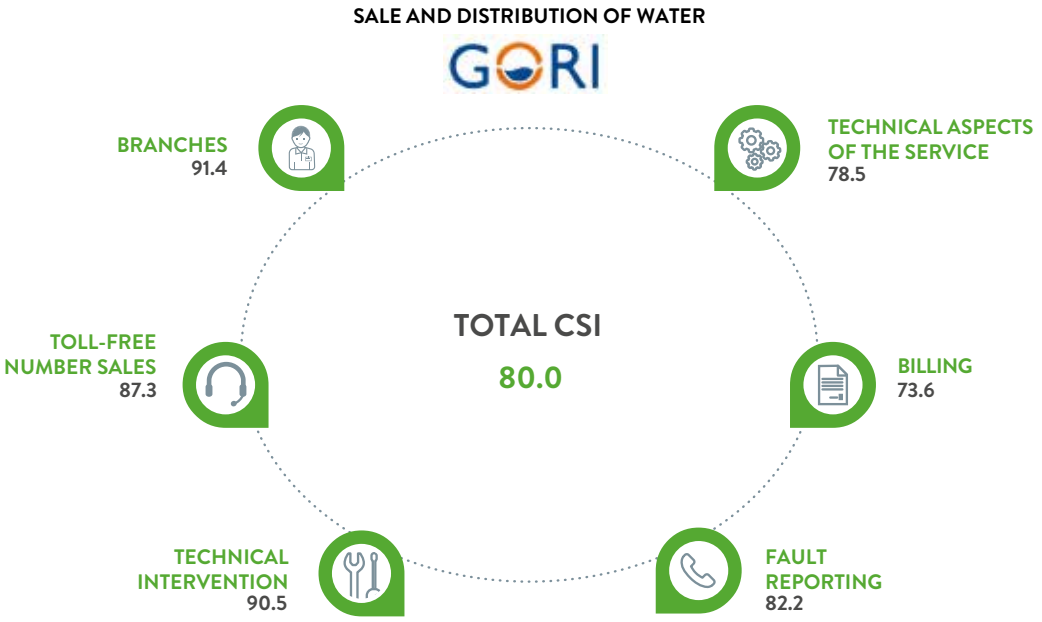
The overall **service satisfaction index** (index 0-100) is good and equal to **83.9** as an average of the two semi-annual surveys. With regard to the **individual aspects** being judged, there are very positive ratings for "technical aspects" (89.3), "billing" (88.1) and "technical intervention" (83.4), and lower yet still positive for "sales toll-free number" (77.6) and "fault reporting" (75).

CHART NO. 21 – OVERALL CSI AND ON ASPECTS OF THE WATER SERVICE – SALE AND DISTRIBUTION OF WATER IN FROSINONE AND VICINITY (2019) (INDEX 0-100)



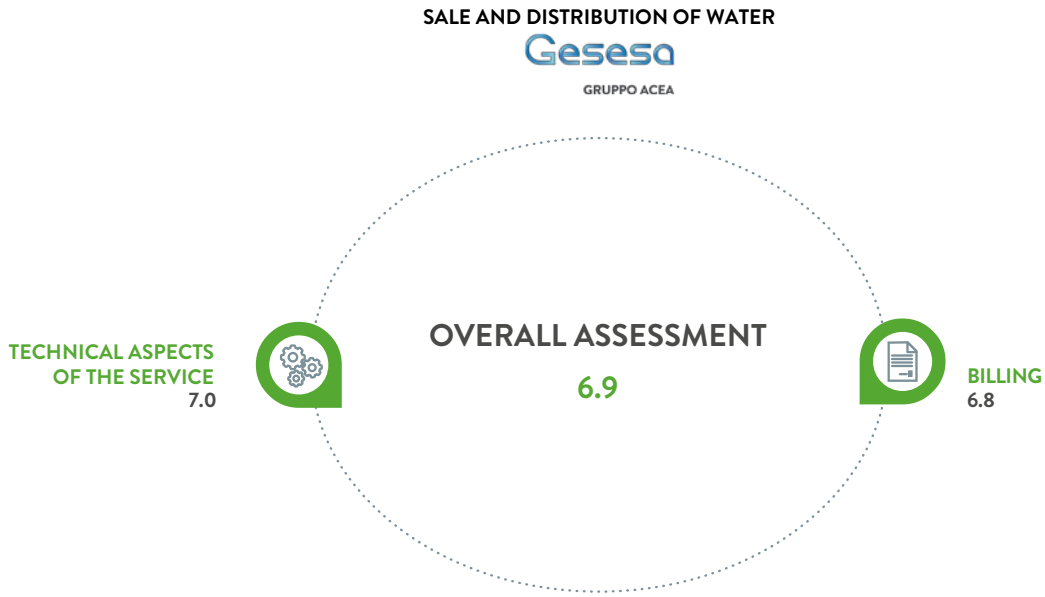
NOTE The Customer Satisfaction Indexes – overall and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

CHART NO. 22 – OVERALL CSI AND ON ASPECTS OF THE WATER SERVICE – SALE AND DISTRIBUTION OF WATER IN SARNESE VESUVIANO (2019) (INDEX 0-100)



NOTE The Customer Satisfaction Indexes – overall and on the individual aspects of the service – shown in the chart are the average of the two semi-annual surveys.

CHART NO. 23 – OVERALL ASSESSMENT AND ON ASPECTS OF THE WATER SERVICE – SALE AND DISTRIBUTION OF WATER IN BENEVENTO AND VICINITY (2019) (RATING 1-10)



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

TABLE NO. 16 – RESULTS OF CUSTOMER SATISFACTION SURVEYS (2018-2019)

average of the two interim reports

	m.u.	2018	2019	
ELECTRICAL SERVICE – SALE OF ENERGY – ACEA ENERGY				
STANDARD MARKET CUSTOMERS				
sales activity (CIS inclusive)	**0-100**	**92.2**	**90.5**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
billing	**0-100**	**95.2**	**92.4**	
correctness of the amounts	*%*	*94.9*	*91.6*	
bill clear and easy to read	*%*	*95.3*	*92.7*	
internet website	**0-100**	**91.6**	**95.0**	
range of available operations	*%*	*93.0*	*93.7*	
wealth of information available	*%*	*92.2*	*94.8*	
sales toll free number	**0-100**	**90.0**	**87.9**	
operator's competence	*%*	*89.7*	*87.4*	
clarity of answers provided	*%*	*89.2*	*87.0*	
branch	**0-100**	**89.9**	**90.6**	
operator's competence	*%*	*89.1*	*89.6*	
operator's courtesy and availability	*%*	*91.9*	*92.1*	
FREE MARKET CUSTOMERS				
sales activity (CIS inclusive)	**0-100**	**90.9**	**88.3**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
billing	**0-100**	**92.4**	**87.2**	▼
correctness of the amounts	*%*	*91.3*	*85.9*	▼
bill clear and easy to read	*%*	*93.9*	*86.5*	▼
internet website	**0-100**	**86.6**	**93.4**	▲
wealth of information available	*%*	*87.4*	*91.1*	
operation user friendliness	*%*	*83.3*	*95.5*	▲
sales toll free number	**0-100**	**89.7**	**86.9**	
operator's competence	*%*	*88.9*	*86.8*	
operator's courtesy and availability	*%*	*92.0*	*89.7*	
branch	**0-100**	**91.7**	**93.4**	
operator's competence	*%*	*90.4*	*92.8*	
clarity of the information provided	*%*	*90.7*	*92.6*	

TABLE NO. 16 – RESULTS OF CUSTOMER SATISFACTION SURVEYS (2018-2019) (cont.)

	u. m.	2018	2019	
ELECTRICAL SERVICE – ENERGY DISTRIBUTION – ARETI (Rome and Formello)				
distribution activity (CIS inclusive)	**0-100**	**95.5**	**88.5**	▼
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**98.3**	**95.7**	
service continuity	*%*	*98.3*	*95.6*	
planned interruption	**0-100**	**95.0**	**93.9**	
correctness of information about recovery times	*%*	*95.4*	*92.3*	
prior notice of suspended supply	*%*	*95.2*	*96.3*	
fault reporting	**0-100**	**96.7**	**83.5**	▼
clarity of the information provided	*%*	*96.1*	*83.0*	▼
operator's courtesy and availability	*%*	*97.7*	*89.2*	▼
technical intervention	**0-100**	**89.5**	**73.7**	▼
technicians' competence	*%*	*92.7*	*79.0*	▼
intervention speed following the request	*%*	*85.2*	*63.8*	▼
PUBLIC LIGHTING SERVICE – ARETI (Rome and Formello)				
lighting service (CIS inclusive)	**0-100**	**82.2**	**79.8**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service(*)	**0-100**	**75.3**	**75.4**	
(directly depending on Acea)				
service continuity	*%*	*72.7*	*72.7*	
(not directly depending on Acea)				
presence/network of the lighting service in the city	*%*	*73.9*	*75.3*	
fault reporting	**0-100**	**92.1**	**85.9**	▼
clarity of the information provided	*%*	*91.0*	*84.1*	▼
operator's courtesy and availability	*%*	*93.4*	*86.8*	▼
WATER SERVICE – SALE AND SUPPLY OF WATER – ACEA ATO 2 (Rome and Fiumicino)				
water service (CIS inclusive)	**0-100**	**88.8**	**89.3**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**97.7**	**95.1**	
service continuity	*%*	*98.3*	*96.1*	
billing	**0-100**	**86.6**	**87.3**	
correctness of the amounts	*%*	*88.7*	*86.1*	
bill clear and easy to read	*%*	*89.1*	*87.9*	
fault reporting	**0-100**	**90.7**	**85.6**	▼
clarity of the information provided	*%*	*89.5*	*82.0*	▼
operator's courtesy and availability	*%*	*93.5*	*89.5*	
technical intervention	**0-100**	**70.8**	**85.1**	▲
intervention speed following the request	*%*	*57.7*	*78.1*	▲
technicians' competence	*%*	*81.2*	*87.8*	▲
sales toll free number	**0-100**	**89.3**	**88.6**	
operator's competence	*%*	*89.0*	*88.8*	
clarity of the information provided	*%*	*88.8*	*88.0*	
branch	**0-100**	**88.5**	**91.4**	
operator's competence	*%*	*87.8*	*90.7*	
clarity of the information provided	*%*	*87.7*	*90.4*	
WATER SERVICE – SALE AND SUPPLY OF WATER – ACEA ATO 5 (municipalities covered by OTA 5 – Frosinone)				
water service (CIS inclusive)	**0-100**	**77.5**	**80.0**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**69.3**	**74.9**	▲
service continuity	*%*	*68.6*	*74.8*	▲
billing	**0-100**	**69.6**	**72.6**	
correctness of the amounts	*%*	*69.2*	*71.2*	
bills sent regularly	*%*	*78.5*	*73.8*	▼
fault reporting	**0-100**	**90.2**	**90.2**	
clarity of the information provided	*%*	*91.5*	*89.7*	

TABLE NO. 16 – RESULTS OF CUSTOMER SATISFACTION SURVEYS (2018-2019) (cont.)

	u. m.	2018	2019	
operator's courtesy and availability	%	*94.0*	*93.7*	
technical intervention	**0-100**	**87.3**	**86.3**	
technicians' competence	%	*87.7*	*88.2*	
intervention speed following the request	%	*83.5*	*82.0*	
sales toll free number	**0-100**	**90.7**	**91.8**	
operator's competence	%	*88.7*	*91.3*	
clarity of the information provided	%	*92.0*	*90.8*	
branch	**0-100**	**94.7**	**94.1**	
operator's competence	%	*95.7*	*94.5*	
clarity of the information provided	%	*94.7*	*94.7*	
WATER SERVICE – SALE AND SUPPLY OF WATER – GORI (municipalities in the Sarnese Vesuvian District)				
water service (CIS inclusive)	**0-100**	**78.8**	**80.0**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**79.8**	**78.5**	
service continuity	%	*80.4*	*79.4*	
billing	**0-100**	**74.0**	**73.6**	
correctness of the amounts	%	*75.9*	*70.3*	▼
bill clear and easy to read	%	*72.9*	*75.4*	
fault reporting	**0-100**	**88.6**	**82.2**	▼
clarity of the information provided	%	*89.5*	*82.0*	▼
operator's courtesy and availability	%	*89.0*	*84.7*	
technical intervention	**0-100**	**84.9**	**90.5**	▲
intervention speed following the request	%	*80.2*	*87.0*	▲
technicians' courtesy and availability	%	*89.5*	*93.5*	
sales toll free number	**0-100**	**86.3**	**87.3**	
clarity of the information provided	%	*87.7*	*89.5*	
operator's courtesy and availability	%	*91.7*	*90.7*	
branch	**0-100**	**87.3**	**91.4**	
clarity of the information provided	%	*88.0*	*92.2*	
operator's courtesy and availability	%	*91.0*	*93.7*	

(*) The average of the assessments of the technical aspects dependent on and not dependent on Acea is shown below.

NOTE The table **only includes quality factors that the sample interviewed deems to be most important in 2019**; this may give rise to consequent changes in column 2018. Furthermore, in the right hand column there are **significant differences**, **equal to 5 points or more**. In any case, it must be taken into consideration that the **value indicating adequate customer satisfaction is equal or more than 75%** (threshold value).

QUALITY DELIVERED

Acea is committed to the progressive and constant improvement of the **overall quality of the services provided**, with adequately trained and updated staff to:

- improve process efficiency;
- renovate or expand infrastructure (networks and installations);
- provide effective and timely repairs in the event of faults;
- manage communications, commercial aspects and diversify customer contact channels.

The "**quality delivered**" is **also measured on the basis** of **reference parameters established by the sector Authorities** or indicated in the **service contracts and management agreements** with local authorities, specifically:

- 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 for the contractual and technical quality of the integrated water service are established** and **regulated** by the **Regulation Authority for Energy, Networks and the Environment** (ARERA) and, for the water sector alone, also by the local Authorities.

The **main regulatory interventions of ARERA** in 2019 for the electricity and water sectors are briefly illustrated in the *Group Profile* chapter, in the paragraph *Context analysis and business model*, to which reference is made. Here, it should be noted that for the water service from 1 January 2019 operators are subject to the obligations of recording and archiving **technical quality** data and that the Authority partially expanded the incentive mechanism envisaged by its own year-end measure. For the energy distribution and sales service, the Authority provided **incentive mechanisms on interventions aimed at making the networks more resilient**, and in 2019 published interventions relating to the 2019-2021 plans of distributors – including Areti SpA – eligible for bonuses and/or penalties. **With regard to the sale** of electricity, it should be noted that the **end of the standard market service** for the more than 16 million families still present in this market segment **was postponed** from 1 July 2020, as previously planned, to 1 January 2022.

In addition to regulatory measures, the **UNI EN ISO certified management systems** used by the companies for some time now, based, as is well known, on a **logic of continuous improvement**, have contributed to increasing the quality of the services provided (see also *Company identity*, paragraph *Management systems*).

QUALITY IN THE ENERGY AREA

This section illustrates the quality aspects related to **electricity distribution services** in the municipalities of Rome and Formello, **and Public Lighting** in the municipality of Rome, both managed by **Areti**[35], while for the sale of electricity see the paragraph on Customer Care.

The Company operates in compliance with the **QASE (Quality, Environment, Safety and Energy) Management System** for both the construction and management of distribution infrastructure and Public Lighting.

THE DISTRIBUTION OF ELECTRICITY

Security assessment
OF ENERGY
INFRASTRUCTURE:
Action plan for Cyber Security defined

THE **Areti Resilience Plan**
WAS PRESENTED AND LAUNCHED IN 2019

critical factor "heat waves":
UPGRADED **86 km**
OF MV NETWORK AND REBUILT
33 SECONDARY **cabins**
critical factor "flooding":
REBUILT **73 substations**

IN 2019:
6,994 MV nodes remotely controlled

Areti plans and carries out **modernisation and expansion works on the electricity distribution network**, comprising **high, medium and low voltage electricity lines**, **stations and substations**, **systems for remote control and for measuring electricity** 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", new connections and other factors that indicate the **need for increasingly resilient infrastructure**, with an adequate and enabling network configuration for future scenarios.
The **Regulatory Plans** of the HV, MV and LV grids are the operational tool for the **integrated development of the electricity grids**, and every year Areti implements them with interventions of construction (and also dismantling or demolition and consequent reduction of environmental impacts in specific areas), transformation, modernisation, maintenance, etc., with the main projects being illustrated in table no. 17. These interventions are necessary to **rationalize and upgrade networks**, expanding transport capacity and margins for further use, **increasing the resilience of infrastructure** and **reducing network losses and voltage drops**, improving the continuity of service. In 2019, as part of the implementation of the **Resilience Plan** presented to ARERA in June, it is noted that **86 km** of 20 kV medium-voltage **cable were modernized** and **33 renovations of substations** were carried out **to increase their resilience to the critical factor of "heat waves"**, and there were **73** renovations of substations to increase their resilience **to the critical factor of "flooding"**.
For LV networks, 282 km were installed as part of the **overall network modernisation programme**, preparatory to the subsequent voltage change from 230 V to 400 V. In addition, **remote control was extended** to a further 193 substations and 77 reclosers for a **total of 6,994 remotely controlled MV nodes** as at 31.12.2019.

TABLE NO. 17 – THE MAIN INTERVENTIONS FOR THE MANAGEMENT AND DEVELOPMENT OF NETWORKS AND ELECTRICAL SUBSTATIONS (2019)

TYPE OF WORK	HV LINES AND STATIONS (CP)
Demolition of grid and supports	The demolition of the **150 kV** Flaminia 2 – East Sorting 2 **overhead line** continued (22.58 km long and composed of 74 supports).
Construction of grid and supports	The construction **of the new section** of the **150 kV Roma Nord – San Basilio overhead line** continued (4.08 km long and composed of 21 supports).
Station upgrading, expansion, renovation	Interventions on **29 stations**; The installation of the **Petersen system** was continued at the **Nomentano station and Villa Borghese** in order to reduce grid losses.
Ordinary and extraordinary maintenance on CP station equipment	Interventions on 107 HV switches and 942 MV switches maintained; Overhauled 17 variators under power transformer load; replaced 60 HV transformers (54 voltage and 6 current).
	HV and MV protection and measures
Electrical protection systems	Installed, calibrated and commissioned **53 new MV line stalls**; **checked 293 poles** (57 HV poles and 236 MV poles) and **37 transformers** (between HV/MV and MV/MV).

[35] 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.

TABLE NO. 17 – THE MAIN INTERVENTIONS FOR THE MANAGEMENT AND DEVELOPMENT OF NETWORKS AND ELECTRICAL SUBSTATIONS (2019) (cont.)

measurements	Ground resistance measurements on **2,783 substations**; Step and touch voltage measurements and total ground resistance measurements on **75 stations** (24 CP and 51 CS).
	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)	**Installed 272 km of 20 kV MV cables** (12 km for expansion and 260 km for refurbishment), of **which 86** km for increased resilience to "heat waves"; **Installed 328 km of LV cable** (46 km for expansion and 282 km for preliminary refurbishment for voltage change).
Ordinary and extraordinary maintenance	**124 extraordinary maintenance operations** (replacement of equipment, supports, conductors, etc.) on MV overhead lines.
	substations (CS) and remote control
CS construction, expansion, renovation	Built/expanded/rebuilt **1,108 substations** (99 for new connections or power increases, 1,009 for 20 kV voltage adjustment, equipment renovation, remote control), **of which 106** substations were rebuilt for increased resilience to "heat waves" (33 stations) and "flooding" (73 stations).
ordinary and extraordinary maintenance on CS	915 extraordinary maintenance operations and 2,602 inspections of substations.
Remote management	Extended to 193 CS and 77 reclosers (6,994 remotely controlled MV nodes as at 31.12.2019); 6,696 maintenance operations on TLCs and reclosers.

As part of the **strengthening of the central systems for remote control**, in 2019 particular attention was paid to the issue of **Cyber security**. Following the results of the **"security assessment" conducted on the technology underlying the Energy Infrastructure**, a **plan of interventions** was defined in the operating (lines of communication with the outside world) and governance areas. It gave impetus to the definition of the first Cyber Security policies and the carrying out of **Benefit Impact Assessments** (BIA) and **risk assessments**. The necessary documentation was prepared for the establishment of a **Security Operation Centre** (SOC) and activities have also been carried out to raise the level of cyber security of stations and substations.
The year also saw **the launch of the tender** as part of the agreement between Acea and Open Fiber for the construction of the broadband communication network for the **smart grid in the territory of Roma Capitale** that envisages the **connection of stations and substations with fibre optics**. See also the chapter *Institutions and Business* for an in-depth analysis of research and innovation and the projects implemented.

With regard to **digital meters** and **smart metering** systems, in order to replace first-generation (1G) meters with second-generation (2G) meters, Areti launched a **public tender for the supply of 2G devices and the most advanced central data acquisition system**, which was awarded to Enel Global Infrastructure & Networks. The **plan for mass replacement of 2G meters**, approved by ARERA, **will be launched starting in 2020** and progressively throughout the managed region of Rome and Formello **for a total of about 1.7 million meters**.
The characteristics of the new meters give customers a number of opportunities and benefits, such as: **the availability of data that promotes a greater awareness of consumption**, with the consequent possibility of changing their habits for the purpose of saving energy, the **reduction of estimated bills**, the choice of commercial offers that are more suited to the needs of each, as well as the reduction of switching times.

Lastly, the installation of **digital meters under remote management** continued for low voltage users for a total of **1,635,163 meters installed** on active low voltage users as at 31/12/2019, equal to 99.7% of the total LV meters.

PUBLIC LIGHTING

199,779 FIXTURES AND **225,730** BULBS MANAGED IN ROME

91% of the total number of lamps are LED: ENERGY CONSUMPTION DECREASES AND THE AVERAGE EFFICIENCY PER LAMP INCREASES

1,521 SUPPORTS REINSTALLED AND **7,075** LED LAMP/ REINFORCEMENT MAINTENANCE INTERVENTIONS

ARTISTIC LIGHTING WITH LED TECHNOLOGY, **renewed systems** IN SOME OF THE MOSAT IMPORTANT AND MOST VISITED **monuments of the Capital**

Under the *Service Contract*[36] between Acea SpA and Roma Capitale, Areti employs **a dedicated unit** to manage works on the **functional** and **monument artistic Public Lighting** infrastructure with **approximately 199,700 points of light** located in a territory covering approximately 1,300 km^2.
The Company carries out the **design, construction, operation,**

[36] 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 31/12/2027.

maintenance and renovation of networks and lighting systems and plans work **in accordance with the instructions given by local government and supervisory departments and authorities** responsible for new urban developments, improvement projects and the 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. 18 – PUBLIC LIGHTING IN ROME IN FIGURES (2019)

lighting points (no.)	**199,779**
Monumental artistic lighting points (no.)	*about* ***9,900***
bulbs (no.)	**225,730**
MV and LV network (km)	**7,982**

The **overall power of the lamp inventory** went from 17.83 MW in 2018 to 15.63 MW in 2019, **with a clear reduction in consumption,** while the **average efficiency per lamp has increased**. This is also due to the **transformation of systems** in recent years: in 2019 out of a total of 225,730 lamps, **205,670 – or about 91% of the total – use LED technology** (see also the *Environmental accounts*).

Areti **completed** the "**LED Plan for the Capital**", with the **overall installation as at 31.12.2019** of more than **180,000 light fixtures**, generating benefits in terms of **energy savings** and reduction of the effects of light dispersion. The effect of the LED transformation, especially in terms of **general improvement of the lighting level**, allowed **the total number of light points to be limited**. Indeed, during the year the balance between the new installed light points and the failure to reposition the existing ones even saw a slight decrease, with a reduction of 4 light points compared to the previous year.
In addition, the **second section of the Giovanni XXIII tunnel was transformed into LEDs** as part of the plan approved by the Municipal Administration in 2017, as well as the **new lighting of some parks**, including Aqueduct Park, Romanina Park and Baden-Powell Park. A total of **228 poles and garden reinforcements** were installed and more than 5 km of cables were laid (see the box for details).

NEW PARK LIGHTING

The project for the new lighting of the **Aqueduct Park**, located in the Appio Claudio district and part of the Appia Antica Regional Park, called for the installation of **68 5-metre poles** with garden reinforcements, with a total installed power of 2,000 W, in addition to the laying of 2 km of cable. Before being approved, the project was **subjected to progressive refinements** and repeated review by MIBAC and the Park Authority, to **minimize interference with the trees and ensure the full integration of the plants with the park's archaeological area**. All excavation work was carried out under the supervision of an archaeologist to check for ruins in the subsoil and an agronomist to safeguard the existing trees. The system illuminates the pathways and the playground inside the park.
For **Romanina Park** in the Anagnina area, the project to expand the usability of the green area included two phases, the first managed by the SIMU department (Infrastructure Development and Urban Maintenance) and the second by Municipality VII, responsible for the area. The works, which lasted from July to November 2019, involved the installation of **102 poles and garden reinforcements**, with a total power of 3,000 W and the laying of 1.7 km of cable.
For the new lighting of **Baden-Powell Park** in Colli Aniene, **58 poles and garden reinforcements** were installed, with a total installed power of 1,300 W and the laying of 1.4 km of cable. Thanks to the synergy with the Garden Service Office of Roma Capitale, the initial project was revised both during the design and construction phases due to the considerable presence of the Common Pine. This involved an **increase of the excavation section** for the housing of the backbone and **the shifting of a part of the plant** to ensure **less interference with the trees**.

Numerous works of **monumental artistic lighting** have also led to the renovation of existing facilities **at sites of cultural interest and high-traffic tourist attractions**, including **Trevi Fountain**, **Castel Sant'Angelo**, the **Colosseum**, the **Basilica of San Giovanni in Laterano** and the **Theatre of Marcello** (see the box for details), contributing to enhance its beauty for the benefit of the local public and visitors.
Each year Acea carries out **efficiency and safety operations** on the light fixtures as well as **scheduled and unscheduled maintenance** on the systems (see table no. 19).

TABLE NO. 19 – MAIN INTERVENTIONS FOR IMPROVED EFFICIENCY, SAFETY, REPAIRS AND MAINTENANCE (2019)

TYPE OF WORK	(QTY.)
Actions to **improve energy efficiency/technological innovation** (fixture replacement)	**12,200** lighting points
Safety measures	**3,512** lighting points
Checking corrosion on lamp posts	**33,009** supports verified (functional and artistic)
LED lamp reinforcement/maintenance	**7,075** interventions
Reinstalling lamp posts that were corroded or knocked down due to accidents	**1,521** 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 **fault repair times**, calculated starting from the arrival of the notification[37].
The **service standards** are **expressed by an average admitted recovery time** (TMRA), within which the repairs should take place and a **maximum time** (TMAX), after which a **penalty system** is activated[38].
The **average recovery time** (TMR) **for systems** used by Acea **in 2019** for the different types of faults (see table no. 20) fell within the average recovery time allowed.

TABLE NO. 20 – PUBLIC LIGHTING FAULT RECOVERY: FINES, STANDARDS AND ACEA PERFORMANCE (2018-2019)

FAULT TYPE	FINE PER DAY OF DELAY	SERVICE LEVEL AGREEMENT(*)		ACEA PERFORMANCE	
	(euro)	TMRA (average recovery time allowed) (working days)	TMAX (maximum recovery time) (working days)	TMR (average recovery time) (working days)	
				2018	2019
Blacked out neighbourhood – MV grid failure	70	1 day	1 day	< 1 day	< 1 day
Blacked out street – MV or LV grid failure	50	5 days	8 days	2.6 days	1.9 days
Blacked out stretch (2-4 consecutive lights out)	50	10 days	15 days	9.9 days	8.4 days
Lighting points out: single lamps, posts, supports and armour	25	15 days	20 days	9.3 days	11.9 days

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

The fault is **detected by control systems** like remote management, and **can be reported** through the various contact channels (call centre, web, fax or letter)[39]. **23,537 fault reports were received in 2019**[40] and **97%** of them were dealt with by the end of the year.
The **percentage distribution of reports by type of fault** is shown in chart no. 24. The most significant incidents concern "blacked out street", in relation to a network fault (51.5%) and "lighting point out" (25.4%), having the lowest impact in terms of safety, the "blacked out stretch" is more contained (12%). During the year there have been no cases of "Blacked out neighbourhood" due to grid failure.

CHART NO. 24 – TYPES OF PUBLIC LIGHTING FAULTS OUT OF TOTAL REPORTS RECEIVED (2019)

0.0% Blacked out neighbourhood – grid breakdown
51.5% Dark street – grid breakdown
12.0% Blacked out stretch (2-4 consecutive lights out)
25.4% Light off (individual light, riser, reinforcement, support)
11.1% other (ceiling lamp, etc.)

37 For the purpose of calculating service levels, reports pertaining to damages caused by third parties are not be considered.
38 Fines are calculated using the following criteria: each repair completed beyond the TMAX will be sanctioned; repairs completed within the TMAX but exceeding the TMRA will be sanctioned only if TMR>TMRA. At the time of publication of this document the data is not yet definitive, therefore the accurate data on 2019 reports subject to fines being calculated is not available.
39 More detailed information on call centre performance and written complaints is provided in the Customer Care section.
40 The data excludes reminders and repeated reporting of the same fault.

As mentioned, **Acea contributes to the enhancement of the monumental heritage of the capital** in agreement with the relevant authorities, with about **10,000 light fixtures** for artistic lighting. The main **interventions of the year**, already mentioned at the beginning of the paragraph, are illustrated in a separate box.

RENOVATION OF LIGHTING FOR SOME OF THE MOST POPULAR MONUMENTS IN THE CAPITAL

In 2019 Areti intervened on some of the **most important and well-known monumental sites of Rome**, renewing the existing systems. In particular, with the support of Roma Capitale, the artistic lighting of **Fontana di Trevi** was renovated, **with the replacement of 56 spotlights with LED technology**. The lamps were inserted in strategic points of the monument to restore the accent lighting created by Acea in 2015. The plant has a total of 85 underwater spotlights and 6 spotlights on shelves, with a total power of only 2.1 kW, saving 70% of electricity.

The pointing of **some spotlights installed on the shells** behind the statue of Ocean **highlights the central structure** of the fountain, while the others inserted inside the basin and at the foot of the reef and the side statues bring out the details on the side of the central body. With this intervention the upper basin is once again fully illuminated.

In **Castel Sant'Angelo** the artistic lighting system was renovated with **220 new spotlights** between the Mole, Ponte Sant'Angelo and the five hectares of park surrounding the complex. In addition, part of the power lines have been restored and **a new remote control technology has been introduced** to remotely manage the operation of the spotlights and to remotely control the system in the event of failure.

Extraordinary maintenance was carried out on the **Colosseum**'s internal and external lighting system. Acea technicians worked at night in order not to compromise the usability of the monument by tourists, **inspecting the 298 existing spotlights** and **replacing a total of 120**. In particular, on the first level of arches, the restoration activities of the plant led to turning 65 spotlights back on and were carried out with the use of special machinery, progressively subdividing the areas of intervention. On the second level, the works on the lights located near the arches – for a total of 34 spotlights turned back on – were carried out inside and outside the monument, and from outside, through the use of mobile lifts. Finally, on the third level, 21 spotlights were switched back on from inside the monument.

The renovation of the lighting system of the **Marcello Theatre**, located between the Tiber River and the Capitol, also affected the **internal and external archaeological area** of the monument, with the overall replacement of **115 spotlights**. The arches of the first and second level of the Marcello Theatre have been illuminated internally, as well as the archaeological remains located in the outdoor area, including the Corinthian columns of the Temple of Apollo Sosiano.

With the support of Roma Capitale and the Directorate of Infrastructure and Services of the territory governed by Vatican City, Areti intervened on the lighting system of the **Basilica of San Giovanni in Laterano**, the first and oldest of the four major papal basilicas, with the **replacement of 106 spotlights**, positioned to enhance the 18th-century architecture of the main façade and the 16 statues that overlook it. The works, completed in just ten days, also involved the northern façade of the Basilica, the two medieval bell towers, the portico and the frescoed loggia with sacred images.

Finally, again in 2019, thanks to a private donation, the lighting system of the **Immacolata column** of Piazza Mignanelli was built based on a project conceived by the master Vittorio Storaro, with the installation of 29 energy-saving hi-tech LED lighting fixtures for a total consumption of only 1 kW. The new LEDs were positioned in accordance with the Special Archaeological Superintendence, Fine Arts and Landscape of Rome and the Capitoline Superintendency for Cultural Heritage, within a perimeter formed by deterrents placed around the column with lighting fixtures and spotlights inserted in special recesses that depressions that minimize their visual impact to leave the view of the monument unobstructed.

THE QUALITY LEVELS REGULATED BY ARERA IN THE ELECTRICITY SECTOR

The **Regulatory Authority for Energy Networks and Environment** (ARERA) defines national standards for the **commercial quality** (quotes, works, supply activation/deactivation, responses to complaints) and **technical** aspects (supply continuity) **of the electrical service**. **It reviews them on a regular basis**, **making them more stringent**, stimulating operators to constantly improve their performance.

The **commercial quality** consists of **"specific" levels** and **"general" levels**[41], applicable to the operations pertaining to the **distribution** company (divided into low and medium voltage supplies) as well as those of the **seller** (see tables no. 21, 22 and 23).
Every year **Acea reports the results achieved to ARERA** for review **and discloses them to its own customers by enclosing them in the bill**.

For the **commercial and technical quality performance in 2019**, related to the **distribution** and measurement of electricity, we present **data** produced **with the best estimate available**[42], which may differ from those sent to the Authority (ARERA) according to the deadlines set by the same.
As regards the **"specific" commercial quality levels**, for low voltage supplies to domestic customers and for medium voltage supplies, in many cases there was a slight improvement in performance. With regard to the **"general" levels** of responses to written complaints/requests for information, there was a substantial improvement in performance compared to 2018 for the distribution service and a worsening in the metering service (see table no. 21).
The automatic indemnities[43] to be granted to customers in the event of failure to comply with "specific" quality levels start from a basic amount[44], which can either double (when operations are performed in a timeframe between twice and three times the required standard) or treble (if operations are performed in a timeframe three times the required standard).
For aspects relating to the quality of the **sales** service, it should be noted that in 2019 **more stringent parameters for some services came into force**. During the year, **Acea Energia aligned the processing of written complaints with the volumes currently being received**, thus reducing the backlog to a so-called "normal" quantity. This has led to the **continued high level of compliance** with the standards established by ARERA, also in the face of the significant reduction in the time limits within which to perform the services (see table no. 22) and a reduction in the amount of compensation to be paid to end customers.
Areti's 2019 performance related to the **"technical" quality** of the service[45] (**continuity of electricity supply**), published here, is not the same as what is communicated to ARERA[46] but rather the best estimate available.
With regard to the **duration of disruptions** and the **number of disruptions** for LV users, the data concerning 2019 and shown in table no. 23 indicate that in areas of high concentration, i.e. the urban environment where most users of Areti are located, continuity of service was guaranteed with the same quality as 2018. On the other hand, there is a decline in results in peripheral and rural areas.
Disruptions occurring at any voltage level within the electricity system are also regulated **for MV customers**. The regulatory system entitles medium-voltage customers to receive automatic compensation provided that they can certify the adequacy of their systems[47] in the event of **a number of disruptions in the supply of electricity exceeding that stated by a specific standard**.
Prolonged or extended disruptions, in other words **service disruptions exceeding the duration established by standards**, are also regulated for both **LV customers** and **MV customers**. In such eventualities, the operator is required to pay a fine, calculated on the basis of the number of LV customers cut off as a result of disruptions due to "other causes", to the extraordinary event fund set up with the Energy and Environmental Services Fund. In addition, the distributor will automatically indemnify customers affected by disruptions.

41 "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.
42 Due to the misalignment between the delivery times of reports to the Authority and those required by law for the publication of this document.
43 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. Compensation for distribution is paid to customers by deducting the amount from the bill or by issuing a cheque within 30 days of the date of the service in question or, at the latest, by three times the period of standard time established for such service, excluding automatic compensation for failure to comply with the punctuality range for appointments, in respect of which the time will commence on the date of the appointment.
44 The amount currently 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. The indemnity increases in relation to the delay in the execution of the service: if it takes place beyond the standard but within twice the time limit, the basic automatic compensation is paid; if in more than twice the time but within three times the standard, twice the basic automatic compensation is paid; finally, if the execution of the service occurs beyond three times the standard, triple the basic automatic compensation is paid.
45 Resolution 646/15/R/eel as amended.
46 Due to the misalignment between the delivery times of reports to the Authority and those required by law for the publication of this document.
47 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 within their utility plants from having repercussions on the network, damaging other customers connected nearby. Furthermore, in order to access compensation customers will be required to have arranged for the distribution company to receive a plant adequacy statement issued by parties with specific technical and professional expertise. Failure by customers to meet the requirements whereby compensation may be sought will cause the amount of the compensation to turn into a fine, which the distribution company is required to transfer to the Energy and Environmental Services Fund.

TABLE NO. 21 – MAIN SPECIFIC AND GENERAL LEVELS OF COMMERCIAL QUALITY – ENERGY DISTRIBUTION (2018-2019) – (ARERA parameters and Areti performance – 2018: data submitted to ARERA; 2019: estimated data)

ENERGY DISTRIBUTION

SPECIFIC LEVELS OF COMMERCIAL QUALITY

SERVICES	ARERA PARAMETERS – MAX. TIME FOR SERVICE DELIVERY	Service delivery average actual time	Percentage of services carried out within time limit	Service delivery average actual time	Percentage of services carried out within time limit
			2018		2019
LOW VOLTAGE (LV) SUPPLIES					
DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
estimates for work on LV networks (ordinary connections)	15 working days	7.18	96.80%	7.35	97.17%
completion of simple work (ordinary connections)	10 working days	8.05	86.02%	8.29	85.62%
completion of complex works	50 working days	16.09	94.51%	15.13	96.74%
supply activation	5 working days	1.82	96.33%	1.42	96.53%
deactivation of supply on customers request	5 working days	1.18	98.42%	0.86	98.47%
reactivation of supply following disconnection for late payment	1 working day	0.15	99.10%	0.21	99.33%
resumption of the supply following faults of the metering equipment (requests sent during business days from 08:00 to 18:00)	3 hours	2.40	78.49%	2.18	81.42%
resumption of the supply following faults of the metering equipment (requests sent during non-business days or from 18:00 to 08:00 hrs.)	4 hours	2.55	88.20%	2.25	89.87%
maximum punctuality band for appointments with customers	2 hours	n.a.	80.67%	n.a.	87.30%
NON-DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
estimates for work on LV networks (ordinary connections)	15 working days	7.29	96.49%	7.58	96.46%
completion of simple work (ordinary connections)	10 working days	7.79	87.14%	9.74	84.14%
completion of complex works	50 working days	16.31	94.49%	15.46	94.38%
supply activation	5 working days	2.13	94.97%	2.60	92.18%
deactivation of supply on customers request	5 working days	7.72	93.63%	8.65	94.68%
reactivation of supply following disconnection for late payment	1 working day	0.18	98.78%	0.41	98.88%
resumption of the supply following faults of the metering equipment (requests sent during business days from 08:00 to 18:00)	3 hours	2.84	72.84%	2.52	75.68%
resumption of the supply following faults of the metering equipment (requests sent during non-business days or from 18:00 to 08:00 hrs.)	4 hours	2.72	86.80%	2.51	89.22%
maximum punctuality band for appointments with customers	2 hours	n.a.	81.73%	n.a.	89.50%
MEDIUM VOLTAGE SUPPLIES (MV)					
FINAL CUSTOMERS		ARETI'S PERFORMANCE			
estimates for work on MV networks	30 working days	18.65	83.08%	15.92	91.40%
completion of simple work	20 working days	5.27	100.00%	6	100.00%
completion of complex works	50 working days	18.19	95.24%	23.92	95.12%
supply activation	5 working days	7.14	64.29%	5.31	71.88%
deactivation of supply on customers request	7 working days	29.71	61.29%	10.50	73.08%
reactivation of supply following disconnection for late payment	1 working day	1.53	82.35%	0.81	81.82%
maximum punctuality band for appointments with customers	2 hours	n.a.	90.76%	n.a.	83.33%

TABLE NO. 21 – MAIN SPECIFIC AND GENERAL LEVELS OF COMMERCIAL QUALITY – ENERGY DISTRIBUTION (2018-2019) – (ARERA parameters and Areti performance – 2018: data submitted to ARERA; 2019: estimated data) (cont.)

GENERAL LEVELS OF COMMERCIAL QUALITY

SERVICES	ARERA PARAMETERS – MINIMUM PERCENTAGE OF SERVICES TO BE PERFORMED WITHIN A MAXIMUM TIME	Service delivery average actual time	Percentage of services performed within the maximum time.	Service delivery average actual time	Percentage of services performed within the maximum time
			2018		2019
LOW VOLTAGE (LV) SUPPLIES					
DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
reply to written complaints/enquiries regarding distribution operations	95% within 30 calendar days	39.07	75.00%	30.76	82.88%
reply to written complaints/enquiries regarding metering operations	95% within 30 calendar days	25.67	81.00%	52.95	65.08%
NON-DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
reply to written complaints/enquiries regarding distribution operations	95% within 30 calendar days	46.82	70.00%	26.95	82.96%
reply to written complaints/enquiries regarding metering operations	95% within 30 calendar days	29.36	78.00%	48.97	63.62%
MEDIUM VOLTAGE SUPPLIES (MV)					
FINAL CUSTOMERS		ARETI'S PERFORMANCE			
reply to written complaints/enquiries regarding distribution operations	95% within 30 calendar days	35.31	72.00%	11.21	95.09%
reply to written complaints/enquiries regarding metering operations	95% within 30 calendar days	25.16	74.00%	52.05	56.41%

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

TABLE NO. 22 – MAIN SPECIFIC AND GENERAL LEVELS OF COMMERCIAL QUALITY – ENERGY SALES (2018-2019) – (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
		2018	2019
MORE PROTECTED SERVICE		ACEA ENERGIA'S PERFORMANCE	
billing adjustments	90 calendar days (2018) 60 calendar days (2019)	80.0%	50.0%
double billing adjustments	20 calendar days	100.0%	/
reasoned reply to written complaints	40 calendar days (2018) 30 calendar days (2019)	76.0%	79.0%
FREE MARKET		ACEA ENERGIA'S PERFORMANCE	
billing adjustments	90 calendar days (2018) 60 calendar days (2019)	60.0%	40.0%
double billing adjustments	20 calendar days	/	/
reasoned reply to written complaints	40 calendar days (2018) 30 calendar days (2019)	85.5%	82.6%

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'S PERFORMANCE	
Reply to written enquiries	95% within 30 calendar days	99.9%	100%
FREE MARKET		ACEA ENERGIA'S PERFORMANCE	
Reply to written enquiries	95% within 30 calendar days	98.8%	99.4%

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

TABLE NO. 23 – SERVICE CONTINUITY DATA – ENERGY DISTRIBUTION (2017-2019) – (ARERA parameters and Areti performance – 2017-2018: data certified by ARERA; 2019: provisional data)

ENERGY DISTRIBUTION – CONTINUITY INDICATORS – LV CUSTOMERS

DURATION OF DISRUPTIONS AND PERCENTAGE CHANGES

SERVICES	Average aggregate duration of lasting disruptions without prior notice under the operator's responsibility per LV customer per year (minutes)			Percentage changes	
	2017	2018	2019	2019 v. 2017	2019 v. 2018
high concentration	34.93	43.61	43.81	25.4%	0.4%
medium concentration	39.51	50.02	60.15	52.3%	20.3%
low concentration	53.63	54.44	66.35	23.7%	21.9%

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	1.78	1.99	2.02	13.2%	1.1%
medium concentration	1.92	2.19	2.52	31.3%	15.0%
low concentration	2.57	3.01	3.33	29.3%	10.5%

(*) 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

103 Water Kiosks ACTIVE IN THE COMMUNITIES MANAGED BY ACEA ATO 2 AND GORI: ABOUT **26 million litres of water supplied**, EQUAL TO **519 tonnes of plastic/year saved** AND **932 tonnes of CO_2** NOT EMITTED INTO THE ATMOSPHERE

remote control of 1,798 water sites AND SYSTEMS AND **827 network points** MANAGED BY ACEA ATO 2, ACEA ATO 5, GORI AND GESESA

LAUNCHED THE **Water Safety Plan** FOR THE LARGE AQUEDUCTS THAT SUPPLY ROME AND **90% of the population** OF ATO 2 – CENTRAL LAZIO

Proteus: ACEA ATO 2 INSTALLS THE FIRST **17,000 remotely read meters**

A DEDICATED FACILITY TO PROTECT THE RESOURCE REDUCE LOSSES: ABOUT **8,900 km** OF NETWORK ANALYSED AND BUILT ABOUT **450 metering districts** (ACEA ATO 2, ACEA ATO 5, GORI AND GESESA) ACEA ATO 2 ESTIMATES A **reduction in the volume of lost water** (COMPARED TO THE BASE YEAR 2016) EQUAL TO **79 Mm^3**

Through subsidiaries and investee companies, the Acea Group manages the integrated water service (IWS) in several Optimal Areas of Operations (ATO) or District Areas of Lazio, Tuscany, Campania and Umbria.

Consistent with the reporting scope (see *Disclosing sustainability: methodological note*), below are described the activities carried out in **Lazio and Campania** by the following companies:

- **Acea Ato 2**, in OTA 2 – Central Lazio (Rome and another 111 municipalities, of which 79 managed[48], equal to about 94% of the population included in the Area), the "historical" area of the Group's operations[49], with more than 3.7 million inhabitants served in 2019;
- **Acea Ato 5**, in OTA 5 – southern Lazio – Frosinone (86 municipalities managed[50] in the area of Frosinone and vicinity,

48 In 79 municipalities, equal to about 94% of the population in OTA 2 – Central Lazio, Acea Ato 2 managed the entire IWS (aqueduct, sewerage and waste water treatment), and the IWS was partially managed in another 18 municipalities.

49 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.

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

equal to about 95% of the population), for about 470,000 inhabitants served;
- **Gori** – in the reporting scope from this year – operating in the Sarnese-Vesuviano district (in 76 municipalities – 59 in the province of Naples and 17 in the province of Salerno – of which 74 managed), with over 1.4 million inhabitants served;
- **Gesesa**[51], operating in OTA – Calore Irpino (22 municipalities managed, in the Benevento area and vicinity), with more than 120,000 inhabitants served[52].

The four companies in question alone account for approximately 67% of the population served in the water sector throughout the Group.

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). ARERA defined the minimum essential contents, uniform throughout the country, of the "**Standard Agreement**" **that governs the relations 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 binding on the operator in the provision of the services. For the **contractual quality performances** supplied by the water Companies, see sub-paragraph *Levels of quality regulated by ARERA in the water segment* hereunder.

The **management activities of the integrated water service**, while closely **related** and therefore allowing an **optimal definition of the processes**, must relate to **situations that are very diversified** from the standpoints of sale, demographics, geomorphology and hydrology **of the regions served**, which also impact on the infrastructure to be implemented.

Marketing and labelling) The Companies operate in compliance with the **procedures of certified management systems**, in particular, for Acea Ato 2 and Acea Ato 5, in the areas of Quality, Environment, Safety and Energy, for Gori and Gesesa, in the areas of Quality, Environment and Safety (for more information see *Corporate identity*, *Management systems*).

AREAS, INTERVENTIONS AND REMOTE CONTROL

All companies are progressively **digitising the networks**, with studies, field surveys and data entry in the georeferenced information system (GIS). In particular, as of 31.12.2019 **Acea Ato 2** has georeferenced **about 85% of the networks**, and **Acea Ato 5** has digitised about 2,300 km of water network, as well as having almost completed the surveys on another 1,000 km (12 municipalities) and **launched a four-year plan** for the completion of surveys and the subsequent digitisation of the networks of all the municipalities managed. **Gori** and **Gesesa** have mapped the areas shown in table no. 24, while the surveys and updating of the data continue. Gesesa has also already georeferenced **the water sites** (wells, springs, reservoirs) and the **sewerage and purification lifting plants**, including the related functional schemes, making technical intervention more simple and effective.

TABLE NO. 24 – WATER MAINS AREAS 2019 (GEOREFERENCED DATA)

COMPANY	DRINKING WATER NETWORK (KM)	SEWERAGE NETWORK (KM)
Acea Ato 2	12,167 (721 km of aqueduct, 1,088 km transport networks, 10,358 km distribution)	5,839 (of which over 4,000 for Rome)
Acea Ato 5	5,496 (1,205 km transport network and 4,291 km distribution network)	1,522
Gori	4,967 (811 km supply network and 4,156 km distribution network)	2,505
Gesesa	1,541 (166 km transport network and 1,375 km distribution network)	553 (including emissaries, 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.

Each year, the Companies carry out:
- **interventions on the infrastructure**, such as **modernisation or strengthening of the plants**, **remote control of the infrastructure**, **completion, extension or reclamation of the pipelines and networks** to contain the losses and improve the efficiency and quality of the service provided;
- **interventions aimed at improving the management of user accounts** (such as installation and replacement of meters), for which reference is also made to the *Customer care* section;
- **interventions to protect people and the region** 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 table no. 25 for a quantification of the main interventions and controls carried out during the year by the companies.

Last year Acea Ato 2 laid the foundations for the construction of the **new upper section of the Peschiera Aqueduct**, an infrastructure that will secure the water supply for the territory of Rome and province. To this end, preparatory activities are under way for the construction of the **work that will engage the Company in the coming years**.

Acea Ato 2 continued the **installation of tools capable of optimising the pressures in the distribution network, managing their control in a dynamic and effective manner** (hydraulic valves, pressure

[51] It should be noted that Gesesa has corrected the data relating to the population served in the last three years.

[52] These are the main Companies of the Acea Group, operating in the water sector in Italy and consolidated in the financial statements using the line-by-line method (100% Acea SpA). The other companies operating in Tuscany, Umbria and Campania, owned by Acea, are consolidated using the equity method – with the exception of AdF, which entered the scope in the last quarter of 2019 – consequently they are not included in the reporting scope, with the exception of certain global data aimed at representing the general dimension of the Group, as specified in the text from time to time (see also Relations with the environment and the Environmental accounts, as well as the chapter, outside of the scope of the NFS pursuant to Legislative Decree 254/2016, Water company data sheets and overseas activities).

reducers, etc.). Indeed, thanks to the division of the networks into districts, the installation of 65 valves was planned for 2020. During the second half of 2019, 249 meters were mounted on small springs to improve the monitoring of the volume of collected water. About 88 km of water network were also reclaimed, activities started for the commissioning of a plant (Casa del Guardiano) in the municipality of Santa Marinella to increase water availability in the municipalities of Alumiere and Tolfa, and a generator was put in place to power the springs of Doganella, important for the supply of many municipalities of Castelli Romani.

TABLE NO. 25 – MAIN INTERVENTIONS ON THE DRINKING WATER AND SEWERAGE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTEWATER (2019)

INTERVENTIONS ON DRINKING WATER NETWORKS, METERS AND WATER TESTS	
TYPE OF WORK	
ACEA ATO 2	
Interventions due to network failure/leak detection	**23,931 interventions** (22,656 due to faults, 1,275 leak detection)
Meter installations (new installation and replacement)	**21,407 interventions** (13,937 new installations and 7,470 replacements) and approximately **88,000 mass replacements** under contract
Network extension	**9.5 km** of expanded network
Network reclamation	**88 Km** of reclaimed network
Drinking water quality control	**12,482 samples** collected and **365,728 tests** performed
ACEA ATO 5	
Interventions due to fault	**11,367 interventions** of repair
Planned interventions	**78 interventions** (13 on the supply network and 65 on the water distribution network)
Meter installations (new installation and replacement)	**36,941 interventions** (4,913 new installation and 32,028 replacements)
Network extension	**3.7 km** of expanded network
Network reclamation	**45.5 Km** of reclaimed network
Drinking water quality control	**2,828 samples** collected and **123,790 analytical tests** performed
GORI	
Interventions due to network failure/leak detection	**16,097 interventions** (total, for faults and leak detection)
Planned interventions	**9,458 interventions** (3,192 on the supply network and 6,266 on the water distribution network)
Meter installations (new installation and replacement)	**75,198 interventions** (13,032 new installation and 62,166 replacements)
Network extension	**1.5 km** of expanded network
Network reclamation	**66 Km** of reclaimed network
Drinking water quality control	**4,374 samples** collected and **109,363 tests** performed
GESESA	
Interventions due to network failure/leak detection	**1,857 interventions** (1,413 due to faults, 444 leak detection)
Planned interventions	**93 interventions**
Meter installations (new installation and replacement)	**2,432 interventions** (including new installation and replacements)
Network extension	**0.6 km** of expanded network
Network reclamation	**2.6 Km** of reclaimed network
Drinking water quality control	**336 samples** collected and **8,428 tests** performed
INTERVENTIONS ON SEWERAGE NETWORKS AND TESTS	
TYPE OF WORK	
ACEA ATO 2	
Interventions due to network failure	**5,512 interventions**
Planned interventions	**373 interventions**
Network extension	**5.1 km** of expanded network
Network reclamation	**13.9 km** of reclaimed network
Wastewater quality control	**7,955 samples** collected and **170,641 tests** performed
ACEA ATO 5	
Interventions due to network failure	**710 interventions**
Planned interventions	**25 interventions**
Network extension	**3 km** of expanded network

TABLE NO. 25 – MAIN INTERVENTIONS ON THE DRINKING WATER AND SEWERAGE NETWORKS AND CONTROLS ON DRINKING WATER AND WASTEWATER (2019) (cont.)

Network reclamation	**3.7 km** of reclaimed network
Wastewater quality control	**3,298 samples** collected and **41,616 tests** performed
GORI	
Interventions due to network failure	**681 interventions**
Planned interventions	**1,001 interventions**
Network extension	**7.9 km** of expanded network
Network reclamation	**5.4 km** of reclaimed network
Wastewater quality control	**1,203 samples** collected and **21,027 tests** performed
GESESA	
Interventions due to network failure	**190 interventions**
Planned interventions	**16 interventions**
Network extension	**0 km** of expanded network
Network reclamation	**0.1 km** of reclaimed network
Wastewater quality control	**395 samples** collected and **5,514 tests performed** on wastewater

In **Acea Ato 2**, the **aqueducts and the supply network are controlled remotely** from **a qualitative and quantitative** standpoint. Remote monitoring provides information useful for **knowing the status of the network and its operation** (set up of the plants, status of the pumps, position of the valves, measurements, alarms and the possibility of performing remote-controlled operations). In addition, the Rome distribution network is fed by remotely controlled water centres equipped with flow and/or pressure and/or level measurements**.** Thanks to the progressive implementation of the system, **738 water stations** were partially or totally **remotely controlled** in 2019, to which **271 plants** were added, including **Water Kiosks**, equipped with remotely controlled quality measurements and **739 network points**, including 104 hydrovalves. **Progressive remote control of the entire sector has also continued for the sewerage and treatment system**: the main treatment plants are already controlled by on-site rooms and technological modernisation is under way to connect them to the central remote control room.

Some of the water sites managed by **Acea Ato 5** – including supply sources, distribution plants, sewerage lifting plants and purification plants – **are remotely controlled**. In particular, both telemetry and command and control activities are carried out and hydraulic parameters are recorded (water flow, network pressure, reservoir levels, operating status of the electric pumps, with relevant electrical parameters and qualitative parameters like clearness and residue colour). During the year, **278 sites were managed remotely** (equipped with hydraulic measurement systems – flow, pressure and levels – and 15 also equipped with **water quality control** systems) and **88 network points** (continuous pressure or flow monitoring systems).

All the plants managed by **Gori** relating to the water, sewerage and purification systems **have been equipped with remote control systems**; a total of **485 plants** including 314 water, 161 sewerage and 10 purification sites, where the same activities are carried out as indicated above for Acea Ato 5. Based on the **logic of energy efficiency management and resource savings**, **Gori** has equipped the systems with a local control system for the **automatic management of the machines** (electric pumps and valves installed), with human intervention required only in cases of emergency. To implement **dynamic adjustments of the amount of resource delivered according to different scenarios related to situations of water crisis**, valves were installed and are remotely controlled to regulate the output flow from all the major basins. In addition, **in order to monitor essential network parameters** (pressures and flow rates) **where electricity is absent**, a project is being implemented based on the use of technologies **in the area of Information of Things-IoT** (battery-powered measuring instruments and innovative communication protocols) for the remote control of water and sewerage network nodes that will lead to an efficiency of network pressures and leak research and an increase in the level of quality of service offered to users.

Gesesa plans **to gradually expand** the remote control system to the managed sites. As at 31.12.2019, there **are 26** sites already equipped with the technology.

WATER PROTECTION AND SEARCH FOR LEAKS

Sustainable water management is also achieved by **limiting losses from distribution networks**. In 2019 the Water Companies continued their intense efforts to improve the efficiency of distribution networks, also thanks to the establishment **in the Water Industrial Segment of a cross-cutting organizational structure dedicated to the protection of water** and the implementation of measures to **reduce losses**. In addition to the **network district initiatives** illustrated in the box, the activities carried out in 2019 by **Acea Ato 2** for the protection of water were:

- the verification and calibration of meters installed on large supply sources and the installation of MID flow meters on all "minor" sources to optimize the quality of the process measurement;
- the installation of automatic valves for dynamic control of network pressures;
- the continuation of surveys and georeferencing of managed networks;
- field actions aimed at combating abuse and misuse of resources;
- reclamation of approximately 88 km of water network (of the entire territory of the OTA 2 managed).

A CROSS-CUTTING STRUCTURE DEDICATED TO WATER PROTECTION: ACEA ATO 2 INITIATIVES AND THE DISTRICT METHODOLOGY

Thanks to the shared commitment of the Water Industrial Segment Companies, which met during the year as part of an organizational structure dedicated to the protection of the resource and the containment of leakes, it was possible to implement numerous interventions on the networks. In particular, **Acea Ato 2 divided the network into areas not connected to each other and with measured inputs**. Based on water districts, the methodology **makes it possible to optimize operating pressures** with **an immediate advantage in terms of reducing lost volumes**, and thanks to the precise control on individual parts of the network allows **quickly identifying and possible leaks** or other anomalies and to proceed with needed actions or repairs. The application of the system produces a general **improvement in the management of the network**, facilitating **repairs** and **reducing the frequency of faults**. Overall, Acea Ato 2 **analysed approximately 6,200 km of distribution network and created 300 measurement districts**. The activity consisted of surveys, flow and pressure measurements, map production, user analysis and water balancing, mathematical modelling and searches for leaks. The results of the study and efficiency actions were imported into the GIS systems.
The actions taken **have made it possible to reduce the volume of water lost by an estimated total of about 79 million cubic metres** (over 20% of the volumes lost in 2016, equal to 384 Mm^3, the base year for the progressive implementation of a target for the Sustainability Plan).

Acea Ato5 has continued its study of distribution networks and created water districts (in particular in the municipalities of Atina, Cassino, Castrocielo, Colfelice, Fiuggi, Frosinone, Morolo, Serrone, Sora, Strangolagalli, Roccasecca, Patrica, Sgurgola, Supino). After a precise reconstruction of the network and the simultaneous updating of the geographic information system (GIS), **148 districts were created, affecting approximately 1,190 km of water network**. In addition, the installation of **flow meters**, most capable of being remote controlled, allowed **rapid quantification of the input into the network**, while the positioning of **pressure meters** at critical points allowed the **identification of the most critical areas** and the resolution of related problems. The searches performed, also done using acoustic systems, **identified 140 leaks**, of **which 40 were hidden**. By dividing the network into districts and installing pressure reduction devices **a savings of about 5% of the network input, equal to about 90 l/s**, **has been estimated**.
Gori is implementing network recovery and reduction of water leaks through the regulation of the pressure thanks to the installation of dedicated valves, and each year carries out systematic searches for leaks on the water networks using specialized personnel. In particular, in 2019 a total of 71 valves were **installed for pressure and flow regulation**, and the search involved a total of **1,399 km of water network** of the managed territory, in particular the municipalities of Casalnuovo di Napoli, Castellammare di Stabia, Anacapri, Siano, Nocera Inferiore, Lettere, Tufino, Meta Di Sorrento, Roccarainola, Angri and Gragnano. The interventions, including the reclamation of the networks, led to a **recovery of water** estimated at about **193 l/s** for the entire Sarnese-Vesuvian district.
In 2019 **Gesesa** continued the analysis of the water networks and **leak detection and recovery** with **110 km of network inspected and the reclamation of about 2.6 km** of network. The Company is also creating network districts, progressively extending the **reduction of pressures** to all the municipalities managed.

UTILITY MANAGEMENT AND CONTINUITY OF SERVICE

In 2019 all the companies continued the **activities of installing new meters and replacing old ones** (see table no. 25). As part of its mass meter replacement, **Acea Ato 2** carried out the **IoT pilot project** called "Development of Water Meter Remote Reading", developing a product called "**Proteus**" and, as at 31.12.2019, installing approximately **17,000 meters** in remote reading mode (see the box for details). **Acea Ato 5**, which carried out **more than 10,500** interventions during the year to replace malfunctioning meters, will implement a remote reading development project similar to Acea Ato 2, with connectivity solutions and the development of a management centre headed by the Company Areti, equipped with an architecture integrated in the Acea application map. **Gori** carried out **about 75,200** interventions on the meters during the year, most of them for their replacement, and **Gesesa** about **2,400** interventions.

PROTEUS FOR THE REMOTE READING OF WATER METERS: 17,000 INSTALLED IN 2019

In 2019 **Acea Ato 2** continued a project in collaboration with Areti – an expert in the field of remote management of electrical meters – aimed at remotely reading the measurements detected by the water meters of the accounts managed. A **patented product called "Proteus" was developed and tested** that stores the signals communicated by the device installed on the meter and converts them into readings to be sent to the Management Centre, connected to the billing systems. The radio module is equipped with an integrated battery and non-removable SIM card with GPRS or NB-IoT connectivity.
In 2019, approximately **7,000 Proteus GPRS and 10,000 Proteus NB-IoT** were installed and **put into operation** on as many water accounts, and further evolutions of the system were developed to maximize its effectiveness and efficiency. The objective of the project is to develop increasingly effective remote reading solutions and install them on all managed water accounts. **Acea Ato 5** will implement a project similar to the one already implemented in Acea Ato 2.
Once fully operational, the system will provide a more accurate and timely measurement of the volumes delivered to users, with a consequent improvement in the effectiveness of billing and water balance processes, as well as a greater awareness of consumption by users.

The continuity of the water supply is one of the fundamental service parameters for customer satisfaction, which has been subject to regulation by the ARERA. Table no. 26 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. 26 – NUMBER, TYPE AND DURATION OF DISRUPTIONS IN THE SUPPLY OF WATER (2017-2019)

TYPE OF DISRUPTION	2017	2018(*)	2019(**)
ACEA ATO 2			
urgent disruptions (no.)	1,915	1,722	1,303
planned disruptions (no.)	143	266	204
total disruptions (no.)(***)	**2,058**	**1,988**	**1,507**
suspensions lasting > 24hrs (no.)	242	200	170
ACEA ATO 5			
urgent disruptions (no.)	303	552	428
planned disruptions (no.)	270	149	338
total disruptions (no.)(***)	**573**	**701**	**766**
suspensions lasting > 24hrs (no.)	6	2	0
GORI			
urgent disruptions (no.)	870	6,708	1,016
planned disruptions (no.)	128	87	202
total disruptions (no.)(***)	**998**	**6,795**	**1,218**
suspensions lasting > 24hrs (no.)	0	0	0
GESESA(****)			
urgent disruptions (no.)	100.	106	107
planned disruptions (no.)	1,320	30	31
total disruptions (no.)(***)	**1,420**	**136**	**138**
suspensions lasting > 24hrs (no.)	22	18	3

(*) The 2018 figures for Acea Ato 2 have been consolidated.
(**) The 2019 data of Acea Ato 2 and Gori are still in the process of consolidation and refer to all the cases reported in the register of service disruptions required by ARERA in resolution 917/2017. Any adjustments, after data consolidation, will be reported in the next reporting cycle.
(***) Starting from the 2018 report, the data for total disruptions has been expanded, as envisaged by the Authority. It includes shutdowns (due to damage to pipes/pipelines and network changes) and the interruptions due to disruptions and system anomalies. The number of total out of service cases was therefore used for the calculation.
(****) Gesesa's data are provisional and subject to revision and consolidation.

WATER DISTRIBUTED AND RETURNED TO THE ENVIRONMENT

The **quality of the drinking water** distributed is another essential factor of the service, in particular **for aspects related to the health and safety** of all users. The same approach applies, however, to the water returned to the receiving water bodies. Therefore, all **companies independently carry out controls on drinking and wastewater** using internal laboratories (for example, Gori works with the Francesco Scognamiglio laboratory) or with the support of the **Acea Elabori** Group Company (see table no. 25).

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 (users, local health authority requests, etc.) and specific parameters (e.g. radioactivity). The frequency of the tests and sample collection points are defined taking into consideration volumes of water distributed, population covered, network and infrastructure conditions and specific characteristics of local springs (for these aspects see also *Environmental relations*).

In 2019, **Acea Ato 2 launched the Water Safety Plan (WSP) of the managed aqueduct system**, which will be implemented **for the large aqueducts that supply**, aside from Rome, **90% of the population of OTA 2** and over 200,000 inhabitants in 45 municipalities in the province of Rieti and the province of Frosinone. The Emergency Plan was also updated during the year, with the criteria complying with the guidelines of the water safety plans (see the chapter *Institutions and the company*). In April, Acea Ato 2 **completed implementation of the WSP for the Grottarossa water purification plant that treats the waters of the Tiber** in accordance with Ministerial Decree. 14/06/2017 (see also the chapter *Institutions and the company* and the section *Relations with the environment*). In operation since October 2018, the plant **contributes to increasing the Roman water system's resilience** to extreme events, which may occur as a result of climate change, and supplies water, normally used to supply the plant watering network of the City of Rome and the Vatican, that is actually **suitable for human consumption** and **immediately available in case of emergency** to supply the drinking water network at the service of 350,000 inhabitants of the central areas of Rome.

The spring water collected to supply the Rome and Fiumicino area starts from levels of excellence, while in the Castelli Romani area and other areas of northern Lazio the volcanic nature of the terrain adds mineral elements to the water such as fluorine, arsenic and vanadium, in concentrations exceeding those envisaged by the law. Acea Ato 2 has been working for some time to resolve these issues, such as by decommissioning some local sources of supply and replacing them with higher quality springs. In recent years, a number of drinking water plants were built, and in 2019 **Acea Ato 2 built new ones or upgraded/expanded existing** ones in the municipalities of Ariccia, Bracciano, Castel Gandolfo, Trevignano and Marino. A drinking water plant has also been acquired on which major adaptation work has been planned and started to serve the municipalities of Civitavecchia and Cerveteri.

In 2019, **Gesesa** carried out extraordinary checks on the presence of tetrachloroethylene in the wells serving the city of Benevento, finding a centralized lower than the threshold indicated by current legislation. **Gori** purchased a high resolution mass spectrometer to **search for emerging pollutants**. In addition, in implementation of national legislation and the Community Directives on Water Safety Plans (WSP), it **has created an internal team** with cross-cutting skills for the implementation of the Water Safety Plan and **launched inspections on all plants**.

In 2019 **83 Water Kiosks** were active (22 in Rome and 61 in the province), free dispensers of natural or sparkling chilled water available to the public and tourists. The water distributed is the same as the aqueducts and the quality is **certified by strict regular checks** conducted by Acea and the relevant local health authorities. Each Water Kiosk is fitted with a **monitoring device** linked to the in **Acea Ato 2** remote control systems and is also equipped with USB power supply sockets for recharging devices and a screen for transmitting company/local information. **During the year**, Acea Ato 2 Water Companies **dispensed** a total of **20,951,000 litres of water** (58% sparkling water), equal to **419 tonnes of plastic saved** and **about 735 tonnes of CO_2 not emitted into the atmosphere** due to bottles not being produced[53] and net of emissions due to energy consumption by the Companies and the CO_2 added to produce sparkling water.

Gori also has **20 active Water Kiosks** located in the managed territory, which in 2019 dispensed a total of **4,993,500 litres of water**, equal to **100 tonnes of plastic saved** and about **197 tonnes of CO_2 not emitted into the atmosphere**[54].

THE PERCEIVED QUALITY OF DRINKING WATER, RESULTS OF THE 2019 SATISFACTION SURVEYS

Acea **measures customer habits and perceptions regarding the quality of the drinking water supplied**. Customer satisfaction surveys conducted twice yearly call for an in-depth review of this topic.
For **Rome and Fiumicino**, **the opinion on taste, smell and clearness of the water to drink** expressed by the sample of interviewees **was stable** compared to 2018, and the average of the two surveys was equal to **7.6/10**. Global satisfaction **in the province was 6.8/10** (7.1 in 2018). **In addition, 50% of the interviewees in the Capital state they normally drink tap water at home** whereas **31% state they never drink it** (they were respectively 52% and 29% in 2018). These percentages **in the suburban areas** change to **16.4%** for those **regularly drinking tap water** (a significant decrease compared to **37.4%** in 2018) and **45.1%,** for those who do not (43.1 in previous surveys). Among **the reasons given by those who never drink tap water, in the city the habit of drinking mineral water** is still prevalent in **52%** of cases. The same reason is given in the province in **41.9% of cases**, followed by poor confidence in hygiene (38.5%).
For **Acea Ato 5** customers in Frosinone and vicinity, the overall opinion expressed on drinking water **improved** in 2019 **and reached 6/10** (it was 5.6/10 in 2018). The **percentage of respondents stating** that they **habitually drink** tap water remains limited at **23.9%** (it was 20.1% in 2018), while still high but **significantly decreasing** is the percentage of those stating that they **never drink it**, equal to 56.7% (it was 65.3% in 2018). For the latter, the main reason given is "it is not good for my health (too much calcium, presence of minerals)" for 33.5%, while 30.3% have the habit of drinking mineral water.
In the Sarnese Vesuviano district, the overall opinion on drinking water expressed in 2019 by **Gori**'s customers was **5.9/10** (it was 5.6/10 in 2018). **The number of interviewees** stating **that they habitually drink** tap water remained stable, going from 24% in 2018 to **24.7% in 2019**, while the percentage of those stating that they **never drink it decreased more appreciably** from 58.2% in 2018 to **52.2%** in 2019. The main reason cited by those who do not drink tap water is "it is not good for my health", equal to 32.1% in 2019 (it was 34.9% in 2018).
For customers of **Gesesa** in Benevento and vicinity, customer satisfaction surveys were introduced in the second half of 2018, therefore the results of the analysis on water quality are reported as an average of the two 2019 surveys, without a precise comparison with the previous year. The overall assessment of the quality of tap water is **6.6/10**. The percentage of **customers stating that they regularly drink tap water** is very low, 11%, while 64.3% state that they never drink it. The prevailing reason is the lack of confidence in hygiene, for 48.7%.

The collection of wastewater and its treatment prior to being returned to the environment takes place through a complex system and a **configuration organized by "areas"** comprising **wastewater treatment plants**, **sewerage networks** connected thereto and the associated **pumping stations**. **Acea Ato 2** manages 709 sewerage lifting systems (220 of them in the municipality of Rome), 169 treatment plants (34 in the municipality of Rome, 5 major and 29 minor) and about 5,839 km of sewerage networks (of which over 4,000 km managed in Rome).
For the water network of the city of Rome and the Vatican, currently supplied, as mentioned, by the Grottarossa plant, **in the future the water coming out of the COBIS purification plant – about 250 l/s – will be used**, treated in order to make it **suitable for reuse**. The work of upgrading the purification plant, carried out in 2019, saw the creation of a tertiary treatment of double stage filtration and disinfection with UV rays. The plant will feed the Paolo Aqueduct through a pipeline about one kilometre long and a lifting system. **The reuse of water will make it possible to save other water resources**. Before using the plant to supply the non-drinking water network, to **prevent any possible risk** and validate the control systems **the Health and Safety Plan will be completed**, launched in May 2019 with the collaboration of the Control Bodies and Municipalities of the Bracciano district served by the COBIS sewage system.
At 31/12/2019 the infrastructure of the purification and sewerage service managed by **Acea Ato 5** included **219 sewerage lifting plants**, **132 treatment plants** and **over 1,500 km of dedicated networks** (georeferenced data)**.** Among the infrastructure managed by **Gori**, some purification plants are at the service of individual municipalities and others at the service of inter-municipal areas of the Sarnese-Vesuvian agriculture. In 2019, Gori took charge of three other district treatment plants, reaching a total of **10 managed plants** (for about 1.6 million population equivalent). At 31/12/2019 the infrastructure of the purification and sewerage

[53] This figure is underestimated as it does not consider the saving in emissions due to bottles not being transported by road/railway.
[54] In the absence of precise data on the CO_2 added, the 2019 calculation of CO_2 not emitted into the atmosphere thanks to the use of Gori Water Kiosks was calculated assuming that only still water was dispensed.

service managed by **Gesesa** included **19 sewerage lifting plants, 32 treatment plants** and **553 km of dedicated networks.** The city of Benevento is not served by a centralised purification plant and the Municipality of Benevento is planning the design for its realisation and the connection outfalls. In 2019, Gesesa upgraded and secured all the purification plants managed and started revamping works on two of them: the purification plant to which the waters of the municipality of Castelpagano are conveyed and the Santa Lucia purification plant at the service of the municipality of Morcone.

As mentioned above, in the municipality of Rome Acea Ato 2 also manages the pumping stations and reservoirs for the non-drinking water network **and irrigation network, which feeds major 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 and the Acqua Paola Fountain (Paola Water Exhibition), on some of which special works have been carried out (see box for details). Acea Ato 2 is also responsible for the water segment up to the "point of delivery" for the **drinking fountains** and fire hydrants and intervenes in the event of damage to the water supply system and for water flow opening and closing operations.

Acea **surveys parameters that specify the quality of water entering and exiting treatment plants and the impact on receiving water bodies**: the **Tiber** and **Aniene** rivers (see also *Relations with the environment*, *Water segment*). The **Acea Ato 2 Environmental Operations Centre**, renovated in 2018, **constantly monitors data** recorded by remote control using avant-garde technology relating to **hydrometric and rainfall information** concerning the Rome area, shared with the Rome Hydrographic and Tide Gauge Operations Office, as well as data on the **quality of the water** of the water bodies. In 2019, **354 samples were taken at 27 sampling points** on the Tiber and Aniene rivers and on Lake Bracciano.

WORKS ON THE FOUNTAINS IN ROME

In 2019 some major works were carried out on **the Naiads Fountain**, with the complete overhaul of the treatment system, the replacement of the recirculation electric pumps, the disassembly and overhaul of all nozzles and the complete cleaning of the fountain's water supply lines. At **the Acqua Paola Fountain** the external gates were overhauled and the recirculation water treatment system was completely replaced. Finally, for the **Moses Fountain** a section of the recirculation system supply pipe was replaced, and repairs and replacements of pipe sections located inside the statues and marbles were carried out. On the **Trevi Fountain**, as mentioned above, the interventions carried out by Areti concerned the renovation of the monument's lighting.

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**[55]. With **resolution 547/19**, which took issued at the end of the year, the **Authority amended and supplemented the current regulations 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.

Again for 2019, therefore, **Acea Ato 2** presents its performance **according to levels of improvement of the contractual quality standards defined by the Authority**. In fact, in 2016 ARERA accepted the request from the Area Governing Body (Mayors' Conference of OTA 2 Central Lazio) requesting the recognition of bonuses related to meeting more challenging standards. In particular, the improvement concerns **43 indicators out of the 47 established by the resolution**. **The tariff related recognition of the award** intervened in the year after that of the communication on performance, as far as the limits that the proposed improvement levels were reached and aggregated (see also the box relating to prizes and sanctions in the chapter *Institutions and the company*). In order to allow the Operational Technical Secretariat of the Area (STO) to verify performance, **by January**[56] **of each year Acea Ato 2 must produce Lists containing data on performance for the previous year**. Having completed the appropriate assessments, the Technical Secretariat proceeds with quantifying the award of economic competence to the year of reference[57].

[55] For most of the services the regulation of contractual quality aspects is in force from July 2016 according to resolution 655/15/R/Idr or RQSII (Regulation of the contractual quality of the integrated water service).

[56] In advance of the deadline of the end of March established by resolution 655/15.

[57] In January 2019 Acea Ato 2 sent the STO the 2018 data related to the performance of contractual quality, and following verification the Secretariat calculated a bonus of about € 33.6 million.

The table illustrating the performance of Acea Ato 2 shows the improvements implemented by the company next to the standards provided by the ARERA, as well as, where pertinent, the average actual completion time for the services and, as prescribed, the degree of compliance of the improvement standard. **The 2019 performance of Acea Ato 2** (see table no. 27) shows **an average compliance greater than 90%**, the indicators relating to the execution of complex works and the water connection with complex works show **room for improvement**, while **excellent results** were achieved **for the following services**: transfers, responses to complaints/requests, response to the emergency call, punctuality for appointments, execution of simple works, estimates and execution of water connections with simple works.

For certain services envisaged by the Service Charter annexed to the Convention Agreement, **Acea Ato 5 also achieved results that were higher than the standards imposed by the Authority** (see table no. 28).
The Companies **Acea Ato 5, Gori** and **Gesesa** comply with **the deadlines for submitting performance data established by ARERA** (March 2020), so here it is possible to publish the available estimates of the 2019 performance data, to be understood as indicative of their performance. In contrast, the final 2018 data are published and submitted to the Authority.
In some cases, the 2019 performance estimates of **Acea Ato 5** show improvement compared to the 2018 final performance, such as responses to complaints and written requests for information and billing adjustments. For other indicators, the percentage related to the degree of compliance drops, for example, for activations and deactivations of the supply. For **Gori**, the estimates of 2019 contractual quality performance (see table no. 29) improve compared to 2018, in particular for the services relating to the response to complaints and written requests as well as the activation of the supply, while some compliance percentages fall, especially for the execution of complex works and water and sewerage connections with complex works. Also with regard to **Gesesa** the performance estimates for the year (see table no. 30) show some improvements, for example for the activation of the supply, the estimates for on-site works and the execution of complex works, while other services, including the execution of simple works and the response to complaints, have lower ratings.

Resolution 655/2015 provides for a mechanism of **automatic indemnities to be granted to customers** in the event of off-standard services related to the specific indicators. The unit value of the compensation varies according to the delay in the execution of the service[58]. **Overall**, in 2019 the Companies paid automatic indemnities to customers **amounting to approximately € 1 million** (for details see the box that illustrates investigations, bonuses and penalties in the chapter *Institutions and the company*).

As required by the Authority, Water Companies **communicate performance data to users in bills once a year**[59], and at the moment only Acea Ato 2 and Acea Ato 5 disseminate these online as well (**www.gruppo.acea.it**). Finally, all Companies **publish the information on the quality of drinking water** on their websites.

TABLE NO. 27 – THE MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SEGMENT (2018-2019) – ACEA ATO 2 – (ARERA parameters, Acea Ato 2 improvement standards and performance – data submitted to the STO)

CONTRACTUAL QUALITY WATER SEGMENT – ACEA ATO 2

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD	ACEA ATO 2 IMPROVEMENT STANDARD	Service delivery average actual time	Degree of compliance	Service delivery average actual time	Degree of compliance
			ACEA ATO 2 PERFORMANCE			
				2018		2019
estimate for water connection with inspection	20 working days	15 working days	9.5	90.3%	7	95.5%
estimate for sewage connection with inspection	20 working days	15 working days	/	/	/	/
execution of the water connection with simple work	15 working days	10 working days	13.5	73.1%	5.3	95.8%
execution of the sewage connection simple work	20 working days	15 working days	/	/	/	/
supply activation	5 working days	3 working days	12.9	74.1%	4.7	90.5%
reactivation or takeover of the supply without changing the meter rate	5 working days	3 working days	2.0	92.3%	1.8	95.7%
reactivation or takeover supply with changes to the meter rate	10 working days	6 working days	1.3	100%	3	80.0%
reactivation of supply following disconnection for late payment	2 weekdays	1 weekday	1.2	87.6%	0.7	94.2%
deactivation of supply	7 working days	3 working days	5.4	91.9%	2.6	95.8%
transfer of registration	5 working days	3 working days	0	99.8%	0.1	99.9%
estimates for works with inspection	20 working days	15 working days	11.6	90.3%	8.2	93.0%
completion of simple work	10 working days	6 working days	4.3	42.9%	3.6	100.0%
punctuality band for appointments	180 minutes	120 minutes	1.0	96.0%	1.2	99.0%
reply to complaints	30 working days	20 working days	7.3	99.2%	12.1	97.4%
reply to written enquiries	30 working days	20 working days	8.9	98.3%	9.4	98.1%
billing adjustment	60 working days	55 working days	7	99.1%	5.2	100.0%

[58] The unit value indemnity is € 30, € 60 or € 90 according to whether the service is completed in a time less than double the standard, in a time ranging between double and triple the standard, or in triple or more than triple time with respect to the standard. Overall, the Water Companies in the scope paid automatic compensation during the year.
[59] The obligation to notify all end customers of the levels of quality achieved in the previous year in the bill by 30 June is in force (art. 78.1 Resolution 655/2015).

TABLE NO. 27 – THE MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SEGMENT (2018-2019) – ACEA ATO 2 – (ARERA parameters, Acea Ato 2 improvement standards and performance – data submitted to the STO) (cont.)

GENERAL LEVELS OF QUALITY

			ACEA ATO 2 PERFORMANCE			
			2018		2019	
completion of complex water connection	90% of the services within 30 working days	90% of the services within 20 working days	25.2	70.5%	20.2	78.6%
completion of complex sewage connection	90% of the services within 30 working days	90% of the services within 25 working days	/	/	/	/
completion of complex works	90% of the services within 30 working days	90% of the services within 20 working days	41.9	47.6%	30.4	63.5%
maximum time for the agreed appointment	90% of the services within 7 working days	90% of the services within 5 working days	3.5	90.2%	2.8	97.5%
arrival at the location of the emergency call	90% of the services within 3 hours from the telephone con-versation with the operator	90% of the services within 2 hours from the telephone conversation with the operator	21.9	62.2%	3.3	91.0%
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	7.0	99.1%	9.7	98.5%
reply to the emergency call (CPI)	90% of the services within 120 seconds	90% of the services within 110 seconds	63.1	95.1%	48	98.1%

The symbol "/" is used when there have been no services during the year, whereas "-" indicates that the average time cannot be calculated because the services is on/off.

TABLE NO. 28 – MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SECTOR (2018-2019) – ACEA ATO 5 – (ARERA parameters, higher standards than the Service Charter, and Acea Ato 5 performance – 2018: final data, 2019: estimated data, in the validation phase – ARERA reporting scheduled for March 2020)

CONTRACTUAL QUALITY WATER SEGMENT – ACEA ATO 5

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD	ACEA ATO 5 IMPROVEMENT STANDARD (FROM SERVICE CHARTER)	Service delivery average actual time	Degree of compliance	Service delivery average actual time	Degree of compliance
			PERFORMANCE ACEA ATO 5			
			2018		2019	
estimate for water connection with inspection	20 working days	10 working days	4.2	97.8%	7.8	83.3%
estimate for sewage connection with inspection	20 working days	10 working days	4.5	99.0%	9.9	94.9%
execution of the water connection with simple work	15 working days		4.2	96.8%	2.8	93.8%
execution of the sewage connection simple work	20 working days		23.0	50.0%	35.5	67.0%
supply activation	5 working days		6.7	80.0%	8.6	61.3%
reactivation or takeover of the supply without changing the meter rate	5 working days		1.8	99.0%	2.3	94.6%
reactivation or takeover supply with changes to the meter rate(*)	10 working days		n.a.	n.a.	n.a.	n.a.
reactivation of supply following disconnection for late payment(*)	2 working days		n.a.	n.a.	n.a.	n.a.
deactivation of supply	7 working days	5 working days	2.9	96.6%	4.0	88.0%

TABLE NO. 28 – MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SECTOR (2018-2019) – ACEA ATO 5 – (ARERA parameters, higher standards than the Service Charter, and Acea Ato 5 performance – 2018: final data, 2019: estimated data, in the validation phase – ARERA reporting scheduled for March 2020) (cont.)

SPECIFIC LEVELS OF QUALITY

			ACEA ATO 5 PERFORMANCE			
			2018		2019	
transfer of registration	5 working days		0.2	99.6%	0.4	99.1%
estimates for works with inspection	20 working days		4.7	99.0%	9.1	81.7%
completion of simple work	10 working days		9.8	69.8%	/	/
punctuality band for appointments	180 minutes		1.6	99.0%	2.4	99.4%
reply to complaints	30 working days	20 working days	6.8	89.2%	7.6	96.8%
reply to written enquiries	30 working days	10 working days	12.9	69.6%	13.0	92.5%
billing adjustment	60 working days		11.5	77.1%	5.9	98.5%

GENERAL LEVELS OF QUALITY

			ACEA ATO 5 PERFORMANCE			
			2018		2019	
completion of complex water connection	90% of the services within 30 working days	90% of the services within 20 working days	7.8	92.6%	13.0	97.0%
completion of complex sewage connection	90% of the services within 30 working days	90% of the services within 20 working days	12.0	67.0%	13.0	66.7%
completion of complex works	90% of the services within 30 working days		13.2	93.9%	10.8	94.8%
maximum time for the agreed appointment	90% of the services within 7 working days		3.4	98%	5.3	83.8%
arrival at the location of the emergency call	90% of the services within 3 hours from the telephone conversation with the operator	90% of the services within 70 min. from the telephone conversation with the operator	50.0	100%	62.4	89.6%
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	17.2	53.8%	13.0	76.0%
reply to the emergency call (CPI)	90% of the services within 120 seconds		65.9	96.3%	65.2	92.1%

(*) In these two cases the standard does not apply as the Company does not foresee "reactivation" but rather termination and the creation of a new contract. The symbol "/" is used when there have been no services during the year, whereas "-" indicates that the average time cannot be calculated because the services is on/off.

TABLE NO. 29 – MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SECTOR (2018-2019) – GORI – (ARERA parameters and Gori performance – 2018: final data, 2019: estimated data, in the validation phase – ARERA reporting scheduled for March 2020)

CONTRACTUAL QUALITY WATER SEGMENT – GORI

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD	Service delivery average actual time	Degree of compliance	Service delivery average actual time	Degree of compliance
		GORI PERFORMANCE			
		2018		2019	
estimate for water connection with inspection	20 working days	5.2	98.7%	7, 7	99.4%
estimate for sewage connection with inspection	20 working days	6.5	97.4%	11.7	98.0%
execution of the water connection with simple work	15 working days	47.3	60.0%	35.9	30.8%
execution of the sewage connection with simple work	20 working days	242.5	0.0%	15.0	100%
supply activation	5 working days	7.4	72.7%	6.2	84.3%
reactivation or takeover of the supply without changing the meter rate	5 working days	4.0	89.9%	2.9	93.7%
reactivation or takeover of the supply with changes to the meter rate	10 working days	3.5	100%	/	/
reactivation of supply following disconnection for late payment	2 weekdays	1.1	97.2%	0.6	99.5%
deactivation of supply	7 working days	4.6	88.9%	5.0	92.2%
transfer of registration	5 working days	0.3	98.2%	0.4	98.6%
estimates for works with inspection	20 working days	8.2	96.8%	11.5	99.7%
completion of simple work	10 working days	53.2	25.0%	37.6	20.0%
punctuality band for appointments	180 minutes	1.7	98.3%	1.7	99.1%
reply to complaints	30 working days	30.6	79.9%	16.7	89.8%
reply to written enquiries	30 working days	37.3	80.2%	8.5	96.3%
billing adjustment	60 working days	104.0	0%	18.0	100%

GENERAL LEVELS OF QUALITY

		GORI PERFORMANCE			
		2018		2019	
completion of complex water connection	90% of the services within 30 working days	35.1	72.7%	35.9	63.3%
completion of complex sewage connection	90% of the services within 30 working days	38.7	64.5%	44.1	49.1%
completion of complex works	90% of the services within 30 working days	27.1	75.4%	30.9	65.7%
maximum time for the agreed appointment	90% of the services within 7 working days	4.6	91.9%	4.3	92.7%
arrival at the location of the emergency call	90% of the services within 3 minutes from the telephone conversation with the operator	2.5	95.8%	1.7	94.3%
reply to written billing adjustment requests	95% of the services within 30 working days from receipt of the request	19.8	88.3%	9.1	97.7%
reply to the emergency call (CPI)	90% of the services within 120 seconds	79.1	91.2%	68.0	92.6%

The symbol "/" is used when there have been no services during the year, whereas "-" indicates that the average time cannot be calculated because the services is on/off.

TABLE NO. 30 – MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SECTOR (2018-2019) – GESESA – (ARERA parameters, and Gesesa performance – 2018: final data, 2019: estimated data, in the validation phase – ARERA reporting scheduled for March 2020)

CONTRACTUAL QUALITY WATER SEGMENT – GESESA

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD	Service delivery average actual time	Degree of compliance	Service delivery average actual time	Degree of compliance
		GESESA PERFORMANCE			
			2018		2019
estimate for water connection with inspection	20 working days	3.7	99.4%	4.9	100%
estimate for sewage connection with inspection	20 working days	/	/	/	/
execution of the water connection with simple work	15 working days	19.5	65.0%	17.6	60.7%
execution of the sewage connection with simple work	20 working days	/	/	/	/
supply activation	5 working days	49.0	40.0%	26.7	72.7%
reactivation or takeover of the supply without changing the meter rate	5 working days	3.7	98.0%	6.6	95.6%
reactivation or takeover of the supply with changes to the meter rate	10 working days	/	/	/	/
reactivation of supply following disconnection for late payment	2 weekdays	0.5	100%	0.7	97.5%
deactivation of supply	7 working days	10.34	96.3%	11.4	98.3%
transfer of registration	5 working days	1.2	96.8%	0.7	98.3%
estimates for works with inspection	20 working days	4.1	96.6%	5.0	100%
completion of simple work	10 working days	7.2	72.7%	10.7	50.0%
punctuality band for appointments	180 minutes	114	92.2%	96	91.7%
reply to complaints	30 working days	24.7	87.5%	28.4	69.6%
Reply to written enquiries	30 working days	25.7	92.1%	24.1	96.1%
billing adjustment	60 working days	/	/	/	/

GENERAL LEVELS OF QUALITY

		GESESA PERFORMANCE			
			2018		2019
completion of complex water connection	90% of the services within 30 working days	33.8	69.6%	27.2	75%
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	28.9	75.0%	23.3	86.2%
maximum time for the agreed appointment	90% of the services within 7 working days	2.2	98.1%	2.0	98.4%
arrival at the location of the emergency call	90% of the services within 3 minutes from the tele-phone conversation with the operator	/	/	/	/
reply to written billing adjustment requests	95% of the services within 30 working days from receipt of the request	/	/	/	/
reply to the emergency call (CPI)	90% of the services within 120 seconds	-	84.5%	-	85%

The symbol "/" is used when there have been no services during the year, whereas "-" indicates that the average time cannot be calculated because the services is on/off.

TARIFFS

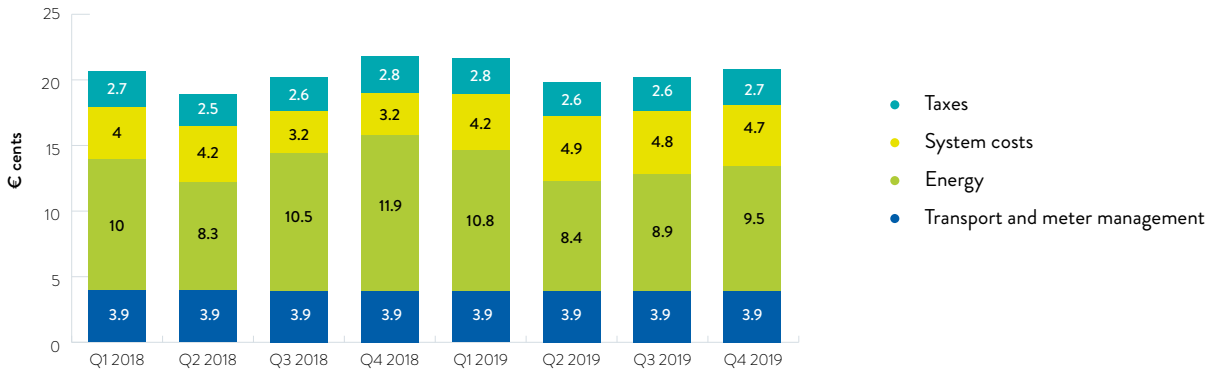
ELECTRICITY SERVICE PRICING

In Italy, with regard to the electricity sector, there are two main types of market (net of the residual safeguard segment): the *standard market* and the *free market*. For the standard market service, the operator offers the customer standard services at fixed prices based on the ARERA regulations and the quantities supplied wholesale by the Sole Purchaser. In the free market the services offered and their prices are the result of free competition among all operators. In this context, customers can choose their own suppliers based on their preferences.

The costs included in the electricity bill **cover cost items**: **electricity** (supply and retail marketing), **transport and meter management** (costs for delivery to customers), **system charges** (costs for general activities of the electricity system, borne by all end customers) and **taxes** (consumption tax and VAT).

The **standard market** service, while in progressive reduction in favour of the free market, still today represents **the segment most used** by Italian customers (domestic and non-domestic), with a subscription rate of 53.6% (58.1% in the previous year).
The expansion of the **free market** is evident observing the volumes of electricity sold: free market customers consume **80.6% of the energy comprehensively sold** to the end market (78.8% in the previous year)[60].
In this segment, with **"standard" consumption** – amounting to **2,700 kWh/year**, with 3 kW power – **the overall annual expenditure** for electricity amounted to about **€ 557 in 2019** (20.6 € cent/Wh), **a slight increase** compared to last year (with an average cost of 20.3 € cent/Wh, about € 548 per year). The final price was substantially affected **by the increase in system charges**.

CHART NO. 25 – ELECTRICITY PRICE TREND FOR A STANDARD DOMESTIC CUSTOMER (€ CENT/KWH) (2018-2019)



Source: ARERA website – statistical data.

WATER SERVICE PRICING

With **resolution 664/15**, **ARERA** established a framework of fair, certain and transparent rules concerning the tariff in the water sector for the period 2016-2019.
Such method, based on **regulatory schemes**, ensures an efficient and economically-financially balanced management, able to incentivize investments and improve services in light of **full cost recovery** principles (full coverage of industrial and environmental costs of the service) and "who pollutes pays".

With **resolution 918/17**, the Authority intervened to amend and supplement resolution 664/15, regulating the **updating criteria for the two-year period 2018-2019** regarding the cost components eligible for tariff recognition.

TABLE NO. 31 – AVERAGE WATER PRICES APPLIED (2019)

Company	€/m³
LAZIO/CAMPANIA	
Acea Ato 2 SpA	1.65
Acea Ato 5 SpA	2.49
Gesesa SpA	1.65(*)
Gori SpA	2.32(**)

(*) In 2018, pursuant to Resolution 665/17, Gesesa starndardized the tariff structure for all the municipalities managed and initiated convergence towards a single tariff, with a path that will lead to uniformity of the tariff in 2023.

(**) The figure is estimated.

60 Based on the number of served collection points and the volumes sold in 2018 (ARERA Annual report 2019).

CUSTOMER CARE

THE **MyAcea App,** FOR MANAGING **electricity, gas** AND **water contracts:** INSTALLED BY **180,000 customers**

Pedius AND **Acea Energia** WORK TOGETHER **to assist hearing impaired** CUSTOMERS

55 tonnes of paper/year saved THANKS TO THE CUSTOMERS OF THE ELECTRICITY AND WATER SERVICES WHO HAVE CHOSEN **electronic billing**

Over 1,100 GWh of green energy SOLD BY ACEA ENERGIA TO CUSTOMERS OF THE FREE MARKET, **+ 28.5%** COMPARED TO 2018

CUSTOMER CARE POLICY

The customer is recognized as one of **Acea's key stakeholders**, to whom maximum attention and care should be paid. The objective is to **improve the customer journey**, namely the customer's experience when entering into contact with the Group companies and with the Acea Brand.

The operating companies pursue this objective in **their customer relations**, while in the Holding company the **Data Driven Management Unit (ITS)** ensures integrated management of the monitoring of customer/end-user relations in the Group, identifying actions aimed at optimising customer experience in agreement with industrial segments and companies.

Using a **dedicated unit** within the External Relations and Communications Department of the Parent Company, Acea **oversees the listening to the requests made by consumer associations**. In conjunction with the Operating Companies, in 2019 the Holding unit also organized a number of meetings with the main consumer associations to gather any requests coming from the local regions and to continue to raise awareness of the use of digital and telephone channels **exclusively dedicated to them**.

The Consumer Associations recognized 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 for several years. Following the **Memorandum of Understanding for ADR** (Alternative Dispute Resolution) signed in 2016 by **19 consumer associations** and the companies **Acea Energia, Areti, Acea Ato 2 and Acea Ato 5**, **the ADR Body**[61] was established which allows customers of the Companies that signed the Protocol[62] to seek **out-of-court dispute resolution through the ADR procedure**. In 2019 the Authority received a total of **474 requests for procedures** (360 assessed as appropriate, in accordance with the rules and regulations, and 114 not applicable), of which 263 for the water sector and 211 for the energy sector.

Some time ago **Gori** also signed a **Memorandum of Understanding** for the settlement of disputes with local consumer associations, and handled 120 settlement requests during the year. With the aim of establing a **dialogue with the public**, Gori **has also carried out some campaigns**, for example for the correct protection of meters and systems against frost or on the quality of the water distributed, broadcasting them on different channels and using videos and other media for the web and the press. **Gesesa** manages the conciliation service through **Consumer Service Points** and in 2019 3 conciliation procedures were carried out. Moreover, twice a year it holds meetings with consumer associations in the managed area.

On specific days and times of the week **Acea Ato 5** continues to maintain two "Consumer Service Points" for the management of commercial cases in Frosinone and Cassino, **dedicated to the 14 Consumer Associations in the territory registered with OTUC** (Body for the Protection of Users' and Consumers' Rights). In November 2019 the Company, the Operational Technical Secretariat (STO) of Ato 5-Southern Lazio and OTUC signed a memorandum of understanding to facilitate the regularisation of undocumented users. In addition, during the year it implemented the agreement signed in 2018 with the Territorial Agency for Residential Building of Frosinone (ATER) to **improve the quality of water service to users in public housing**, and at the same time **to prevent and combat the phenomenon of abuse** which affects both the occupation of public housing and connections to the water system. In particular, Acea Ato 5 started to **replace the unified meters with individual** ones, installing the first 62 meters in the 7 apartment complexes that have requested them. This has allowed the Company, which has also opened a **communication channel dedicated to residents of ATER housing**, to independently manage each user and to intervene directly to address specific problems and situations of abuse or default. Finally, thanks to the agreement signed at the headquarters of the Chamber of Commerce of Frosinone **with the trade associations** (Federlazio, CNA, Confimpreseitalia, Unione Artigiani Italiani and Unindustria), the Company offers companies and small entrepreneurs a **dedicated email channel** and the possibility of solving cases by appointment, simplifying and accelerating administrative procedures.

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

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

[62] It should be noted that two other Group companies active in the water sector, not included in the scope of the Consolidated Non-Financial Statement, are signatories of the Protocol, and have received a total of 18 requests for ADR procedures, 13 of which are considered eligible.

DISPUTES WITH CUSTOMERS 2019

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**. Disputes in **2019** totalled 1,000, **226** of which had already been resolved last year.

Compared with 2018, the number of **customer disputes increased** mainly due to challenges to payment orders filed by the Companies Acea Ato 5 and Gori (501 disputes began in 2018). Customer litigation continues to be the most rapid solution and less costly procedure.

Acea Energia implements procedures aimed at **preventing and combating** the phenomenon of "**disputed activations/contracts**" and "**unsolicited accounts**"[63]. Depending on the channel used for the contract proposal (PDC) and its subscrition by customers in the open market – door-to-door sales network, telephone – the Company has defined and carries out procedures aimed at verifying that the content of the contract signed has been clearly explained, the sales representative's conduct has been proper and, above all, that the customer is actually aware of his or her choice. Indeed, the consumer receives a notice of connection start or a Confirmation Call, and this helps the Company to limit the risks of any misunderstandings and the late exercise of the right of withdrawal. Acea Energia **checks** the completeness and absence of alterations of **all paper contracts** and **listens to all telephone records produced by the sales agents**. In the event of a negative result of the checks, the **IT systems stop the activation of the new offer from continuing**.

In 2018 Acea Energia also introduced and in 2019 promoted a **digital sales channel**, which provides for the signing of the contract with a **biographometric signature** via **tablet and app**, following **a process designed to minimize the causes that can lead to the improper conclusion of a contract** in compliance with regulatory obligations. The process is based on elements (biographometric signature, pre-contractual and contractual documents acquired digitally, with submission to the back-end systems of the Company) **that eliminate the risk of errors and/or tampering**. This made it possible to eliminate the confirmation call and formal controls for **digital contracts** produced by sales agents.

As regards the **Agency Mandate** that governs relations with the sales agents network, as noted the Company carries out **checks on the services**, **and in 2019 analysed 468 contract offers that were the subject of complaints** (classified as "disputed activations/contracts" or "accounts not requested"). **It reported 60 cases of "improper commercial practices"** to the Agencies, a very small number compared to 2018 (539 cases), **and issued pecuniary sanctions** amounting to **€ 20,000**. Acea Energia carried out a **compulsory training programme for sales representatives** (see the *Suppliers* chapter) and has **maintained bonus/malus mechanisms linked to the quality of acquisitions** in its contracts with its sales agents.

The commercial action of **Acea Energia on the free market** seeks to **satisfy customer requirements**: from families to large business customers, **diversifying the offers** (see dedicated box). In 2019 the **"green" energy sold to customers in the free market continued to increase** (**+28.5%** compared to 2018 volumes) – also see the box dedicated to commercial offers – and the **share** of this item **of the total energy sold in the year to customers in the free market by Acea Energia** (about 3,826 GWh, also see the *Environmental accounts*) **stood at 30%** (it was 26.8% of the final amount of electricity sold in 2018).

During 2019 Acea Energia **launched two important communications campaigns** with a distinctive graphic format, which brings out the brand's colours and represents the protagonists in dynamic positions and at the time of the relationship with the energy. The campaigns sought to enhance the brand identity and launch the **new tagline** "**More light, more gas, more you**", highlighting **the company's core business** of selling electricity and gas on the free market, underlining Acea Energia's commitment to moving from a "commodity oriented" company to a **"service-based" and "customer-centred" company and qualifying it** for the **ability to understand the needs of the different commercial targets**.

ACEA ENERGIA'S 2019 COMMERCIAL PROPOSALS FOR THE FREE MARKET

Concurrent with the communications campaigns on the new tagline "**More light, more gas, more you**", Acea Energia reshaped its commercial offer with the introduction of two new light and gas products:

- **Acea Like Us**, which offers the customer the opportunity to buy electricity and gas at wholesale price, with a small monthly contribution. The product headline "**Light and gas? You pay as much as we do**" summarizes the benefits of the offer clearly and directly;
- **Acea Doubles**, which includes a discount on energy and gas components that doubles every two months up to 80% in a year. The visual of the product ironically represents the characteristics of the offer: the exponential discount is represented by people whose hair and moustaches have grown out of control. To support the visual, the product headline says "**The more time passes, the greater the benefit**".

With the aim of strengthening the relationship with **large business customers**, Acea Energia offers a special deal to **employees of its B2B customers**, giving them the possibility of signing up for an Acea Like Us product on favourable terms. The product is promoted through internal communications by the company concerned using materials made available by Acea Energia.

During the year, Acea Energia also launched several promotions dedicated to the **most digitized customers**. This is the case with **the Acea FastClick** offer for customers who sign up via web, offering them the chance to manage their energy supply completely online.

The product **Acea Viva** is still available, **supplying "green" energy** produced from renewable sources with a Guarantee of Origin responding to the needs of **customers who are more attentive to the environment** has linked to the activation of the bill delivered via web.

For large **business clients**, choosing the **Acea Viva** product constitutes an **asset of strategic positioning**, strengthened by personalized solutions of communication which Acea Energia makes available to them. The overall volume of **green energy sold in 2019 was estimated**[64] **at 1,144 GWh**, with an **increase of 28.5%** compared to 2018's final value[65] (890 GWh).

[63] In compliance with regulations (ARERA resolution 228/17) and art. 66 quinquies of the Consumer Code.
[64] The final calculation is expected in March 2020 and the consolidated data will be updated in the next reporting cycle.
[65] The figure not yet published in 2018 was lower, equal to 790 GWh.

ACEA ENERGIA'S 2019 COMMERCIAL PROPOSALS FOR THE FREE MARKET (cont.)

Finally, in compliance with the provisions of the Authority, Acea Energia has prepared the differentiated **PLACET offers** – Free Price at Equivalent Protected Conditions – for families (domestic use) or small businesses (non-domestic use). This type of offer is included in the package of commercial proposals at freely determined prices but **with contractual conditions defined by the Authority**. The economic conditions are decided by the seller and renewed every 12 months; the price structure and the contractual conditions (e.g. guarantees, instalments) are determined by the Authority. The uniformity of the price structure and contractual conditions, the exclusion of any additional service and the possibility of activating energy supplies (electricity and gas) only separately and with two separate contracts make PLACET offers **easily comparable with each** other.
See also the websites: www.acea.it for customers in the free market and www.servizioelettricoroma.it for customers in the protected market.

The **"Acea con Te" loyalty programme** for free-market domestic electricity and gas customers saw **a 53% increase in subscribers compared to 2018**. The **Emozioni da Prima Fila** (First Row Emotions) contest continued throughout the year, offering prizes of admission to exclusive events and experiences. In December, visual identities and rewarding mechanisms of the **loyalty programme** were updated with the **publication of new rules**, a restyling of the website and the improvement of the portal's usability even from mobile devices and the inclusion of additional benefits for the customer.

CONTACT CHANNELS AND PERFORMANCE

In all customer relations, Acea is committed to **guaranteeing** the **respect of privacy in the management of personal data**. In particular, since last year, Acea has adapted its organization to respond in the most appropriate way to the evolution of the relevant legislation, updated[66] in line with the new European regulations on the protection of personal data (**General Data Protection Regulation – GDPR**)[67].
In addition to **traditional contact channels** (call centre and branches), Acea makes **digital contact channels** available to customers. The **MyAcea** self-care platform, also available in the form of an **app** for mobile devices, allows the customer to **manage all water, electricity and gas utilities active with the Group companies** through **a single account**, seeking to **facilitate the User Experience** and concurrent **expansion of the available operations**, while the processing of documents continues to be ensured by the Companies that manage the various services. The **MyAcea App**, **installed by about 180,000 people**, saw a further growth of the user base, with an **increase in 2019 of 63%** compared to the previous year (110,000 people in 2018). In **Acea Energia**, **223,150** customers **have accessed the personal area at least once** in the last 12 months, equal to **20% of the customer base**, a percentage that reaches 25% only for customers in the free market.
To encourage the use of digital channels, in 2019 **Acea Ato 2** relaunched communication campaigns through DEM (*Direct Email Marketing*) and strengthened the training of call centre operators to promote self-care services from the MyAcea personal area. It has also carried out communications campaigns on the website, on billboards and in newspapers to encourage the use of MyAcea, web billing and direct debit. The expanded range of offers and better usability of online services have made it possible to **increase** the number of subscribers to the MyAcea customer area of **Acea Ato 2** by 27% compared to 2018, equal to **201,309 associated accounts** as at 31/12/2019.
Acea Ato 5 launched the **pilot project "Breakfast with senior citizens"** in 2019. The project involves senior citizens' centres with the aim of making it easier for elderly people to **become familiar with digital tools**, also promoting registration with the MyAcea portal and the use of the app. The Company has also placed its first information campaigns on websites, in local newspapers and online articles about the benefits of using the portal. These activities led to an increase in registrations with MyAcea, for a total of **32,853 users** (**+41%** compared to 2018), equal to approximately 16% of the total contracts.
Gori and Gesesa have also made the customer areas available to users, **also available as apps**, **MyGesesa** and **MyGori**. The customer can carry out most operations online, eliminating the need to use traditional post. The percentages of use of remote channels and support chat in the **MyGori** platform have increased significantly, and the **number of registered users** as at 31.12.2019 is **81,388**. A relevant effort was also put into circulating the use of the e-bill (see hereunder). During the year, **Gesesa** relaunched the ***Gesesa Digitale*** information campaign, to increase customers' knowledge and use of web channels and the app for business relations with the company. As at 31.12.2019 there are **4,000** subscribers to the online branch.

Acea8cento manages some **remote channels** – telephones, faxes, web forms, post, social networks – for the main operating Companies in the Group, mainly for commercial use[68]. The service provided by the contact centre is managed with a **One Call Solution** (OCS) approach in order to promptly meet the needs expressed by customers in a single contact.
Acea8cento, an active part in the process of reviewing and simplifying the contact channels, in 2019 followed the preparation of two tenders aimed at awarding the management of the volumes of water service traffic and core activities and the energy service (open market and standard market service) and subsequently oversaw the start and implementation of the two services entrusted to the contractors. It also managed the consolidation of:

- **Net Promoter Score** (NPS) for the service dedicated to Acea Energia and Acea Ato 2 customers, which guarantees an objective measurement of the level of customer satisfaction;
- the **social channel** (Facebook) for Acea Energia customers in the free market aimed both at providing assistance through MyAcea and processing commercial requests;
- the **chat channel** for the water service managed by Acea Ato 2 and Acea Ato 5, and for the service dedicated to Acea Energia customers, through the use of the SnapEngage Live Chat software.

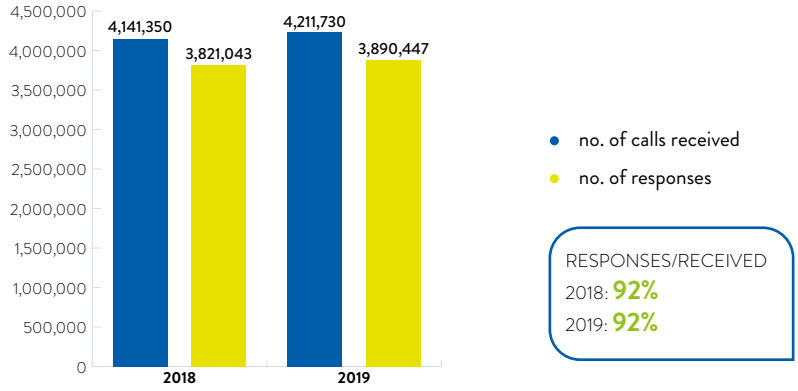
The Parent Company performs **mystery customer surveys** to **check the quality of the telephone channels and the branches**. The results are shared with Service Managers and contact operators and facilitate the identification of areas for improvement in each con-

66 Legislative Decree no. 196/2003 as amended and supplemented by Legislative Decree no. 101/2018 and subsequent amendments and additions.
67 Regulation EU 679/2016 (GDPR).
68 In addition to the commercial channels, Acea8cento handles the number for cemetery lighting managed by Areti.

tact channel and take any necessary corrective measures. **In 2019** a **customer experience measurement project** was carried out, with the application of an innovative model to **three pilot processes** in Acea Energia, Acea Ato2 and Areti. It involves the continuous monitoring of the services provided **from the perspective of the customer**, i.e. **on the basis of the quality found**, and this represents an additional measurement tool for identifying interventions to be taken on the operating processes and the organization.

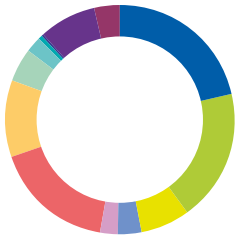
In 2019 **Acea toll-free numbers** – according to two-year data recalculated with the inclusion of Gori – **received about 4.2 million calls, a slight increase (+1.7%) compared to 2018** (about 4.1 million calls). The **overall service level**, representing the answers on the total calls received, **was 92%**.
The slight increase was recorded across the board for both the call centre services of the electricity area and those of the water service of the reporting companies, with the only **exceptions being the sales toll-free numbers** for customers of **the Acea Energia standard market service** and **faults** for customers of the water service of **Acea Ato 2**, which in contrast **saw a decrease in calls** (see chart no. 26 and tables nos. 32 and 33 at the end of the section for the performance of individual companies).

CHART NO. 26 – TOTAL TELEPHONE CALLS TO ACEA TOLL-FREE NUMBERS (2018-2019)



NOTE The data for the two-year period has been recalculated to include Gori, included in the reporting scope from 2019, to ensure comparability.

CHART NO. 27 – PERCENTAGE BREAKDOWN OF INBOUND CALLS TO ACEA TOLL-FREE NUMBERS (2019)



- **21.4%** | electricity protected market sales (Acea Energia)
- **18.6%** | electricity and gas free market sales (Acea Energia)
- **6.9%** | electrical faults (Areti)
- **3.4%** | public lighting faults Rome (Areti)
- **2.5%** | cemetery lighting (Areti)
- **17.1%** | water sales (Acea Ato 2)
- **10.8%** | water faults (Acea Ato 2)
- **4.7%** | water sales (Acea Ato 5)
- **2.2%** | water faults (Acea Ato 5)
- **0.5%** | water sales (Gesesa)
- **0.3%** | water faults (Gesesa)
- **7.9%** | water sales (Gori)
- **3.6%** | water faults (Gori)

The polling survey conducted by the Regulatory Authority for Energy Networks and Environment (ARERA) in 2018[69] confirmed the recent improvement in the Customer Satisfaction Index as a whole (scale 0-100) for **Acea Energia toll-free numbers**, which rose from 86.8 out of 100 for the second half of 2017 to **92.2 out of 100**. The improvement is due to all the quality factors analysed, and in particular to the factor "ability to solve the problem quickly", which rises from 80.3% to 89.1% and which is given greater importance than the other factors.

In 2019 the branches of the **Acea headquarters** in Rome, Piazzale Ostiense, for electricity, gas and water services managed by **Acea Energia** and **Acea Ato 2** received a total of **204,542 customers**, with an **increase of 5%** compared to 2018 (194,338 customers). Most came for the energy area, fewer for the the water desk, and in both cases service levels were high. At the branches managed by Acea Ato 2 **outside Rome** (12 branches – Ostia and the province of Rome), however, in 2019 there was an increase of about 7% compared to the previous year, with 79,691 total visits in 2019. Despite this, the **level of service** (customers served/tickets issued) was **100%** and **average waiting and service times decreased**. See tables nos. 32 and 33 for the performance of the last two years of all Companies.

[69] The Authority had not yet shared the results of the survey in the second half of 2019 when this document was published. The final data have been calculated annually since 2018.

ACEA ENERGIA SHOP IN SHOPS AND ACEA ATO 5'S NEW SERVICE POINT

Acea Energia opened new physical Service points in Rome and outside Rome using a Shop in Shop formula, i.e. by setting them up in pre-existing multi-brand stores, many of which are owned by telecommunications companies. These **new points of proximity to customers** become an important point of reference for those who want to activate an electricity and gas account on the free market and rely on specialized advice.
With the aim of making **its presence on the national territory increasingly widespread and flexible**, Acea Energia established an important **collaboration with a business partner active in Campania**, opening a point of sale in Santa Maria Capua Vetere. Also within this physical point, customers can activate Acea Energia accounts on the free market and receive complete and timely assistance in managing their energy supply.
In October 2019 Acea Ato 5 inaugurated **Frosinone's new commercial point** in a more central area of the city, with functional, easily accessible and technologically advanced environments. The new structure aims to promote a customer focus, with **a view to speeding up services** and promptness in responding to various customer needs. Completely innovative its space and aesthetics, the point has **eight multipurpose workstations** for front office and back office activities depending on the operating needs of the moment.

Operating Companies also 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*). In the same way, 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 adjustment (see sub-paragraph *Quality levels regulated by ARERA in the water sector*).
For the **Public Lighting service**, responses to **complaints/written requests** are handled directly by Areti. In 2019 **3,715 complaints/requests** were received, **a marked increase** compared to the 1,285 recorded in 2018. The company **replied to 97%** of them by 31 December.

On the **website www.acea.it** dedicated to the **free market** and on the **website www.servizioelettricoroma.it** dedicated to the **protected service of Acea Energia** there are **guides to reading the bill**. A guide to reading the bill is also available for customers of the water service, found in the **Water section** of the Acea Group website **www.gruppo.acea.it**.

In July 2019, **Acea Energia** launched a **collaboration with Pedius**, a startup that since 2013 has been committed to **ensuring the integration of people with hearing impairments**, to remove obstacles to communication. The Pedius app – **available free of charge for all devices** – allows customers with this type of difficulty to contact the Acea Energia call centre **and access all commercial services**. Indeed, thanks to this application the customer writes text messages in chat that are read to the call centre operator by a computerized voice while the operator's answers are returned to users in written form so that they can easily read them. The interaction takes place on a telephone line with **a priority** position in the queue.

Thanks to the awareness-raising actions implemented, the number of Acea Energia customers who **requested the** "**electronic bill**" option increased. In 2019, **27,913** customers have made this choice and as at **31.12.2019 Acea Energia** has reached **a total number of 263,244 customers with electronic bill** both in the free market and in the protected market. **In terms of environmental protection**, only with regard to paper sheets not sent[70] thanks to the electronic bill option, **this amounted to 36.7 tonnes/year of paper saved**.
In line with the provisions of the industry Authority, **in 2019 Acea Ato 2 supplemented the information provided in the bill** with respect to the possibility and method of making payments in instalments as well as the indication of the reason in the event of automatic compensation for non-compliance with the provisions on the regulation of late payments and information on the possibility of requesting compensation from the operator for any further damage suffered, etc.
In addition to regular email campaigns aimed at residential customers to **promote the digital functions**, in October Acea Ato 2 launched an initiative at branches and contact points that includes the offer of a plastic free gadget to all customers **who activate web bills** and direct debit payment. As at **31.12.2019**, the number of users of Acea Ato 2 **with web billing** is **83,909** (**4% more** than in 2018). The sheets of paper not sent in the year[71] thanks to electronic billing amounted to **12 tonnes/year of paper saved**.
The other Group companies operating in the water sector also offer their customers the opportunity to take advantage of the benefits of web billing. In particular, **Gori** launched the campaign "**Web Bill: Easier, Faster**". The communication initiative and the training for call centre and contact point staff made it possible to reach **58,515** customers with a web bill, saving **5.2 tonnes/year of paper**.
As mentioned, during the year **Acea Ato 5** promoted the use of digital channels and the **activation of the web billing service** both at the Acea Web point and at the branches. In particular, in the municipalities where this was more common, it sent approximately 11,600 emails to users for any reprints of bills, which also illustrated the potential of digital tools: the MyAcea portal and the electronic billing service. These initiatives led to a total of **14,218 users with the web billing service** as at 31.12.2019, (approximately **46% more** than in 2018), equal to approximately 7% of the user base. **Gesesa** launched the advertising campaign "**All of Gesesa... in one click!**", broadcast on social channels, local media and with posters. As at 31.12.2019 it has **2,482 customers using the web billing service**. Considering the latter two Companies, the paper savings associated with web bills in 2019 are equal to **about 1 tonne of paper**.
Overall, therefore, thanks to the offer of the web billing service and the customers who activated it, **approximately 55 tonnes of paper were saved** during the year.

[70] The figure includes all the sheets that, in the absence of the web bill option, would have been sent to customers in paper form: bills, reminders and other communications.
[71] The number of sheets of paper not printed due to the use of web billing has due to the doubled compared to 2018 both because of the increase in users who have opted for web bills and, above all, due to the larger number of pages in the bill resulting from the increased amount of information required by the Authority.

TABLE NO. 32 – ENERGY: TOLL-FREE NUMBER AND HELPDESK COUNTER PERFORMANCE (2018-2019)(*)

TOLL-FREE NUMBERS	m.u.	2018	2019
COMMERCIAL TOLL-FREE NUMBER (Acea Energia) – MORE PROTECTED SERVICE			
total calls received	no.	958,463	900,450
total answers	no.	894,819	827,230
service level (% of answers to calls received)	%	93.4%	91.9%
average waiting time before answer	min. sec.	1'36"	2'50"
average conversation time	min. sec.	5'51"	6'38"
COMMERCIAL TOLL-FREE NUMBER (Acea Energia) – FREE MARKET (energy and gas)			
total calls received	no.	765,505	784,997
total answers	no.	696,258	705,154
service level (% of answers to calls received)	%	91.0%	89.8%
average waiting time before answer	min. sec.	0'55"	1'54"
average conversation time	min. sec.	5'35"	6'08"
FAULT TOLL-FREE NUMBER (Areti)(**)			
total calls received	no.	256,984	291,538
total answers	no.	248,879	285,962
service level (% of answers to calls received)	%	96.8%	98.1%
average waiting time before answer	min. sec.	1'11"	1'15"
average conversation time	min. sec.	3'01"	3'10"
PUBLIC LIGHTING SERVICE – FAULT TOLL-FREE NUMBER (Areti)(**)			
total calls received	no.	143,481	143,158
total answers	no.	135,870	140,249
service level (% of answers to calls received)	%	94.7%	98.0%
average waiting time before answer	min. sec.	1'06"	0'53"
average conversation time	min. sec.	2'32"	2'42"
CEMETERY LIGHTING – COMMERCIAL/FAULT TOLL-FREE NUMBER (Areti)			
total calls received	no.	97,107	103,473
total answers	no.	91,846	98,995
service level (% of answers to calls received)	%	94.6%	96.2%
average waiting time before answer	min. sec.	0'47"	0'54"
average conversation time	min. sec.	5'53"	4'52"
BRANCHES			
ACEA ENERGIA – BRANCH FOR MORE PROTECTED SERVICE			
tickets issued	no.	86,908	88,127
customers served	no.	84,032	83,632
service level (% customers served/tickets issued)	%	97.0%	94.9%
average waiting time	min. sec.	10'04"	12'10"
average service time	min. sec.	12'16"	11'34"
ACEA ENERGIA – FREE MARKET BRANCH (energy, gas and offers)			
tickets issued	no.	51,475	65,884
customers served	no.	49,452	64,215
service level (% customers served/tickets issued)	%	96.0%	97.5%
average waiting time	min. sec.	9'57"	4'42"
average service time	min. sec.	12'25"	11'46"

(*) The volumes of channels subject to sector regulation are consistent with the calculation methods envisaged for reporting to ARERA.
(**) Calls handled by the automatic system or terminated by the customer during navigation within the interactive voice responder are also considered as answers.

TABLE NO. 33 – WATER: TOLL-FREE NUMBER AND HELPDESK COUNTER PERFORMANCE (2018-2019)(*)

TOLL-FREE NUMBERS

	m.u.	2018	2019
COMMERCIAL TOLL-FREE NUMBER (Acea Ato 2 – Rome and province)			
total calls received	no.	696,117	720,891
total answers	no.	633,287	650,790
service level (% of answers to calls received)	%	91.0%	90.3%
average waiting time before answer	min. sec.	0'48"	2'16"
average conversation time	min. sec.	5'13"	4'42"
FAULT TOLL-FREE NUMBER (Acea Ato 2 – Rome and province)(**)			
total calls received	no.	488,067	454,441
total answers	no.	485,156	453,871
service level (% of answers to calls received)	%	99.4%	99.9%
average waiting time before answer	min. sec.	0'23"	0'15"
average conversation time	min. sec.	2'39"	2'34"
COMMERCIAL TOLL-FREE NUMBER (Acea Ato 5 – Frosinone and province)			
total calls received	no.	185,446	199,789
total answers	no.	167,374	181,530
service level (% of answers to calls received)	%	90.3%	90.9%
average waiting time before answer	min. sec.	1'00"	1'36"
average conversation time	min. sec.	4'21"	3'59"
FAULT TOLL-FREE NUMBER (Acea Ato 5 – Frosinone and province)(**)			
total calls received	no.	87,767	94,285
total answers	no.	87,404	92,223
service level (% of answers to calls received)	%	99.6%	98.0%
average waiting time before answer	min. sec.	0'16"	1'06"
average conversation time	min. sec.	2'39"	1'54"
COMMERCIAL TOLL-FREE NUMBER (GESESA – Benevento and province)			
total calls received	no.	18,269	19,232
total answers	no.	16,695	17,521
service level (% of answers to calls received)	%	91.4%	91.1%
average waiting time before answer	min. sec.	n.a.	0'49"
average conversation time	min. sec.	n.a.	3'23"
FAULT TOLL-FREE NUMBER (GESESA – Benevento and province)			
total calls received	no.	12,938	13,919
total answers	no.	10,934	10,267
service level (% of answers to calls received)	%	84.5%	73.8%
average waiting time before answer	min. sec.	n.a.	0'35"
average conversation time	min. sec.	n.a.	2'06"
SALES TOLL-FREE NUMBER (Gori – provinces of Naples and Salerno)			
total calls received	no.	305,137	332,248
total answers	no.	237,101	293,015
service level (% of answers to calls received)	%	78.0%	88.0%
average waiting time before answer	min. sec.	3'22"	3'20"
average conversation time	min. sec.	4'52"	4'55"
FAULTS TOLL-FREE NUMBER (Gori – provinces of Naples and Salerno)			
total calls received	no.	126,069	153,309
total answers	no.	115,420	133,640

TABLE NO. 33 – WATER: TOLL-FREE NUMBER AND HELPDESK COUNTER PERFORMANCE (2018-2019)(*) (cont.)

service level (% of answers to calls received)	%	91.4%	87.2%
average waiting time before answer	min. sec.	1'23"	1'08"
average conversation time	min. sec.	2'41"	3'23"
BRANCHES			
ACEA ATO 2 (Rome – head office branch)			
tickets issued	no.	55,955	50,531
customers served	no.	55,782	50,440
service level (% customers served/tickets issued)	%	100%	100%
average waiting time	min. sec.	3'20"	5'19"
average service time	min. sec.	12'37"	14'16"
ACEA ATO 5 (2 branches in Frosinone and province)			
tickets issued	no.	78,114	93,598
customers served	no.	74,868	91,888
service level (% customers served/tickets issued)	%	96.0%	98.0%
average waiting time	min. sec.	12'25"	22'00"
average service time	min. sec.	7'06"	7'59"
GESESA (1 branch in Benevento and province)			
tickets issued	no.	14,868	13,755
customers served	no.	14,868	13,755
service level (% customers served/tickets issued)	%	100%	100%
average waiting time	min. sec.	n.a.	6'48"
average service time	min. sec.	n.a.	9'25"
GORI (6 branches provinces of Naples and Salerno)			
tickets issued	no.	186,899	202,209
customers served	no.	175,525	190,650
service level (% customers served/tickets issued)	%	94.0%	94.0%
average waiting time	min. sec.	12'03"	14'11"
average service time	min. sec.	10'17"	10'27"

(*) The volumes of channels subject to sector regulation are consistent with the calculation methods envisaged for reporting to ARERA.
(**) Calls handled by the automatic system or terminated by the customer during navigation within the interactive voice responder are also considered as answers.

COMMUNICATIONS, EVENTS AND SOLIDARITY

AT THE MONTEMARTINI POWER PLANT: ***1909-2019. 110 Years of Light. Acea and Rome. Passion and innovation***

THE NEW **corporate website** LAUNCHED IN **June**: COMPLETELY NEW LAYOUT, NAVIGATION AND CONTENT. ACEA IN **gold class** FOR .TRUST

ACEA SCHOOL 2019: ABOUT **10,000 students** AT ***Let's Defend Water!***

Sustainable maxi posters FOR ACEA ENERGIA CAMPAIGNS: SPECIAL FABRIC **panels absorb pollutants**

COMMUNICATIONS

The **communications policy** and the **development of the Group's image** are managed by the **External Relations and Communications Department**, which draws up, steers and coordinates communications and institutional, journalistic and commercial information initiatives.
For the main external communications, the **Advertising, Brand Image and Events** Unit oversees the promotion of the brand, the **management of the corporate identity**, the implementation of **institutional, advertising and commercial campaigns** and the organisation of public or institutional events, the development and management of **environmental education and solidarity projects**, as well as special projects and external events aimed at strengthening the link between Acea and the region, the design and implementation of photographic services and the production of videos of various types according to the needs of the Group, the management of the Group's modern and historical archive, both documentary and photographic and the **development of Acea sites for educational and cultural purposes**. In accordance with the strategic guidelines defined by the Top Management, the **Digital and Corporate Media** Unit ensures the Group's correct positioning in the digital ecosystem through the development and management of the **institutional website**, the websites of the Companies that align with the digital identity and social channels. It manages the processing and updating of corporate, operating and commercial **editorial content for the various digital, web and social channels**.

In 2019 **Acea Communication**, the **internal communication and media planning agency** serving the Group, whose trademark was filed during the year, was further consolidated. The agency was in charge of all phases of the advertising campaigns, from conception to publication and dissemination. Acea Communication's team of specialists, analysts, art directors, photographers, graphic designers, copywriters and business and media planners has created creative concepts, executive copy, adaptations, multimedia products, logos, image consulting and planning for all Acea's communications campaigns. Thishas led to speedy execution and and a significant reduction in production and delivery costs, with a reinvestment of resources in advertising plans that have involved national media.
In September 2019, Acea Communication won the **16th Press Best Campaign Editor's Choice Key Award** for the "**Why? – Together for Water**" campaign for the following reason: "*For the ability to reach the highest level of communication with an evocative image and strong impact able to achieve very high emotional effects by raising awareness regarding an important issue such as saving water*".
Among the **2019 advertising campaigns**, the **first major national television campaign of the Acea Group**: in May and July the institutional spot aired on Rai, Mediaset, Sky, Discovery Channels and local TV in Lazio over a thousand times. Also worth mentioning is the campaign "**Acea Scuola – Let's Defend Water!**" in the press and on the web dedicated to raising awareness with respect to wa-

ter, which involved **10,000 students from schools in Rome.** Some advertising campaigns in the press or in the press and on the web were launched in conjunction with **major events organized by Acea** during the year, and in particular **Innovation Day**, **Sustainability Day** (see the boxes in the chapter *Institutions and the company* and in the chapter *Strategy and sustainability* of *Corporate identity*), the exhibition **110 Years of Light in Rome** and Acea's participation in **Ecomondo** (see the box in *Relations with the environment*).

ACEA SCHOOL 2019

Acea School is the **environmental education programme** proposed by Acea for students of schools in Rome and the Metropolitan City. Sponsored by the Department of People, School and Community Solidarity and by the National Institute of Health, **the initiative conveys information and content concerning the water cycle, the energy supply chain and waste valorisation** in accordance with a sustainable development compatible with the environment.
The edition developed for the 2018/2019 school year called **Let's defend water** involved **180 schools**. **Approximately 10,000 students** from primary and secondary schools participated. Thanks to a new format and a new technological, interactive organization, the initiative was divided into **eight days** held at the Auditorium della Conciliazione to **tell the story of the water cycle** with a recreation-educational approach focusing on the importance of the responsible use of water. The ceiling and walls of the Auditorium turned into a **huge 270° screen** that enveloped and engaged students with high-definition, high-impact images that reproduced the long journey of water from the spring to the tap at home. The children thus had the opportunity to learn about Acea's daily work in the management of the water service, thanks to educational videos.
This initiative, conceived as an educational tool to raise students' awareness regarding the topic of sustainability, was associated with the contest "**What would you do ro defend water**". Indeed, the students of the participating institutions were able to **make a 30-second video message** on water conservation, and the **ten best works** earned a cash award from Acea for the schools of the winning students.

Several initiatives of the operating Companies were also accompanied by communication campaigns, so, for example, in June the **positioning campaign** of **Acea Energia** went live on static and dynamic posters, press, web, radio and cinema through September. The campaign was **distinguished by the maxi sustainable posters** placed in central areas of the capital. In fact, the ads were **made with a special fabric able to absorb, retain and disintegrate the polluting molecules present in the air**. Overall, this particular advertisement has **led to the absorption of pollutants produced by 13,639 cars**. Another campaign carried out in the autumn concerned the launch of the commercial offer "Acea Doubled", using static and dynamic posters, press, web, radio, TV and cinema (see also the section *Customer care*).
For **Acea Ato 2**, communications on the **water bonus** were conveyed through posters, printed materials and the web, and both Acea Ato 2 and **Acea Ato 5** launched another campaign via web and posters to make customers aware of the use of digital tools. Also worthy of note are the numerous **communication visuals** that accompanied the events supported by Acea, the Group's sponsorship initiatives and internal communication projects with dedicated advertising pages.

"1909-2019 – 110 YEARS OF LIGHT. ACEA AND ROME. PASSION AND INNOVATION"

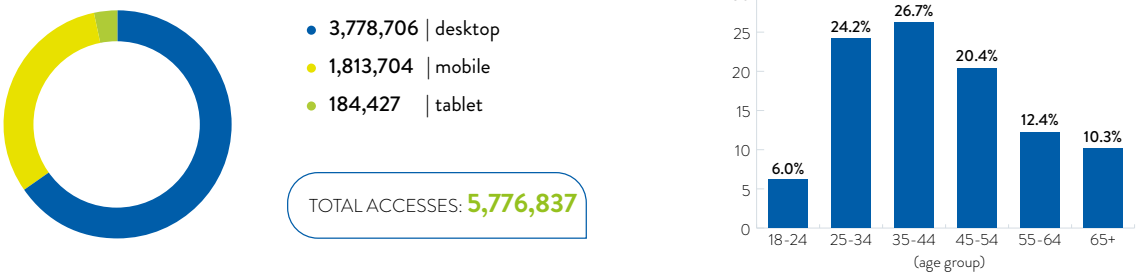
110 years since Acea's founding, some initiatives were planned to celebrate the anniversary. Among these, the exhibition ***110 Years of Light. Acea and Rome. Passion and innovation***, held from 23 October 2019 to 26 January 2020 at the **Montemartini power plant**, the first public power station in the capital for the production of electricity.
The aim of the exhibition was to describe the strong link that has been established between Acea's operations and the Capital's development. The exhibited materials, many shown for the first time, were also made available in a catalogue. Visitors were able to retrace the progressive construction and evolution of infrastructure and the consequent availability of electricity and appreciate the constant search for modernisation. The exhibition design was developed across 13 islands, including some dedicated to the lighting of major events of the last century, such as the 1960 Olympics and the Jubilee, and others on artistic and monumental lighting, recalling the numerous projects over the years. All this also thanks to the generosity of numerous lenders, including the Central State Archive, the Archive of Capitoline Museums, Rai, Istituto Luce, the Archive of the Presidency of the Republic, which, together with the Acea Archive, made it possible to put together an exhibition extraordinarily rich in documentation.
Other initiatives carried out to celebrate the anniversary included the permanent exhibition held at Acea headquarters, the press conference presenting the project together with institutional representatives and the design of the celebratory logo as part of a dedicated communications campaign.

Like every year, **Acea also welcomed visitors to its facilities** who benefited from the generous spirit and expertise the company's employees. In 2019 **2,323 people** from Italy and abroad were received during 35 visits. Visitors to the Group's facilities included university scholars (from the Universities of Rome La Sapienza and Roma Tre, Connecticut and Texas), delegations of foreign institutions (for example the Embassy of the United States of America), journalists for televised reports, numerous schoolchildren and members of the public who visited the facilities during the FAI days. The Eur Water Centre was also used as a location for a music video.

The **Digital and Corporate Media** Unit defines the digital strategy and manages communications on the digital channels of the Acea Group. The **new website www.gruppo.acea.it went live on 5 June 2019 with a design that reflects the Group's values, mission and new industrial positioning**.
The new corporate website is the result of an in-depth **analysis the digital strategy**, with a distinctive approach to **visual communications** and a clear, transparent organization of the content. Its navigation is smooth and intuitive thanks to an original layout and new graphics, completely renewed in line with the Group's brand identity.
By employing an effective, engaging language and the use of images and videos, Acea promotes its people, skills and daily commitment to the regions it operates in.
The result of the work on the Group's corporate website and on the entire digital ecosystem made it possible for Acea to be **recognized as best improver** in the **Webranking Italy 2019-2020**. This study assesses the transparency of **communications on the digital channels** of the main listed companies. Acea was also **included in the "gold class"** of the first edition of **".trust"**, the analysis conducted by Lundquist that assesses the ability of Italian listed companies to **tell their story in a clear, engaging way**, positioning themselves in the most virtuous quadrant corresponding to "narrators".
For each initiative and press conference of the Group, press releases, pages dedicated to the events, a photo gallery and videos were published in the **Media** section of the website **www.gruppo.acea.it**. Therefore the main events and significant initiatives of 2019 have been **promoted on the Group's website**, including with the creation of dedicated web pages. In addition to the events already mentioned, Acea's participation in **Maker Faire Rome** also enjoyed broad visibility and highlighted events of great resonance that the Group has long associated its brand with through sponsorships, such as the **Rome Marathon** and the **Film Festival**.
For activities aimed at the educational world, the section "**Acea School**" dedicated to Acea's school programme was updated on the website with an "immersive" project focused on sustainability and water conservation.
One of the main new developments introduced in the institutional website was **a section dedicated to innovation**, which describes Acea's commitment to this area: from the services offered to the public to the development of skills and new solutions that can improve people's lives. The section includes a hub dedicated to **Acea's innovation stories**, which represent a new way of narrating business activities, people's work and company initiatives for the community and the territory.
The choice of presenting different narratives seeks to **involve stakeholders in the life of the company**, showing how Acea's work combines a human dimension, technology and sustainability.
Sustainability is highlighted as a guiding value for the Company on all pages of the website. Indeed, in addition to being discussed in the section "**Our commitment**", sustainability becomes a cross-cutting value, with insights and references to initiatives and projects dedicated to each area.
Mention should also be made of the communication of **artistic lighting projects for monuments in the capital** to enhance their cultural and artistic heritage, and symbolic lighting to raise public awareness of the importance of preventing diseases such as breast cancer, which testifies to the company's sensitivity to issues with a high social impact.
For the **Shareholders' Meeting**, the "Browseable Reports" of the Acea Group were published, which make the **Consolidated Financial Statements** and **Sustainability Report** accessible interactively, with open data and multimedia content. The online reports present Acea's results, values and projects and provide the possibility of **capturing the multiple threads that link the two annual reports in a single frame**.
The website also **performs a service function with the real-time publication of warnings** about possible water suspensions affecting the areas the company operates in, providing users with timely updates.
For some years the data related to **emissions** have been available. They are monitored in real time and concern the two Acea **waste-to-energy** plants. The main quality parameters of the water supplied by the Companies active in the water segment can be consulted online. It is also possible to view online the emissions data of the plant of **Tor di Valle**.

Due to the transition from a single Group website to the creation of two separate websites – the corporate website (www.gruppo.acea.it)[72] and the one related to commercial activities (www.acea.it) – the 2019 statistical data are not fully comparable with those of the previous year. In recent years, however, both the steady increase in **mobile** access to the website and the concentration of visitors between the **ages of 25 and 44** are confirmed[73]. In particular, approximately 23.8 million pages were viewed on **the Group's website** during the year, equivalent to almost **5.8 million accesses**. The connection methods were **65.4% via desktop** (3,778,706 accesses), **31.4% via mobile** (1,813,704 accesses) and **3.2% via tablet** (184,427 accesses).
As regards the **Acea Energia website** (www.acea.it), during the year **more than 2 million visits** were recorded, also in this case mainly from desktop (62.5%) and mobile (33.7%). The website, dedicated to the sale of energy and gas on the free market, offers quick, user-friendly navigation with original, innovative usability features to facilitate customer journeys and interactions with all touchpoints. During the year, commercial offers and information guides were published that clearly respond to the most common demands of the energy market. A section dedicated to stories was also put online discussing issues related to sustainability and innovation in the energy sector.
There were fewer visitors to the website www.servizioelettricoroma.it dedicated to customers of the standard market service, with about **182,000 accesses**, 58.7% of them via desktop and 37.6% via mobile.

CHART NO. 28 – ACEA CORPORATE WEBSITE 2019: ACCESS METHODS AND AGE GROUPS



Since March 2019 **Acea has been active on the major social media** with its corporate channels. An important step to **strengthen communication with its stakeholders** through digital channels with modern, immediate and engaging language and through the use of captivating images, videos and visuals (see the box for details).

ACEA IS SOCIAL

Towards the **end of the first quarter of 2019**, Acea entered the main social media channels where it carefully supervises its presence. An **effective and evocative storytelling strategy** has been defined, in line with the tone of voice of the Group website, to convey the key business messages. The content reflects the company's dynamic character, the promotion of its people and its commitment to local communities. Specific activities like **video shorts and influencer marketing projects** have been planned to promote the main events.
Acea Group's **Facebook** channel has about 2,275 followers and has achieved a total of over 28,900 interactions. Thanks to constant moderation, user requests received on the page are directed to dedicated support channels. The **Instagram** profile has about 1,550 followers and has received 6,600 interactions. With direct and informal communication and an important use of images, the channel seeks to engage and excite users, offering suggestive content and stories of the company's projects.
The **Twitter** profile has over 4,300 followers who interact with Acea through comments and sharing (10,200 interactions). **It is one of the main touchpoints for updates on corporate content and Group results**, as well as for interaction with various institutional stakeholders.
The **LinkedIn** profile, active for some years now, saw an **increase in the number of followers** in 2019 (33,630 followers, approximately +65% compared to 2018) with a consequent increase in conversations and interactions (approximately 16,300). Acea has consolidated its presence on this channel, strengthening its role as a multiutility, also in order to attract talent and skills.
The **YouTube** profile is active as well, with 858 subscribers and collects all Acea's videos.
In addition to the corporate profiles, the company is present on Facebook and Instagram with **Acea Energia**. Both channels are used for the promotion of electricity and gas offers and for the dissemination of commercial initiatives on the free market. **Facebook**, with 13,629 followers (+5.4% compared to 2018) has consolidated itself as an important touchpoint for managing customer requests, including through the invitation to use online services available in the MyAcea customer area of the website acea.it. The **Instagram** profile (520 followers) also tells of events such as the Silent Disco Party held in Piazza del Popolo.

Acea's communications **with the national and local media** and managed by the **Media Relations Unit** are always characterized by **timeliness, effectiveness and transparency**, with the aim of conveying the correct corporate image and the Group's position through the media.
In 2019 **press releases** and **press conferences** disclosed **the financial results achieved**, the initiatives implemented by the Group and **information of public interest** related to the managed services. In coordination with Investor Relations, Legal and Corporate Affairs and Administration Finance and Control, the Media Relation Unit prepares **the economic-financial communiqués for the main corporate events**, such as the **Shareholders' Meeting**, approval of the financial results by the Board of Directors and the publishing of "price-sensitive" news. During the year the Unit maintained rela-

[72] The new corporate website has been live since 5 June and is active on the same domain as the previous one.
[73] Following the publication of the website, it was not possible to track demographics from June to September 2019.

tions with the national, international, local and trade media, seeking to establish a mutual respect for roles and cooperation. Through press articles, television, radio and web services, it provided and increased media coverage of the main events and initiatives carried out by Acea. In particular, it has consolidated **relations with the economic-financial press** to promote **corporate communications, business operations and the Business Plan**.
Thanks to a constant exchange of information with the operating companies, Media Relations **also provides feedback on reports of inefficiencies** that come through emails and direct telephone contacts and those published in newspapers, interacting with the press offices that are available to publish the company's replies.

Every day, the Unit develops and manages the national and local **press review**, making it **available through the company 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).
Events of particular interest highlighted in 2019 include:

- the **press release to formalize the acquisition of 51% of the company "Pescara gas distribution"** which in fact marked Acea's full entry into the sector;
- communications on the **2019-2022 Business Plan** approved in April;
- the press conference and communications for the launch of Acea Energia's campaign "**Acea like us"** in June 2019;
- the press conference and communications on the agreement between Acea, the Lazio Region and Roma Capitale for the **renewal of the concession of the Peschiera – Le Capore Aqueduct** in July, and in the same month the communications on **the acquisition of the company Demap**, active in the treatment of plastics;
- communications regarding the inauguration of the **Monterotondo Marittimo** composting plant, which was expanded in 2019, and in October on the entry into the full scope of consolidation of the company **AdF**;
- communications about the signing of the **Memorandum of Understanding** between **Acea and Google Cloud** to accelerate digital transformation, again in October;
- the press conference and communications on the exhibition "**1909-2019. 110 Years of Light. Acea and Rome. Passion and innovation"**;
- communications in December about the launch of **SmartComp** and the agreement between **Acea** and **Fiera di Roma**.

Media Relations also provided media coverage of the main events and initiatives carried out by Acea through press articles, television, radio and web services, including those in the field of value liberality and sponsorship.

EVENTS AND SOLIDARITY

The **economic value distributed to the community** in 2019 is equal to **€ 6 million**[74] (€ 3.9 million in 2018). Of which about 2.7 million were allocated to sponsoring cultural, social and sporting events.
The appropriations in the form of **donations** for major initiatives were equal to **€ 1.36 million** (327,000 in 2018).
Acea provides its services, such as the **supply of electricity and water** or **turning Public Lighting on or off** during events that attract a large turnout, of a cultural or sporting nature, or in particular circumstances of a solidarity and symbolic nature. **In 2019** these services, called "**technical sponsorships**", were **worth a total value of 240,760** (€ 116,650 in 2018).
Every year Acea participates in the main events related to its business activities and supports – including with sponsorships – initiatives considered of high cultural, social and sports value for the **development of the areas it operates in** and for the **benefit of the community** (see also the boxes at the end of the section).
The **Sponsorship and Value Liberality** Unit has the task of instructing and managing requests from the entire region and from the Group's corporate structures, to submit them to the Executive Committee, a body with responsibility for Institutional Relations, Sponsorships and Donations. The sponsorship initiatives approved by the Executive Committee are subject to an Integrity Due Diligence, for an ethical and reputational assessment of the proponents, according to best practices.
Among the main events organized in 2019, we highlight the initiative aimed at **celebrating 110 years since Acea's founding and its link to the region** it was born in, with the great exhibition "**110 Years of Light. Acea and Rome. Passion and Innovation**" inaugurated in October at the Montemartini power plant, the first public power station in the capital for the production of electricity (see the box in the *Communications* sub-section) and the already mentioned initiatives on **Innovation** and **Sustainability**, **which will be repeated annually** to underline the importance that the Company attaches to these two issues. Specifically, **Innovation Day**, a day dedicated

[74] This item also includes costs borne for "fairs and conventions" but not "technical" sponsorships.

to the new frontiers of artificial intelligence and the use of data that have changed the way of doing business, was held together with some of the main Italian companies in the energy sector, workers, industry press, students, startups and the main protagonists of the innovation ecosystem. The **Sustainibility Day** sought to promote a dialogue between institutions, authorities, the world of research and businesses in order to identify innovative solutions to foster industrial and market policies that are increasingly oriented towards sustainable development.
For the fourth year running, Acea participated at ***Ecomondo***, the international showcase for the recovery of materials and energy, with a Group booth displaying **materials related to the circular economy** and organizing workshops on the same subject (see the box in *Relations with the Environment*), and participated in the ***Maker Faire Rome*** technology trade show presenting its innovative projects applied to industrial sectors.
During the year Acea participated in two events that engaged thousands of young people from all over Italy: the 49th edition of the **Village of the Earth – Earth Day**, where it **presented the video on water conservation "Let's defend water"** that, with a playful-scientific approach recounts the long journey of water from the spring to the tap at home, and the Roman stage of **Sustainability Island**, with a space dedicated to workshops and education on composting.

Always attentive to environmental issues and to future evolutions, Acea promoted and took part in important conferences on sustainability and the circular economy, including the technical conference "***Closing the Circle: Recover waste to improve Recycling and the Circular Economy in the Paper sector***", organized in Terni by Acea Ambiente, Assocarta and Comieco and held in the historic setting of Palazzo Gazzoli for the Paper and Cardboard Recycling Month.
Among the events that have seen Acea at the forefront of promoting the historical and cultural heritage of the city of Rome without losing sight of its innovative and sustainable orientation, we find the hanging of Christmas lights in Via del Corso as part of the project called "***Rome by Light Acea***" (see the box for details).

In support of youth entrepreneurial initiatives and the promotion of innovation, Acea participated in the **Rome Startup Week 2019**, the exhibition involving startups, companies, investors, institutions and research centres in support of the start-up ecosystem. On this occasion, an **Acea Special Award** was presented, also offering the winning team the opportunity to be hosted at the new Talent Garden in Rome Ostiense in a co-working space. In fact, in 2019 Acea launched a partnership with the Talent Garden campus to work together on **digital transformation and corporate innovation projects**. In December 2019, Acea also supported the ***ANGI Prize*** (National Association of Young Innovators), bearer of a message and a commitment to technological development, giving the award to the winner of the category "Energy & Environment".
The year also saw support for the main events of national importance related to the businesses managed, such as the **Energy Festival** and the **Water Festival**, numerous cultural events and traditional sporting events that Acea has associated the brand with for years, such as the Rome Marathon and the Rome-Ostia Marathon. The following boxes describe the **main events supported by the Acea Group in 2019**, through sponsorships or donations.

ROME BY LIGHT ACEA

The project called Roma by Light Acea™ was conceived by Studio Medaarch as the **winner of the international competition of ideas "Make Christmas Lights Acea"**, an initiative promoted and **launched by Acea in collaboration with Maker Faire Rome** to identify the **most innovative, technological and sustainable Christmas lighting** to be installed in the centre of the Capital and in the other 14 municipalities.
For the first time, Acea used a **creativity contest** to engage lighting experts in the decoration of the Capital with Christmas lights, optimising the costs thanks to the direct purchase of the technologies used. The **Christmas installations** narrated Rome through the images, films and faces of the actors and actresses who made it famous all over the world.
To illuminate the 1,500 metres of Via del Corso, **approximately 190 kilometres of optical fibre** were used, 115 light beams composed of 300 light tails able to reduce the daily energy consumption of the installation by 45%, and **10 4x2 m LED screens** connected to an app. The new lighting system included technological, innovative and interactive lights and LED lighting fixtures with a **very low environmental impact**.
The app has made it possible to enjoy in real time the special content related to a series of **clips taken from Italian and foreign films linked to the history of cinema and Rome**.

2019: ACEA FOR CULTURE, INNOVATION AND SUSTAINABILITY

Sponsor of the **Energy Festival** that was held in Milan in June 2019, the main national event that brings together representatives of the scientific, academic, institutional and economic worlds with the intent to debate energy issues and promote a new culture of energy in the country (Beulke and Partners Srl)
Sponsor of the **49th edition of Earth Day Italy**, the Village for the Earth, held in the evocative setting of Villa Borghese in Rome in April 2019 (Orion RM Srl – Earth Day Italia Onlus)
Sponsor of the **2019 Water Festival**, the conference that hosted more than 150 speakers and representatives of the 500 Italian companies associated with Utilitalia in Bressanone to discuss and debate water cycle issues (Utilitalia in Fieri Srl)
Sponsor of the **SIMA Sinergia 2019** conference, with a focus on sustainability management and the creation of shared value in the digital age (Sima)
Sponsor of **Rome Startup Week**, the festival that promotes relationships and knowledge in the areas of innovation and new entrepreneurship (Rome Startup Association)
Sponsor of the 2019 Theatre Season of the **Foundation of the Opera House of Rome**

2019: ACEA FOR CULTURE, INNOVATION AND SUSTAINABILITY (cont.)

Main sponsor of **Short Theatre**, the event focused on contemporary performing arts that took place in Rome on 5-14 September 2019 in the spaces of La Pelanda, WeGil, Teatro Argentina, Teatro India and Carrozzerie n.o.t. (Area 06)
Sponsor of the 31st edition of the **Marisa Bellisario Award**, "**Women at High Altitude**", promoted by the Bellisario Foundation, which for years has promoted the talent and merit of women
Sponsor of various **cultural events** that took place in 2019 at the Conciliation Auditorium in Rome, at the Teatro in Ostia (I Borghi) and at the Teatro No'hma in Milan (Teatro No'hma Onlus Pomodoro)
Sponsor of "**Witnesses of Witnesses. Remembering and recounting Auschwitz**", the first experiential exhibition conceived by a group of young people from Rome focused on the Journeys of Memory (Palaexpo)
Partner sponsor of the 14th Edition of **Rome Film Festival**, which took place between 17 and 27 October 2019 (Fondazione Cinema per Rome)
Sponsor of the **Rome Lights**, which took place to celebrate the holidays between December 2019 and January 2020 (MedaArch)
Sponsor of the **6th Sustainability Island** held on 4-7 December 2019 and promoted by universities and research bodies to develop "sustainable ideas" (Jera Srl/APS Isola della Sostenibilità)
Sponsor of the 13th edition of the **Etruria Eco Festival**, an event that hosts cultural events in the evocative Legnara park in the historic centre of Cerveteri (Circolo del cinema luce a cavallo)

2019: ACEA FOR SOLIDARITY

Support for volunteer work for people with disabilities (Club Hamici)
Contribution for the 17th edition of **Fiaba Day** held on 06 October 2019 during the national day for breaking physical, cultural, psychological barriers and spread the culture of equal opportunities (Fiaba non-profit)
Support for **research centres** of the **Telethon Foundation**, the purpose of which is to study rare genetic diseases
Participation in the **AIL Charity Gala**, which for the 50th anniversary of the birth of the Italian Association against Leukaemias, Lymphomas and Myeloma organized a gala dinner on 9 April 2019 at **Spazio Novecento in Rome**
Participation in the **World Day against Violence against Women**, the **European Day of Fragile X Syndrome**, **World Children's Day – Go Blue** with technical sponsorships, such as the red lighting of the piezometric tower in the Octavia area, the special lighting of the Triton Fountain and the Senate Palace in Rome and the **18th edition of the City against the death penalty** with lighting/darkening of the Colosseum
Technical sponsorship, lighting the Colosseum pink, for every weekend of October, in relation to the **Pink Ribbon 2019** (LILT – Italian League to fight cancer)

2019: ACEA FOR SPORT AND YOUTH

Title sponsor of the **2019 edition of the Rome Marathon**, which took place on 7 April 2019 starting from Via dei Fori Imperiali and involved the participation of over 10,000 runners (Fidal)
Sponsor partner of the **45th Rome-Ostia Marathon**, held on 10 March 2019 and considered the most important city marathon after the Rome Marathon (RCS)
Sponsoring partner of the 3rd edition of the **Rome Half Marathon Via Pacis**, which was held in Rome along the streets of the historic centre on 22 September 2019. FIDAL, by means of this race, pursues the message of the Pontifical Council that all religions should come together in the event with a message of peace (FIDAL INFRONT)
Official supplier of **A.S. Rome** and **S.S. Lazio** sports season 2018/2019 (Soccer Sas and Infront Italy Srl)
Partner of the **International Tennis Championships** held in Rome on 12 and 19 May 2019 (FIT)
Title sponsor of edition 2019 of the **School Volleyball Tournament-Acea Trophy**, dedicated to the **secondary schools of Rome and province** and run by Fipav Lazio (Fipav Lazio)
Main sponsor of **Acea Camp**, for students between 6 and 14 years old, to learn of and spread the practice of sporting disciplines. The exhibition took place in Rome between June and July 2019 (Beside Management Srl)
Contribution to sporting activity for season 2019/2020 of **S.S.D Santa Lucia**, a **wheelchair basketball** club, active in the Roman sporting panorama since the 60s (S.S.D. Santa Lucia Srl)
Contribution for the purchase of **electric hockey wheelchairs** for children with severe neuromuscular disorders (ASD Thunder Roma Onlus)
Sponsor of the "**Six Nations Rugby 2019**" tournament (3 matches played in Rome) held in February and March 2019 (FIR)
Support for **sports activities and events** in the areas outside Rome: fencing (ASD Orvieto Scherma), water polo (FIN Civitavecchia), basketball (ASD Basket Orvieto), football (Frosinone Calcio), walking (ASD Filippide – D. LF Chiusi Avis Castiglione del Lago, Amatori Podistica Terni), cycling (GS Cobram)

SUPPLIERS

€ 1.2 billion
THE TOTAL VALUE OF 2019 CONTRACTS: MORE THAN **2,800 contracts** WITH OVER **1,460 suppliers** (+27% COMPARED TO 2018)

OVER **87% of qualified suppliers** COMPLETED A SELF-ASSESSMENT QUESTIONNAIRE ON **sustainability issues** IN THE YEAR

THE PROCUREMENT SAFETY UNIT CARRIED OUT **12,481 safety checks** IN CONSTRUCTION SITES **(+11% compared to 2018)**

ACEA RAISES AWARENESS AMONG CONTRACTORS ON **health and safety:** IN 2019, 18 MEETINGS WERE HELD AND OVER **150 people were involved**

CONSOLIDATED EXTERNAL COSTS

In 2019, the Group's **consolidated external costs** totalled about **€ 1.94 billion** (+0.9% compared to 2018). This change was due to the effects of opposing trends, including on the one hand the increase in costs brought about by the change in the scope of consolidation, and on the other hand the reduction in costs for the purchase of energy efficiency instruments, for the use of leased assets and for contingent liabilities. Finally, it should be noted that the operating expenses last year also included the registration of the administrative fine imposed by the AGCM, which was then cancelled by the regional administrative court.
Procurement of goods, services and works related to the Group Companies subject to reporting[75] are managed by the **Purchases and Logistics** Function of the Parent Company, and in 2019 recorded a value of about **€ 1.2 billion**.

PROCUREMENT POLICIES

Purchases and Logistics defines policies and guidelines and manages as a service the procurement of goods, services and works required by the Group Functions/Companies in a centralized, effective and efficient manner. To this end, 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**.
The Function also deals with the centralized management of the Group's materials, logistics and warehouses, **coordinating the operations of the central warehouse** and the **local warehouses** of the main operating Companies**.** In 2019 the project for the expansion of the **Santa Palomba Logistics Hub** continued, where, thanks to the addition of 9,000 square metres of land, a **new warehouse is under construction** that **will increase the storage capacity by an additional 5,000 square metres on the ground and 2,000 pallet racks** and will host **new testing laboratories** of the companies Areti and Elabori.

DEALINGS WITH SUPPLIERS AND PROCUREMENT MANAGEMENT

The *Acea Code of Ethics* recalls the reference principles[76] that should guide **relations between Acea,** as a contracting authority **and its suppliers**: contractors and subcontractors:

- compliance with **rules and procedures**, including processes of due diligence aimed at assessing any **risks of corruption**;
- the principles of **transparency** and **protection of competition**;
- principles of **good faith, loyalty, professional propriety**;
- **promotion of ethical and sustainability** aspects, such as respect for the protection and safety conditions of workers, the quality of goods and services, respect for the environment and the pursuit of energy savings.

Suppliers issue a **declaration of acceptance and commitment to comply with the prescriptions contained in the Code of Ethics**, attached to the documents produced **for participation in tender procedures for the awarding of works, goods and services**. Any violation of the principles contained therein revealed by audits will result in the **exclusion from the tender or cancellation of the award**.

To identify its suppliers, Acea mainly uses tenders[77], adopting transparency criteria: during 2019, **81% of all procurements were entrusted through a tender procedure**, in line with 2018.
For centrally managed Group companies, on the website the Purchases and Logistics Function has published[78] **the documentation relating to purchases** regulated by the Public Procurement Code[79].
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** in the "Suppliers" area of the company website. 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.

75 Except for the Gesesa and Gori Companies, which are not centrally managed. Note that the value of the 2019 orders of the two Companies totals € 87 million (75 million Gori and 12 Gesesa), which add up to about € 1.2 billion indicated in the text.
76 The Acea Code of Ethics, updated in 2018 and approved by the Board of Directors, is shared on the company intranet with all employees and is available online at www.gruppo.acea.it, Governance section, Corporate Governance sub-section. The Code devotes particular attention to suppliers in article 15, as well as numerous other references in the text. Particular attention is paid to social protection in contexts at greatest risk: "In supply contracts with at-risk countries, defined as such by recognized 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)" (Code of Ethics, art 15.2).
77 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.
78 In compliance with what is required by the National Anti-corruption Authority (ANAC) and envisaged by the so-called "Anti-corruption Law" (Law 190/2012).
79 Legislative Decree no. 50 of 18 April 2016 and subsequent amendments and additions. Code of Public Contracts.

The Administration, Finance and Control Function **monitors the payment times of suppliers**. In 2019, for companies in the scope, the average delay of payments made was 35 days[80]. The same figure, if weighted based on the amounts, decreases to approximately 18 days[81]. This occurred for about 43% of the value of payments made during the year, while the percentage of **amounts paid on a regular basis was 57%**.

COLLABORATION BETWEEN THE PARTIES FOR THE PROTECTION OF EMPLOYMENT

Pursuant to the Memorandum on Water Tender Contracts between Acea SpA, Acea Ato 2, the Trade Unions and the Trade Federations, a number of meetings were held as part of the Joint Committee set up for the purpose. Thanks to the collaborative discussions, the critical issues regarding the safety and organization of the work of personnel of the contractor companies have been reduced, also to the benefit of traceability and transparency of information. In agreement with the Parties, in 2019 Acea renewed its commitment to **promote the employment protection of workers** employed by subcontractors involved in Acea contracts, **combating forms of undocumented work** or labour that does not comply with the applicable national collective bargaining agreements.
In the calls for tenders published in 2019 **for both water contracts** and those for the electric and water **contact centre**, the **Industrial Relations Unit** contributed to the drafting and application of the **social clause**, to safeguard employment levels in the event of a change of contract. The application of this clause has ensured the transfer of staff from the outgoing companies to the incoming companies, without repercussions in terms of employment. **The employment protection measure** is the result of a fruitful **discussion** between Acea, companies interested in changing contracts and the unions of the sector in question.

DISPUTES WITH SUPPLIERS IN 2019

Disputes[82] between the company and suppliers mainly concern litigation due to failure to pay invoices and legal action concerning tender contracts.
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: **22 in 2019** (compared to 29 in 2018). These are injunctions concerning invoices that were not paid for reasons of a formal nature and are quickly resolved by settlement proceedings. In fact, **6 cases were already settled during 2019**.
With regard to the remaining litigation relating to **procurement contracts**, which mainly concerns the registering of reserves by contractors, contract terminations and compensation for damages, in 2019 **20 legal actions** were initiated, with an increase in the number of disputes (13 in 2018). We point out, moreover, that **23 disputes were lodged for administrative reasons** (6 in the previous year) on the matter of **calls to tender**, 3 of which are already settled. As at 31 December 2019, the **total number of disputes pending with suppliers** (including disputes initiated in previous years) **amounted to 112**, an increase compared to 2018, where there with 86 disputes, although the scope of reporting was smaller. In detail, this concerns 19 appeals to the local court on the matter of awards and 70 proceedings brought before the ordinary magistrate's court mainly concerning registrations of reserves by the contractors, contract termination and compensation of damages – and 23 regarding unpaid invoices.

SUSTAINABILITY CRITERIA IN TENDERS

In 2019 the Group companies under analysis **signed over 2,800 contracts** with more than **1,400 suppliers**, an increase of approximately 27% compared to 2018 (see table no. 35).
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 certification of the UNI EN ISO 9001 quality management system. Furthermore, for **11 product categories relating to the purchase of goods or services** (out of 30 compatible product categories) **sustainability criteria applicable during the tender have been defined**. In 2019 these criteria were included in 71% of potentially eligible tenders (22 out of 31) awarded on the basis of the most competitive bid criterion. For some tenders for **water, electrical and civil engineering works** awarded on the basis of the most competitive bid, **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 area of **environment/safety/energy efficiency**.
With attention to the green criteria in procurement practices, in its tender documents Acea includes as binding parameters or rewards the regulatory references to the **Minimum Environmental Criteria** (CAM) adopted by Decree of the Ministry for the Environment, Protection of Land and Sea[83]. Specifically, in 2019 **Acea applied the CAMs** in the tenders related to: **tablets for field personnel**; **PCs for workstations and printer cartridges**, thus expanding the product categories already covered by the CAMS in the event of a tender (such as paper, office furnishings, public lighting – supply and design of LED lighting fixtures – work clothes, cleaning of buildings, maintenance of green areas, vehicles), and reaching 9 CAMs applied out of the 10 applicable to the Group's supply types. **Regarding other product categories not covered by the Ministerial Decrees**, where possible Acea considers applying the same approach as the CAM, for example after sharing with the companies most involved for **laboratory materials**.

[80] The calculation of the data is the result of the simple average of the difference between the expiry date of the bill in the system and the date of actual payment.
[81] 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.
[82] It should be noted that the 2019 data concern all the Companies in the NFS scope (including Gesesa and Gori), therefore the changes recorded have been partly influenced by this extension of the scope.
[83] From the website www.minambiente.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".

ANALYSIS OF PROCUREMENTS AND THE SUPPLY CHAIN

SCOPE OF REFERENCE

The information and data presented in the paragraph in an aggregated manner are managed centrally and concern all companies included in the scope – see *Disclosing sustainability: Methodological note* – with the exception of Gesesa and Gori, whose data, where available, are displayed in a non-aggregated manner. This guarantees full comparability with data from the previous year.

Tenders for the supply of **goods**, the performance of **services** and the completion of **works**, for the companies included in the reporting – with the exception of Gesesa and Gori[84] – were managed at a centralized level. As initially mentioned, **contracts awarded during the year** had a **comprehensive financial value** of approximately **€ 1.2 billion**[85], **23% more** than the 974 million in the previous year. The absolute values of the items goods and services increased compared to 2018, while works decreased (see table no. 34).

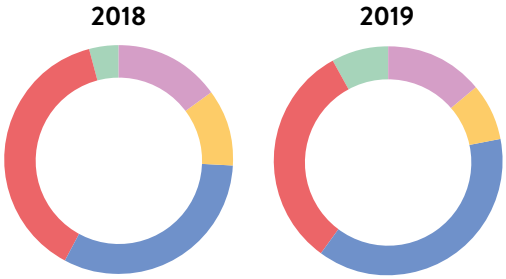
CHART NO. 29 – VALUE OF PROCUREMENT OF GOODS, SERVICES AND WORKS AND PERCENTAGE ON TOTAL (2019)

33%	€ 395 million	goods
40%	€ 483 million	services
27%	€ 323 million	works

NOTE Figures are rounded off to the nearest unit.

Analysing the procurement values for the **business macro areas** –Energy Infrastructure (generation and networks), Commercial and Trading (sales and call centres), Water (including Acea Elabori, for services provided to the sector), Environment (waste-to-energy and environmental services) and Corporate (Acea SpA) – the **largest changes** compared to the previous year were recorded for the **Water segment (+49%)**, to be correlated in particular with the increase in orders for "works", **and for Commercial and Trading (+150%)**, for "goods and services" orders. The **largest percentage of total procurements** is related to the **Water** (38%) and **Energy Infrastructure** (32%) segments (see chart no. 30 and table no. 34).

CHART NO. 30 – ORDERS (GOODS, SERVICES, WORKS) BY BUSINESS AREA (2018-2019)



2018		2019		
15%	€ 149 million	14%	€ 166 million	corporate
11%	€ 112 million	8%	€ 103 million	environment
32%	€ 307 million	38%	€ 458 million	water
38%	€ 368 million	32%	€ 380 million	energy infrastructure
4%	€ 38 million	8%	€ 94 million	commercial and trading

NOTE Figures are rounded off to the nearest unit. The **Energy Infrastructure** segment includes the companies: Areti, Acea Produzione and Ecogena. Included in **Commercial and Trading** are: Acea Energia and Acea8cento. The **Water** segment includes: Acea Ato 2, Acea Ato 5 and Acea Elabori (the latter organizationally in the Engineering and services area, was incorporated in the water segment, as in 2018 for services it carries out for the sector; the value of orders for Acea Elabori was equal in 2018 to € 14 million and about € 19 million in 2019). The **Environment** segment includes: Acea Ambiente and Aquaser. Present in the **Corporate** segment is only Acea SpA.

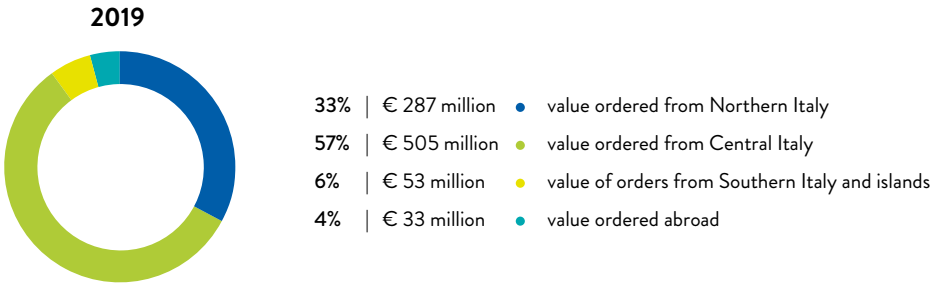
84 The data relating to the supply of the companies operating in the water sector Gori and Gesesa, managed independently by the Companies, are not present in the analysis of the aggregated data, but are reported later in the chapter.

85 The amount 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 Group Companies included in the scope of consolidation made a total of **2,843 Purchase Orders**, about 30% more than last year (2,195 Orders), involving **1,462 suppliers** (1,151 in 2018). More than 89% of Purchase Orders for goods and services were below the EU threshold. The **top ten works suppliers** accounted for more than **49%** of the total value of the contracted works, while the **top ten suppliers of goods and services** respectively accounted for around **62%** and **36%** of the related total values procured (see table no. 35).

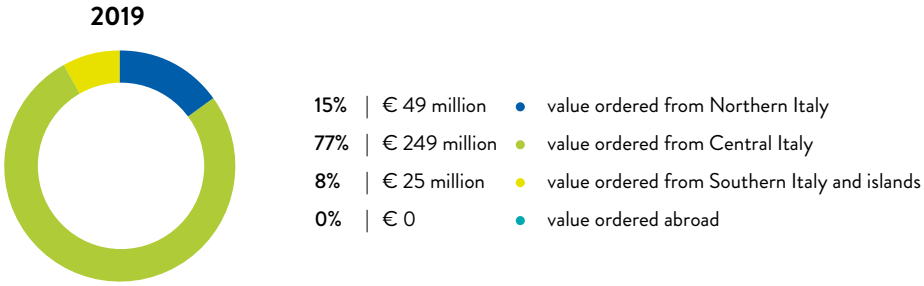
The increase in the total number of suppliers in 2019 – **more than 300 more than** 2018 – took place in a **proportionate manner geographically**, both for macro regions and focusing on Lazio. The **geographical distribution of the suppliers** was **in line with previous years**, with about **90% being concentrated in the macro areas of central and northern Italy**, and the **incidence of suppliers in Lazio remains consistent** and equal to **45% of the total** (the same figure for 2018, see table no. 35).
The most significant changes with regard to the **geographical distribution of the value of procurements among the macro-regions**, in terms of percentage of the total amounts (878 million for goods and services and 323 million for works) were recorded as **decreases for the northern area** and **increases for the central Italy area** for both the "goods and services" and works. During the year around 44% of the value of "goods and services" and **around 75% of the value of "works"** were concentrated **in Lazio** (table no. 35).

CHART NO. 31 – GEOGRAPHICAL DISTRIBUTION OF THE AMOUNTS USED FOR THE PURCHASE OF GOODS AND SERVICES IN ITALY AND ABROAD (2019)



NOTE Figures are rounded off to the nearest unit.

CHART NO. 32 – GEOGRAPHICAL DISTRIBUTION OF THE AMOUNTS OF WORKS AWARDED IN ITALY AND ABROAD (2019)



NOTE The values are rounded off (the item "foreign" in 2019 is 0).

The companies Gori and Gesesa, operating in the water sector in Campania, managed their procurements for the year independently, so the data presented here is not in aggregate form. More specifically, the **value of Gori's 2019 procurements was equal to a total of approximately € 75 million** (6 million for the procurement of goods, 66 million for services and 3 million for works), for a total of **1,068 Purchase Orders managed**. Regarding **Gesesa**, 2019 procurements totalled approximately **€ 12 million** (5 million for goods, 2 million for services and 5 million for works), up approximately 50% compared to the previous year (8 million in 2018), for a total of **756 Purchase Orders managed**. Total procurements of Gesesa involved **186 suppliers**, **more than 70%** of which concentrated **in southern Italy and the islands**, while 1% abroad, 14% in central Italy and 15% in northern Italy. This concentration, the effect of a natural proximity of operations to the local region, is also reflected in the **percentage distribution of the amounts** of goods and services and works, also focused in the southern Italy and islands area, for about 66% and about 78% respectively.

TABLE NO. 34 – PROCUREMENT NATIONWIDE (2017-2019)

	m.u.	2017	2018	2019	Δ % 2019/2018
VALUE OF CONTRACTS					
goods	million €	137	267	395	48%
services	million €	304	333	483	45%
works	million €	153	374	323	-14%
total	**million €**	**594**	**974**	**1,201**	**23%**

TABLE NO. 34 – PROCUREMENT NATIONWIDE (2017-2019) (cont.)

	m.u.	2017	2018	2019	Δ % 2019/2018
GOODS, SERVICES AND WORKS AS A PERCENTAGE OF TOTAL ORDERS					
goods	%	23	28	33	18%
services	%	51	34	40	18%
works	%	26	38	27	-29%
VALUE OF ORDERS BY BUSINESS AREA					
Energy Infrastructure	million €	169	368	380	3%
Commercial and Trading	million €	41	38	94	147%
Water	million €	136	307	458	49%
Environment	million €	110	112	103	-8%
Corporate	million €	138	149	166	11%
NUMBER OF PURCHASE ORDERS MANAGED					
POs for goods, services and works	no.	2,073	2,195	2,843	30%

NOTE All the figures in the table are rounded off to the nearest unit. The data of Gori and Gesesa are not included. Where available, they are presented in the text. Acea Elabori, organizationally part of the Engineering and services area, was incorporated in the Water area in the table, for the services it carries out for the sector.

TABLE NO. 35 – PROCUREMENT NATIONWIDE (2017-2019)

	u.m.	2017	as % of total/year	2018	as % of total/year	2019	as % of total/year
NUMBER OF SUPPLIERS OF GOODS, SERVICES AND WORKS NATIONWIDE							
suppliers north Italy	no.	356	33%	385	34%	484	33%
suppliers central Italy	no.	620	58%	657	57%	836	57%
suppliers Lazio	*no.*	*489*	*46%*	*518*	*45%*	*654*	*45%*
suppliers south Italy and islands	no.	74	7%	84	7%	110	8%
foreign suppliers	no.	19	2%	25	2%	32	2%
total suppliers	**no.**	**1,069**	**100%**	**1,151**	**100%**	**1,462**	**100%**
TOP 10 SUPPLIERS OF GOODS, SERVICES AND WORKS (amounts awarded)							
TOP 10 suppliers of goods	million €	52	38% (on total amount of goods 2017)	97	36% (on total amount of goods 2018)	244	62% (on total amount of goods 2019)
TOP 10 suppliers of services	million €	129	42% (on total amount of services 2017)	105	32% (on total amount of services 2018)	175	36% (on total amount of services 2019)
TOP 10 suppliers of works	million €	65	42% (on total amount of works 2017)	248	66% (on total amount of works 2018)	160	49% (on total amount of works 2019)
GEOGRAPHICAL BREAKDOWN OF AMOUNTS FOR GOODS AND SERVICES							
value ordered from Northern Italy	million €	213	48%	297	49%	287	33%
value ordered from Central Italy	million €	198	45%	251	42%	505	57%
value ordered from Lazio	*million €*	*160*	*36%*	*191*	*32%*	*385*	*44%*
value of orders from southern Italy and islands	million €	22	5%	39	7%	53	6%
value ordered abroad	million €	8	2%	13	2%	33	4%
total value of orders for goods and services	**million €**	**441**	**100%**	**600**	**100%**	**878**	**100%**
GEOGRAPHICAL BREAKDOWN OF AMOUNTS FOR WORKS							
value ordered from Northern Italy	million €	37	24%	78	21%	49	15%
value ordered from Central Italy	million €	99	65%	279	75%	249	77%
value ordered from Lazio	*million €*	*90*	*59%*	*120*	*32%*	*242*	*75%*
value of orders from southern Italy and islands	million €	12	8%	16	4%	25	8%
value ordered abroad	million €	5	3%	1	0%	0	0%
total ordered for works	**million €**	**153**	**100%**	**374**	**100%**	**323**	**100%**

NOTE All the figures in the table are rounded off to the nearest unit. The data of Gori and Gesesa are not included. Where available, they are presented in the text. 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 location "foreign", active in 2019 only for the item "goods and services", 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[86] and **Supplier Lists** for so-called "below threshold" or private contracts.

During the year, the product tree shared among the Group Companies included **498 product groups** and as at 31 December 2019 the responsible Unit had managed **133 qualification Lists/Systems**.

Acea provides **interested companies** with a **qualification portal**, integrated with the supplier database, **accessible from the institutional website** (www.gruppo.acea.it, Suppliers section). Companies directly submit **online qualification applications** related to the groups of goods of interest, and the designated unit examines them, **verifying that they meet the requirements and managing communications with the supplier**. In 2019 a total of **700 applications for registration in the qualification lists/systems were processed** (+8% compared to 646 applications in 2018), amounting to **564 successful applications**. Specifically:

- **311** qualification applications processed for "works" Qualification systems";
- **389** qualification applications processed for Qualification Systems/Suppliers' Lists for "goods and services".

The qualification requirements are "**standard**" – these **include requirements of a moral nature envisaged by the laws** in force in the sector – **and** "**specific**", i.e. they are designed with regard 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" qualification systems");
- **UNI EN ISO 14001 certification** (for inclusion in Qualification Systems 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 Waste Management Systems);
- **OHSAS 18001/UNI ISO 45001 certification** (for inclusion in the Qualification System for the electro-mechanical maintenance of industrial plants and cleaning services);
- **UNI EN 15838:2010 certification** (for inclusion in the "Call Centre and Back Office" Qualification System);
- **SA8000 certification** (for inclusion in the "Cleaning services" Qualification System);
- **UNI 10891 certification** (for inclusion in the "Armed surveillance service and concierge/reception" Qualification System).

For admission to the qualification systems of Community-wide significance, lastly, **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:

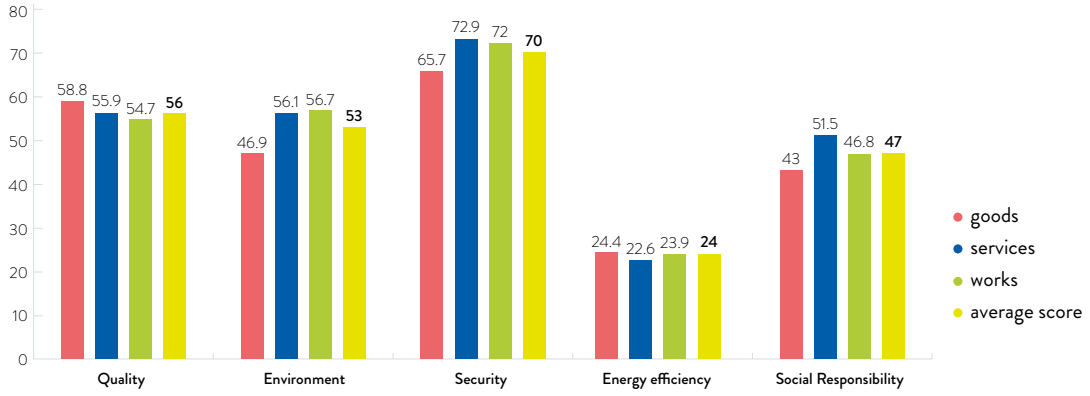
- **during the qualification phase**,
- **qualified**,
- **qualified with contract in progress**.

During the qualification phase, i.e. **in order to be able to register for the qualification systems** relating to the Single Regulations for Goods and Services and Works – which for 2019 were **100 out of 133 total registers/qualification systems** – on the Vendor Management platform suppliers must complete **a self-assessment questionnaire** differentiated for goods, services or works on the Quality, Environment, Safety, Energy and Social Responsibility management systems that are considered **important for sustainability**.
In 2019:

- **345 suppliers completed the self-assessment questionnaire** (197 for goods and services and 148 for works): **32% more** than the 261 in 2018;
- they **represent over 87% of the total number of qualified suppliers in the year** (equal to 396).

Acea **was able to process the self-assessment questionnaire data** submitted online from May 2019 (228 questionnaires) for goods, services and works, **obtaining an average supplier score**[87] (scale 0-100) **for each area evaluated** (see chart no. 33).

CHART NO. 33 – AVERAGE SCORE OF ACEA SUPPLIERS BY SCOPE OF SELF-ASSESSMENT (2019)



NOTE The data relate to 228 self-assessment questionnaires completed online.

[86] Pursuant to art. 134 of Legislative Decree no. 50/2016 as amended.
[87] The average score for each area is derived from the average of the three scores related to the analysis of the questionnaires for goods, services and works.

ACEA MONITORS A PANEL OF SUPPLIERS ON SOCIAL AND ENVIRONMENTAL ISSUES

Beyond the self-assessment questionnaires completed by suppliers during registration for the Qualification Systems, in 2019 **Purchasing and Logistics**, in synergy with the Sustainability Unit, sent a panel of **117 Group suppliers** (114 in 2018) **a questionnaire** to assess their commitment to **environmental and social issues**, which was completed by **40 companies** for environmental aspects **and 32 companies for social** aspects: 21 for goods and services and 11 for works.
With regard to **social issues**, **an analysis of the data shows** the following: **72% of the companies** that completed the questionnaire **adopt tools to promote ethical conduct and integrity**, including a Code of Ethics and the Organization, Management and Control Model pursuant to Legislative Decree no. 231/2001. With regard to **job security**, **91% of the personnel** of supplier companies **are employed with permanent contracts** and 53% of companies have trade union representatives. With regard to **health and safety at work**, **75%** of respondent suppliers **have adopted dedicated management systems**, **78% have provided safety training** to more than 50% of staff and **81% have not recorded any accidents**.
The results of the findings on environmental data, such as consistency of **energy consumption**, are described in the section ***Relations with the environment*** to which reference is made.

Once qualified, the supplier's headquarters can be subjected to a **second-party Audit on Quality Management Systems, Environment, Safety, Energy and Social Responsibility (QASER)** to verify the **actual application** of active certified Management Systems and the management methods of **other areas relevant to sustainability**.
The audits were carried out by **qualified internal auditors** of Acea SpA belonging to the **Integrated Certification Systems Unit**. The **40 audits** carried out in 2019, based on **compliance checklists** relating to requirements assessed and the brackets defined (Excellent – Very Good – Good – Fair – Sufficient – Poor – Critical – Inadequate), produced the following assessments: 2 Excellent, 9 Good, 5 Fair, 11 Sufficient; 9 Poor; 4 Critical. **Each supplier** was **sent feedback** indicating the bracket achieved and a **summary report** on strengths and areas for improvement. Where necessary, a report of the **most significant findings** was sent, with a request to indicate the causes of non-compliance and proposals for appropriate corrective actions.
The results of the audits show an **overall rating above sufficient**. The areas with the **highest level of compliance** were:

- **Safety** and **Quality**, for which **approximately 70% of the audited suppliers** received an assessment **equal to or greater than "good"**;
- The **environment**, with more than **50%** of audited suppliers rated **between good and excellent**, although in this area there is room for improvement on "waste management";
- **Social responsibility**, with over 20% of suppliers rated "good" or better (10% in 2018).

Collaboration also continued with the **TenP working group** as part of the **Global Compact Network Italy** to raise the awareness of the supply chain, including through desktop audits and supplier training on sustainability issues.

In **Areti**, the evaluation of suppliers is carried out using the **vendor rating model** for works in the energy area. The framework, which focuses on **142 quality, safety and environmental parameters**, envisages **worksite inspections**, the preparation of **merit rankings** based on the reputation of the contractors and the possibility of applying fines and suspending their activities. During the year, **27 worksites were suspended due to safety "non-conformities"**, against a **total of 1,981 inspections**. The **average reputational index** found in 2019, **equal to 98,74**, is constantly increasing (it was 98.29 in 2018), and it confirms the good level of reliability of the operators.

HEALTH AND SAFETY ALONG THE SUPPLY CHAIN: AWARENESS RAISING AND AUDITS

The Parent Company's Occupational Safety Unit has devoted particular attention to **raising the awareness of contractors on the subject of safety**, organizing **10 meetings** with the Legal Representatives, Technical Directors and Managers of the Prevention and Protection Service (RSPP) of **contractors** contracted by Acea SpA, **with the total involvement of 40 people**. During the meetings, the importance of the **prevention of accidents** was reiterated, a fundamental concept for the protection of occupational health and safety. Moreover, in July 2019 the Occupational Safety Unit organized the **Health & Safety Leadership workshop**, **with the participation of 30 people from the contractors**. It was an opportunity for discussion with which Acea wanted to highlight how the **personal commitment** of each worker in this area, applied in the performance of normal activities, **contributes decisively to evolving, strengthening and spreading the culture of safety in the workplace**. During the meeting, the film ***The Safer the Better*** was also screened, produced by the LiHS Foundation of Saipem SpA, preceded by a video message from the Managing Director of Acea SpA.
Other Group Companies also took an active part in health and safety along the supply chain, in particular: **Acea Ato 2** organized **7 meetings** during the year to raise suppliers' awareness regarding the company policy in the field of health and safety. Held at the contractors' headquarters and company headquarters, the meetings involved about **82 people**, for a total of 421 hours. In order to help the workers of the contractor companies to learn about the types of risk of the plants managed, **Acea Ato 5** is providing **safety information pamphlets in various languages**. **In 2019**, after **obtaining data on the population of foreign workers** present in the contracted companies, the contents of the brochures were defined. The Company intends to involve the staff of the same companies even more, establishing a "Safety Award" for which it has already defined the rules. **Gesesa has organized a meeting with the contractors** regarding **the assessment of the risks present on mobile sites**, with particular attention to excavation, earthmoving, working at heights and in confined spaces, and has consequently updated the risk analysis. In order to **promote a culture of prevention**, Gesesa also asked the technical managers of the contractors to inform the Works Management of all types of **near misses**.

In addition to the audits on the application of Management Systems and inspections based on the vendor rating model, illustrated in the previous paragraph, **Acea oversees safety** through a dedicated Unit. Indeed, the **Procurement Safety Unit** in Acea Elabori **manages the safety of works and services contracted out by Group**

companies (mainly Acea Ato 2, Acea Ato 5 and Areti), **ensuring compliance with the highest standards** and with regulations.[88]. To this end, it offers:

- **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[89].

Activities are distinguished into works requiring Safety Coordination during the Execution phase (Coordinators appointed as needed by the Works Director) and works with **random safety inspections**. In some contracts, the inspections are managed with computer systems to facilitate the operations of the organizational structure. Indeed, the adopted management model provides timely support for the technical and professional audits of contractors, subcontractors and self-employed workers. It **makes on-site controls more efficient**, assigning to safety inspectors **work orders to be verified based on a rating higher than a certain threshold**. It allows a Safety Coordinator to be appointed during execution or design, where required.

For the interventions carried out during the year the following people were involved:

- **19 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;
- **7 Planners**, who followed the planning and dispatching of the safety inspections to the sites of the contractors;
- **11 Technical Support resources**, who managed the technical and professional audits of the companies engaged in the contracts.

In 2019 the Procurement Safety Unit:

- carried out the activities in support **of the technical and professional audits of 360 companies** (49% of contractors and 51% of subcontractors and operated equipment rentals[90]), **about 60% more** than in 2018 (226 companies);
- activated **Safety Coordination in the Execution phase for 202 tasks** and carried out **Safety Coordination in the Design phase** for **23 tasks**;
- **carried out 12,481 on-site safety inspections**[91] (**+11%** compared to 11,270 in 2018), confirming the upward trend recorded in recent years.

Following **regulatory compliance audits on Occupational Health and Safety** carried out during more than 12,400 inspections, a **total** of **1,741 non-conformities were found**[92] (1,141 "minor", 367 "medium" and 233 "major").

The Procurement Safety Unit also contributes to the **awareness-raising of contractors on site safety**: before the start of work it meets the employers of **companies informing them of the standards adopted** and requesting the documents necessary for technical and professional inspections, and during the execution of the contract it **corrects any conduct that infringes the current regulations** and thoroughly investigates specific problems that emerge during the work. Furthermore, during the **verification** of the staff of contractor and subcontractor companies, the Contracts Safety Unit **ascertains that the Employer has provided basic training** in the field of safety and, where applicable, **specific** training.

Gesesa has independently **carried out 21 on-site audits on contractors' premises** aimed at monitoring compliance with safety regulations, to ascertain the presence of personal and collective protective devices and their correct use. During these audits, compliance with Legislative Decree no. 81/08 was evaluated in the field of prevention and protection of contract workers, verifying the presence and validity of certificates relating to the training on the basic risk of workers, supervisors and emergency personnel.

Despite the attention paid to this issue by all Group companies, **40 accidents occurred** during the year while performing activities entrusted by the Companies[93] in the scope to contractors, **up** from 33 accidents in 2018. The "severity" of the accidents themselves also increased from 439 days of absence in 2018 to 703 in 2019, however **none of the accidents had an initial prognosis greater than 40 days of absence**.

INVOLVEMENT OF SUPPLIERS ALSO IN OTHER SENSITIVE ISSUES

Some Group Companies also carry out activities for the involvement and awareness of suppliers with respect to other aspects, such as technological evolution and Group guidelines, so that there is constant alignment and adequate training of partners working on behalf of the company.

In 2019, **Areti trained the staff of its contractors** on: "Mass replacement of metering units" and "user management – tablet use for meter change". **69 people** participated in the sessions for a total of **378 hours of training** carried out with the contribution of **8 internal instructors**. Areti also organized **a meeting** with the contractors – **32 participants for 96 hours of information** – **on the Acea Sustainability Plan**, aimed at aligning suppliers to corporate guidelines and initiatives with respect to the issues of sustainability, occupational safety, enterprise risk management, contract management and technological innovations.

Finally, **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 free market, and in accordance with the Agency Mandate, it **trains those who work in the name and on behalf of Acea so that they can convey adequate information to customers** (see also the chapter on *Customers*). In 2019, Acea Energia provided a **training programme** to **911 salespersons**, for a total of **73 days** corresponding to **428 hours of training**.

88 Legislative Decree no. 81/08 "Consolidated Act on Safety", as amended.
89 Such as electrical or electromechanical maintenance work carried out on plants, meter changes, road repairs, video-inspections and sewerage pumping, etc.
90 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.
91 The number includes visits for all types of contracts, both main ones and "minor ones".
92 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.
93 The data of accidents in the supply chain includes all the Companies in the NFS scope.

PERSONNEL

ACEA'S EMPLOYEES

PERSONS WITH **permanent contract: 98%**

women ON THE ACEA **Board of Directors: 55.6%**

452 HIRES: **24%** ARE YOUNG PEOPLE **under 30 years of age**

MBO system: 50% OF **people** CHOSE INDIVIDUAL **targets** WITH AN **impact on sustainability**

In 2019 there were **5,716 people** in the workforce of the Companies in the reporting scope[94], also extended to Gori.

TABLE NO. 36 – CHANGES IN EMPLOYEES BY MACRO SEGMENT (2017-2019)

	2017	2018	2019
BUSINESS AREA	(no. of employees)	(no. of employees)	(no. of employees)
Water(*)	2,011	1,978	2,957
Energy Infrastructure	1,362	1,379	1,353
Commercial and Trading	437	443	437
Environment	288	286	304
Corporate (Acea SpA)	594	656	665
total	**4,692**	**4,742**	**5,716**

(*) The three-year data of the Water segment include Acea Elabori, organizationally in the Engineering and services area, in view of the services provided to the sector (270 people in 2017, 237 in 2018, 262 in 2019). Moreover, the 2019 areas also include 922 people from Gori.

The **Water** and **Energy Infrastructure** industrial segments have the **highest numbers**, respectively **52%** and **24% of the total**, in line with the weight of the two businesses in the Group's operations.

COMPOSITION AND TURNOVER

The **Human Resources Management Department** of Acea SpA handles the **administrative management of the personnel** employed by the subsidiaries on their behalf according to defined procedures. To this end, the Department uses computer systems (SAP HCM, SIPERT PY, Success Factor) operating at the Group level for the management of employee records, salaries, merit plans, etc.

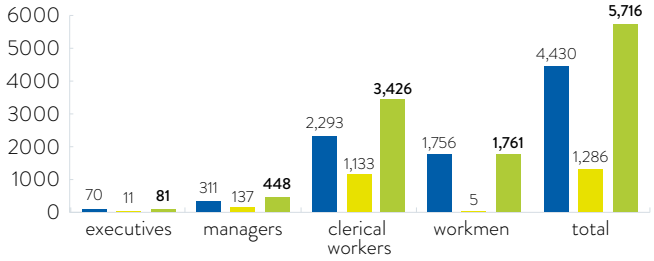
The increase in the 2019 workforce – 5,716 people compared to 4,742 in 2018 – is mainly due **to the inclusion of Gori in the reporting scope** (with 922 employees). Looking at the overall composition there is a **marked male presence, equal to 78% of the total**, an increase of two percentage points compared to the previous two years (76%). The figure reflects the presence of technical-specialistic and operating skills that to date have mainly been offered by men.

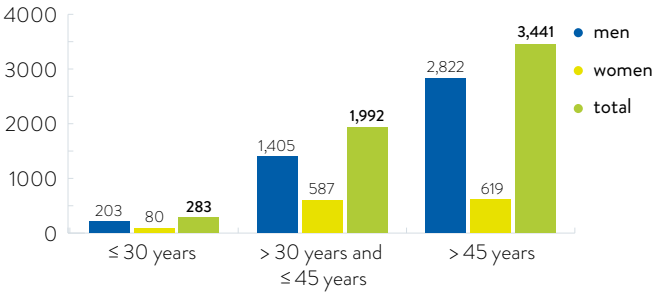
2019 **staffing levels and age structure** are in line with previous years. The **professional structure is stable** and consists of **60% office staff**, **31% workers**, **8% managers** and **1% executives**. The distribution by age groups is characterized for 60% of the workforce by people over **45 years** of age, while those belonging to younger age groups – **between 30 and 45 and under 30** – represent respectively **35%** and **5%** of the workforce.

With regard to the **level of education**, we confirm the **slight yet steady increase of university graduated, who rise to 23% of the total** (22% in 2018) and the **stability of diploma holders**, whose percentage remains around **50%** (for the above data see chart no. 34 and table no. 37).

[94] This chapter illustrates the data of the companies consolidated using the line-by-line method suitable for representing the operations of the Group (see Disclosing sustainability: methodological note): Acea SpA, Acea Ambiente, Aquaser, Acea Energia, Acea8cento, Areti, Acea Produzione, Ecogena, Acea Ato 2, Acea Ato 5, Gesesa, Acea Elabori and Gori (with the exception of the section entitled Hours worked, remuneration and pension funds, which does not include data relating to the latter Company). The total workforce, for all the Companies within the consolidation, was 7,576 during the year (6,534 in 2018).

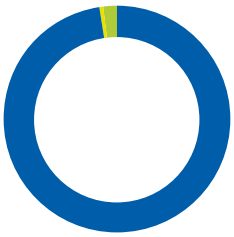
CHART NO. 34 – COMPOSITION OF THE STAFF: GENDER, AGE AND CATEGORY (2019)





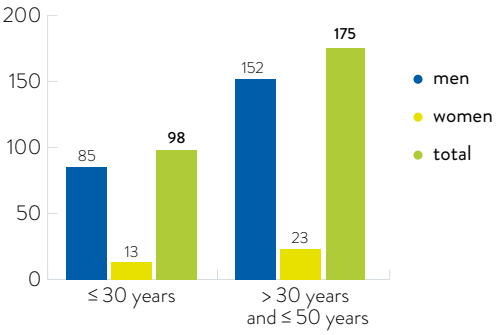
98% of the workforce – 5,583 people – are **employed with a permanent contract** (97% in 2018). The **length of the employment relationship** indicates the **stability of employment**: **64%** of the people who left during the year worked for the Group **for 30 to 50 years** and **36% up to 30 years** (see chart no. 35 and tables no. 37 and 39).

CHART NO. 35 – CONTRACT TYPES AND LENGTH OF THE EMPLOYMENT RELATIONSHIP (2019)



- **5,583** | permanent contract
- **35** | fixed-term contract
- **98** | professional training apprenticeship contract

COMPANY ORGANIZATION: **5,716 EMPLOYEES**

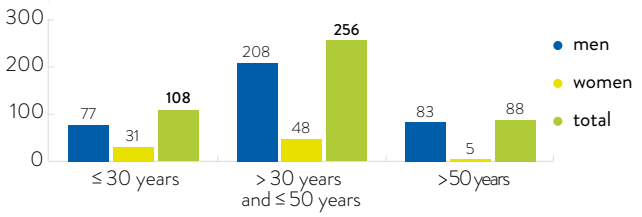


In **2019**, **452 people** (368 men and 84 women) **were hired**, 90% with a permanent contract: 245 hires from the external labour market, 106 stabilisations (of which 30 young people have completed internships in the company), 87 internalisations and 14 apprenticeships (see chart no. 36 and table no. 39).
24% of the incoming staff are 30 years old or younger.

CHART NO. 36 – TYPES OF ENTRIES AND AGE OF THE STAFF (2019)

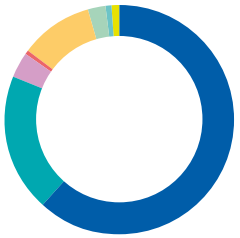
- **14** | apprenticeship
- **245** | hire
- **87** | internalisation
- **106** | stabilisation

452 INCOMING **EMPLOYEES**



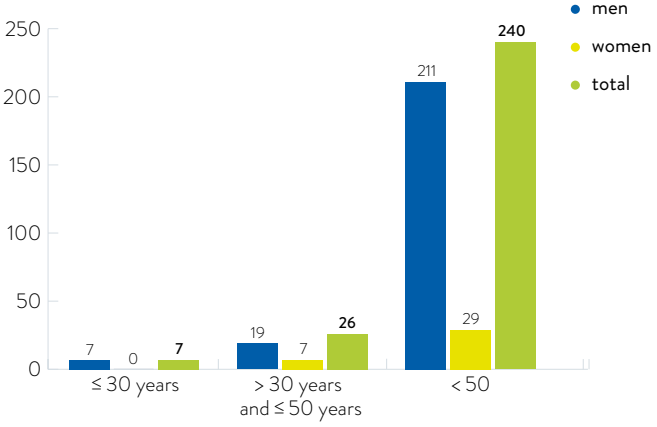
There were 273 people who left the company during the year (237 men and 36 women): 169 with a form of voluntary and incentivized early retirement, 53 as part of voluntary redundancy plans, with the agreed and incentivized termination of the employment contract, 28 resigned, 10 dismissed and another 10 for different reasons (see chart no. 37 and tables no. 39 and 40).
88% of the outgoing staff was **over 50 years of age**.

CHART NO. 37 – TYPES OF EXIT AND AGE OF THE STAFF (2019)



- **169** | layoffs
- **53** | early retirement
- **10** | dismissal
- **1** | contract expiry
- **28** | resignation
- **7** | death
- **2** | health reasons
- **3** | pension

273 EXITS



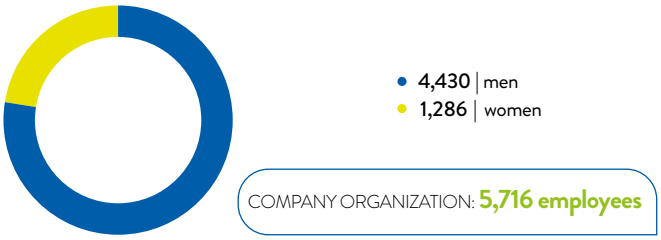
In 2019 the **rate of turnover** was **12.7%** (13.7% for men and 9.3% for women), the **incoming rate** was **7.9%** (8.3% for men and 6.5% for women) and the **outgoing rate** was **4.8%** (5.3% for men and 2.8% for women) (see table no. 38).

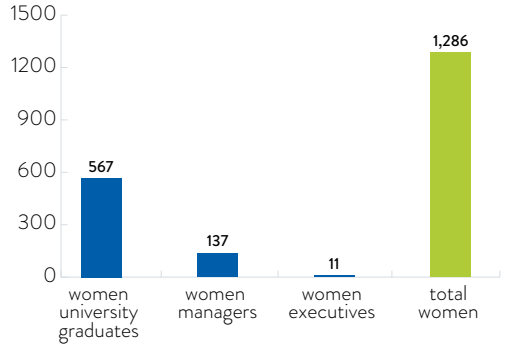
WOMEN IN ACEA

Women working in Acea increased to **1,286** (1,154 in 2018) although the proportion of women in the total workforce decreased to 22% (24% in 2018).

The share of executives in the category (11 out of 81) **decreased by about three percentage points** compared to 2018 **and is equal to 14% of the total**, while **the ratio of women among managers remained stable** (137 out of 448, equal to approximately 31%) (chart no. 38). **The percentage of graduates also decreased** (567 out of 1,286), equal to **40%** (44% in 2018).

CHART NO. 38 – THE DISTRIBUTION OF THE STAFF FROM A GENDER PERSPECTIVE (2019)

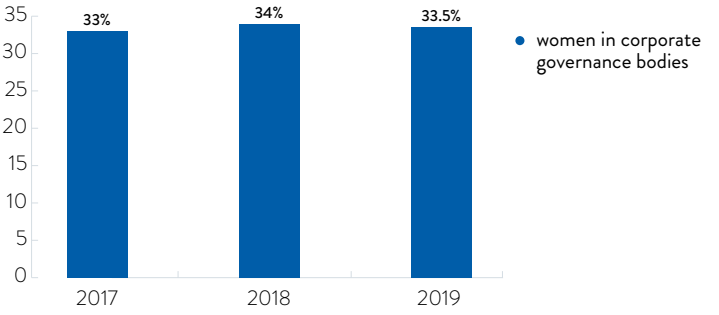




In the corporate governance of the reporting companies (Boards of Directors, Boards of Statutory Auditors and Supervisory Bodies), **52 women** are operational, **33.5% of the total** number of members (in 2018, women in the governance bodies in the same scope totalled 48, equal to 34%).

In the **Parent Company**, the percentage of **women** on the **Board of Directors is 55.6%** (5 women out of 9 members) and on the **Board of Statutory Auditors it reached 66.7%** (2 women out of 3 members), above the quotas required by law (Law no. 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. 39 – PRESENCE OF WOMEN IN THE CORPORATE GOVERNANCE BODIES (2017-2019)



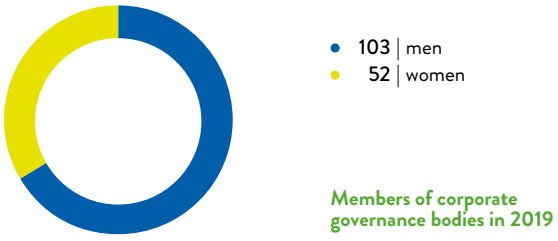


TABLE NO. 37 – GENERAL DATA ON PERSONNEL (2017-2019)

	2017			2018			2019(*)		
m.u.	men	women	**total**	men	women	**total**	men	women	**total**
COMPOSITION OF THE STAFF									
number									
executives	66	14	**80**	60	12	**72**	70	11	**81**
managers	278	123	**401**	289	127	**416**	311	137	**448**
clerical workers	1,891	993	**2,884**	1,897	1,012	**2,909**	2,293	1,133	**3,426**
workers	1,324	3	**1,327**	1,342	3	**1,345**	1,756	5	**1,761**
total	**3,559**	**1,133**	4,692	**3,588**	**1,154**	4,742	**4,430**	**1,286**	5,716
WOMEN IN ACEA									
%									
women out of the total workforce			**24**			**24**			**22**
female executives out of total executives			**18**			**17**			**14**
female managers out of total managers			**31**			**31**			**31**
female graduates out of total graduates			**45**			**44**			**43**

TABLE NO. 37 – GENERAL DATA ON PERSONNEL (2017-2019) (cont.)

			2017			2018			2019(*)
m.u.	men	women	**total**	men	women	**total**	men	women	**total**
LEVEL OF EDUCATION OF THE STAFF									
number									
university graduates	551	444	**995**	593	470	**1,063**	755	567	**1,322**
high school graduates	1,790	536	**2,326**	1,816	537	**2,353**	2,275	583	**2,858**
other qualifications	713	46	**759**	698	44	**742**	955	45	**1,000**
not defined	505	107	**612**	481	103	**584**	445	91	**536**
total	**3,559**	**1,133**	**4,692**	**3,588**	**1,154**	**4,742**	**4,430**	**1,286**	**5,716**
AVERAGE STAFF AGE									
years									
average company age	49	45	**48**	49	45	**48**	48	45	**48**
average age of executives	54	51	**54**	54	52	**54**	53	51	**53**
average age of managers	51	49	**50**	51	49	**50**	51	49	**50**
average age of clerical workers	48	44	**47**	48	45	**47**	48	44	**47**
average age of workers	48	50	**48**	48	51	**48**	48	48	**48**
AVERAGE SENIORITY OF THE STAFF									
years									
average corporate seniority	19	15	**18**	19	15	**18**	17	15	**17**
average seniority of executives	19	19	**19**	17	19	**18**	17	16	**17**
average seniority of managers	21	18	**20**	21	19	**20**	20	18	**19**
average seniority of clerical workers	20	15	**18**	20	15	**18**	18	14	**17**
average seniority of workers	17	28	**17**	17	29	**17**	15	18	**15**
TYPE OF EMPLOYMENT CONTRACT									
number									
staff with permanent contract	3,456	1,071	**4,527**	3,476	1,105	**4,581**	4,327	1,256	**5,583**
(of which) part-time staff	*27*	*99*	***126***	*25*	95	***120***	*26*	*95*	***121***
fixed-term staff	69	58	**127**	44	33	**77**	27	8	**35**
staff under apprenticeship contracts	34	4	**38**	68	16	**84**	76	22	**98**
total	**3,559**	**1,133**	**4,692**	**3,588**	**1,154**	**4,742**	**4,430**	**1,286**	**5,716**

(*) The 922 employees of Gori are also included in 2019 as the Company entered the NFS reporting scope from this year.

TABLE NO. 38 – MOVEMENTS OF PERSONNEL (2017-2019)

			2017			2018			2019
m.u.	men	women	**total**	men	women	**total**	men	women	**total**
INCOMING STAFF: CONTRACT TYPE									
number									
permanent	59	26	**85**	97	29	**126**	337	70	**407**
fixed-term	58	52	**110**	20	10	**30**	22	9	**31**
professional apprenticeship contracts	11	1	**12**	41	11	**52**	9	5	**14**
total	**128**	**79**	**207**	**158**	**50**	**208**	**368**	**84**	**452**
OUTGOING STAFF: REASONS									
layoffs	39	2	**41**	80	14	**94**	153	16	**169**
early retirement	10	2	**12**	7	0	**7**	46	7	**53**
retirement	2	0	**2**	2	1	**3**	2	1	**3**
terminations	9	0	**9**	11	2	**13**	7	3	**10**
other reasons(*)	24	9	**33**	28	13	**41**	29	9	**38**
total	**84**	**13**	**97**	**128**	**30**	**158**	**237**	**36**	**273**

TABLE NO. 38 – MOVEMENTS OF PERSONNEL (2017-2019) (cont.)

	2017			2018			2019		
m.u.	men	women	**total**	men	women	**total**	men	women	**total**
TURNOVER RATES, ENTRY AND EXIT RATES BY AGE GROUP(**)									
%									
turnover rate	5.9	8.1	**6.5**	8.0	6.9	**7.7**	13.7	9.3	**12.7**
incoming rate	3.6	6.9	**4.4**	4.4	4.3	**4.4**	8.3	6.5	**7.9**
≤ 30 years	-	-	**1.5**	-	-	**2.2**	1.7	2.4	**1.9**
> 30 years and ≤ 50 years	-	-	**2.6**	-	-	**1.9**	4.7	3.7	**4.5**
> 50 years	-	-	**0.3**	-	-	**0.3**	1.9	0.4	**1.5**
outgoing rate	2.4	1.1	**2.1**	3.6	2.6	**3.3**	5.3	2.8	**4.8**
≤ 30 years	-	-	**0.1**	-	-	**0.3**	0.2	-	**0.1**
> 30 years and ≤ 50 years	-	-	**0.5**	-	-	**0.4**	0.4	0.5	**0.5**
> 50 years	-	-	**1.5**	-	-	**2.6**	4.8	2.3	**4.2**

(*) In 2019 the item includes: 7 deaths, 28 resignations, 2 disabilities, 2 contract expiries.
(**) 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. 39 – AGE GROUPS, EMPLOYMENT CONTRACT LENGTH (2017-2019)

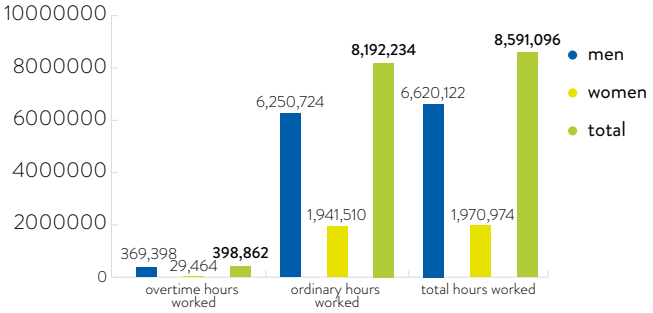
	2017			2018			2019		
number	men	women	**total**	men	women	**total**	men	women	**total**
STAFF AGE GROUPS									
≤ 25 years and ≤ 30 years	129	65	**194**	169	70	**239**	203	80	**283**
> 30 years and ≤ 50 years	1,744	724	**2,468**	1,688	704	**2,392**	2,166	789	**2,955**
> 50 years and ≤ 60 years	1,370	308	**1,678**	1,387	337	**1,724**	1,703	374	**2,077**
> 60 years	316	36	**352**	344	43	**387**	358	43	**401**
total	**3,559**	**1,133**	**4,692**	**3,588**	**1,154**	**4,742**	**4,430**	**1,286**	**5,716**
INCOMING STAFF: AGE GROUPS									
≤ 30 years	43	26	**69**	78	25	**103**	77	31	**108**
> 30 years and ≤ 50 years	74	51	**125**	67	24	**91**	208	48	**256**
> 50 years	11	2	**13**	13	1	**14**	83	5	**88**
total	**128**	**79**	**207**	**158**	**50**	**208**	**368**	**84**	**452**
OUTGOING STAFF: AGE GROUPS									
≤ 30 years	5	2	**7**	7	6	**13**	7	0	**7**
> 30 years and ≤ 50 years	18	4	**22**	14	5	**19**	19	7	**26**
> 50 years	61	7	**68**	107	19	**126**	211	29	**240**
total	**84**	**13**	**97**	**128**	**30**	**158**	**237**	**36**	**273**
DURATION OF THE EMPLOYMENT CONTRACT OF THE OUTGOING STAFF									
≤ 30 years	57	7	**64**	49	16	**55**	85	13	**98**
> 30 years and ≤ 50 years	27	6	**33**	79	14	**93**	152	23	**175**
total	**84**	**13**	**97**	**128**	**30**	**158**	**237**	**36**	**273**

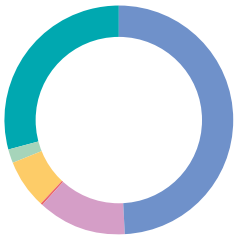
HOURS WORKED, SALARY AND PENSION FUNDS

HOURS WORKED IN ACEA

Ordinary and **overtime** hours worked during the year, excluding executives, **amounted to 8,591,096**, of which **77% were attributable to male personnel** (equal to 6,620,122 hours) due to the greater number of men in the workforce (78% of the total), **with attribution of responsibility** (69% of managers are men). Analysing the **overtime hours, the influence of gender** is even more evident: **93% of overtime is in fact attributable to men** and **only 7% to women** (see also the sub-paragraph *Remuneration*).
Days of absence totalled 81,842, an 8% decrease compared to the preceding year (89,167 days), determined, for the most part, by absences due to **illness**, **leave** (for reasons of study, health, etc.), **maternity/paternity leave and trade union reasons** (see chart no. 40 and table no. 40).

CHART NO. 40 – HOURS WORKED BY THE STAFF AND ABSENCES (2019)





- 40,248 | sick leave
- 10,396 | maternity/paternity
- 110 | strike
- 5,743 | trade union leave
- 1,692 | leave of absence
- 23,653 | miscellaneous leave (study, health, bereavement, etc.)

TOTAL ABSENCES: **81,842**

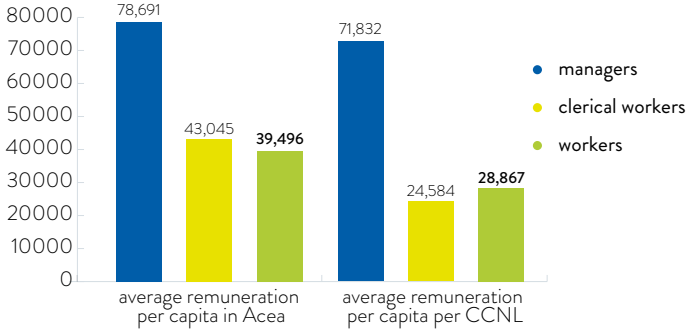
In addition to leaves, the **forms of flexibility** offered by the company include **part time**, which in 2019 involved **2% of the staff**, and an **independent schedule** for **managers** and **stage three workers**, which permits a "personalized" management of work schedules, in compliance with contractual provisions. For **employees with a "fixed schedule"**, **arrival and departure flexibility** is envisaged, and, lastly, they are the workmen have a **total number of monthly hours of leave** available to collect during the times established. Structured **teleworking** was also introduced last year **to allow a reconciliation between work and one's private life** (see also the *Diversity and inclusion* section).

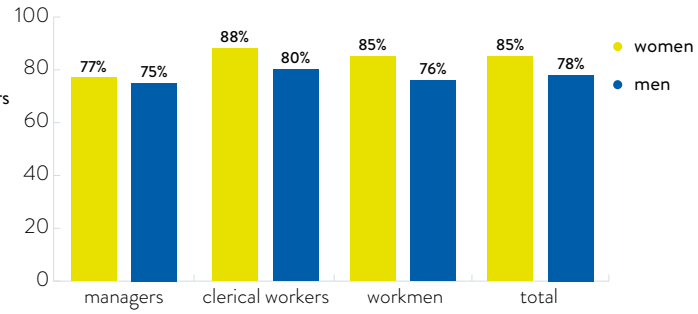
REMUNERATION

The **wages** of employees, excluding executives and top management, are determined by applying the **National Collective Bargaining Agreements** of reference. The company's **remuneration policy** applies **merit-based principles** to the fixed and variable components of the remuneration.

In 2019 the **total gross average salary per capita** was **€ 45,000** (it was 44,000 in 2018), and including the executives it rises to **€ 48,000** (it was 47,000 in 2018) (see table no. 40).

CHART NO. 41 – AVERAGE SALARIES AND RATIO BETWEEN BASE SALARY AND REMUNERATION (2019)





The ratio between the "base salary" and the gross actual remuneration is 85% for women and 78% for men. Indeed, the **activities with the highest additional remuneration** (on-call, shifts, allowances, overtime, etc.) **are mainly performed by male staff** (for example the work of emergency services technicians who rotate in 24-hour shifts).

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 managers.

The pension funds of reference for Acea staff are: **Previndal**, reserved for executives, and **Pegaso** (managed jointly by Utilitalia and Trade Union Organizations) for non-management staff, to whom the national collective bargaining agreements of the electrical and gas-water segments apply.

In 2019 for the first time the **Pegaso Fund** adopted a Strategic Plan 2019-2021 that illustrates the **organization's management guidelines, including instruments for measuring ESG factors** (environmental, social and governance).

The number of Acea employees participating in the Pegaso Fund during the year **was 2,818**, with an **increase of 11%** compared to 2018, mainly due **to the activation of the Group's Welfare Plan**. By analysing the distribution by gender of the members, **76% are men** and **24% are women** (see table no. 40). The company paid approx. € 5.4 million of TFR (Severance Pay) and € 1.9 million of supplemental contribution to the Fund. The economic value committed by Acea for TFR and other defined benefit plans is € 104.6 million.

The **collaboration between Acea and the Fund** has been evolving over time, and in 2019 produced a **publication on the supplementary pension** "AtuperTu" and a **website dedicated to Group employees**.

PERFORMANCE OF THE PEGASO FUND RELATIVE TO ACEA EMPLOYEES

Overall, since 1999 the employees of the Acea Group have paid **€ 107.1 million** into the Pegaso Fund, of which **€ 9.6 million in 2019**.

During the year, the positions of the members exceeded the value of **€ 99 million** from collections over time of almost **€ 41 million**. These positions are invested in the Balanced segment for 84.7% of the total amount, in the Dynamic segment for 6.6% and in the Guaranteed segment for 8.8%.

In the first 20 years of the Pegaso Fund, **3,306 disbursements** (redemptions, pension benefits, advances and transfers) were paid to Acea employees, specifically: 2,092 requests for advances, 86 transfers and 1,128 requests for pension benefits.

NOTE The data and information related to the Pegaso Fund are prepared with the cooperation of the Director General of the Fund.

TABLE NO. 40 – HOURS WORKED, ABSENCES, REMUNERATION AND MEMBERS OF THE SUPPLEMENTAL PENSION FUND (2017-2019)

	2017			2018			2019		
m.u.	men	women	**total**	men	women	**total**	men	women	**total**
HOURS WORKED BY THE STAFF									
hours									
regular	5,508,719	1,582,147	**7,090,866**	5,669,239	1,684,926	**6,031,404**	6,250,724	1,941,510	**8,192,234**
overtime	405,150	25,706	**430,856**	362,165	27,004	**389,169**	369,398	29,464	**398,862**
total hours worked	**5,913,869**	**1,607,853**	**7,521,722**	**6,031,404**	**1,711,930**	**7,743,334**	**6,620,122**	**1,970,974**	**8,591,096**
TYPE OF ABSENCES									
days									
sick leave	29,181	10,302	**39,483**	28,584	12,144	**40,728**	29,279	10,969	**40,248**
maternity/paternity	1,148	11,939	**13,087**	1,159	10,302	**11,461**	1,118	9,278	**10,396**
strike	777	132	**909**	606	138	**744**	82	28	**110**
trade union leave	7,069	1,051	**8,120**	8,076	1,068	**9,144**	5,159	584	**5,743**
leave of absence	1,706	1,145	**2,851**	1,288	1,127	**2,415**	1,313	379	**1,692**
miscellaneous leave (study, health, bereavement and general reasons)	15,035	8,485	**23,520**	15,786	8,889	**24,675**	15,631	8,022	**23,653**
total absent (excluding holidays and accidents)	**54,916**	**33,054**	**87,970**	**55,499**	**33,669**	**89,167**	**52,582**	**29,260**	**81,842**
GROSS AVERAGE COMPENSATION BY ROLE									
€									
managers			75,481			77,061			**78,691**
clerical workers			41,633			42,349			**43,045**
workers			38,466			38,840			**39,496**
AGE GROUPS AND GENDER OF THE EMPLOYEES ENROLLED IN THE PEGASO FUND									
number									
≤ 25 years	10	1	**11**	16	0	**16**	20	0	**20**
> 25 years and ≤ 30 years	27	10	**37**	38	18	**56**	65	26	**91**
> 30 years and ≤ 35 years	96	29	**125**	101	40	**141**	126	66	**192**
> 35 years and ≤ 40 years	156	62	**218**	169	69	**238**	186	88	**274**
> 40 years and ≤ 45 years	217	60	**277**	228	64	**292**	249	78	**327**
> 45 years and ≤ 50 years	374	130	**504**	349	112	**461**	320	105	**425**
> 50 years and ≤ 55 years	452	101	**553**	459	112	**571**	469	136	**605**
> 55 years and ≤ 60 years	377	110	**487**	386	112	**498**	423	119	**542**
> 60 years	206	29	**235**	227	40	**267**	293	49	**342**
total	**1,915**	**532**	**2,447**	**1,973**	**567**	**2,540**	**2,151**	**667**	**2,818**

INDUSTRIAL RELATIONS

70% OF EMPLOYEES ARE MEMBERS OF A **union**

ISOPENSIONE: **Innovative** SOCIAL SECURITY **agreement** SIGNED FOR THE MANAGEMENT OF **generational turnover**

Acea launches the My Welfare PLATFORM WITH PERSONAL AND FAMILY SERVICES

+ 11% SUBSCRIPTIONS TO THE **Pegaso** PENSION FUND

The **Industrial Relations Unit** of the Holding (Human Resources Management Function) **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 **Industrial Relations Model** applied in Acea, renewed last year,

defines a **system of high-profile trade union relations** based on **bilateral agreements and participation**, combining **business objectives and social demands**.
In 2019 **an Industrial Relations Protocol** was **signed** that structures the system of union participation and dialogue on three levels – Group, industrial segment and corporate – and defines **some areas of discussion** for each level: *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, organization of working hours, technical and specialized training and professional development*.
For the main agreements signed during the year, see the dedicated boxes.
In line with the inclusive logic of the Model, during the year Acea defined a **procedure for consulting workers**, directly or through their representatives, on central issues such as **safety at work, respect for the environment and the sustainable development of production**. In addition, in order to encourage the **involvement of employees** in union relations, an **email address** was made available in 2018 with which, for example, it is possible to request further information on the agreements reached or provide feedback on the quality of company initiatives.
Bilateral Commissions are also operational (composed of representatives of the company, workers and the CRA) **and express their opinions on the main agreements** reached.
The company promotes the **participation** of **Trade Union Organisations** in the election of **Unitary Trade Union Representations** (RSU) and **Workers for Safety and the Environment** (RLSA).
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 2019, **unionisation was 70%**. There are **310** employees who hold **management** or **trade union representation positions**; of these, **19 hold positions** of **Workers' Safety Representatives** (RLS), designated following an agreement.

THE GROUP AGREEMENT ON SOCIAL SECURITY: ISOPENSIONE

In 2019, in line with the commitments made in last year's Group Framework Agreement, Acea entered into **an innovative social security agreement** with the Trade Unions for the **management of generational turnover**, the so-called "**isopensione**". The pension accompaniment measure is provided by INPS, with **the company's contribution, and is aimed at managers, office staff and workers** who meet the requirements for retirement or early retirement pensions in the four years following the termination of the employment relationship (i.e. from 1 January 2020 to 30 November 2024, with the date of termination of the employment relationship by 30 November 2020). The possibility of receiving the isopensione in 2020, established at a Group level, may concern **140** people, with an order of priority linked to **health** conditions, **proximity to retirement** and **professional category** (managers and office staff).

In July 2019, **thanks to the collaboration of the Bilateral Commission** attended by all trade unions, the Company Recreational Club (CRA) and the representatives of the Group companies, a Trade Union Agreement was signed that **allowed the launch of the Group Welfare Plan** (see dedicated box). Finally, also in 2019 discussions were carried out between the parties under the **Protocol on Water Contracts** (see the *Suppliers* chapter).

THE GROUP WELFARE PLAN

The **Welfare Plan**, aimed at increasing the personal, work and family well-being of employees, was **designed based on the identification of their needs**, carried out through **a survey**, which had a response of about 30%.
The Plan offers **services to individuals and families** (travel, transportation and health insurance, supplementary pension, etc.), accessible from the **My Welfare platform**. In the first six months of activation, **2,767 people benefited from at least one welfare service provided by the platform**, choosing from initiatives relating to: family (47.9%), supplementary pension (24.7%), travel and holidays (8.8%), health insurance (4.9%), mobility and transport (4.9%), etc.
The Plan also provides for the **opportunity to convert the gross amount of the performance bonus into welfare services**, thus increasing people's purchasing power: **833** employees, **equal to 18.4%** of those entitled, **chose this opportunity**. **52% used the services offered**, with a preference for those intended **for the family (24%)**, and **48%** paid the sum to their **supplementary pension**. **Acea** paid an **additional percentage**, ranging **from 12% to 16%**, to those who chose to allocate the performance bonus to their **supplementary pension**, and an additional share (between € 10 and € 40) to those who allocated the amount to the Pegaso Fund.
To promote the Plan and welfare initiatives, numerous **information meetings** were held for employees, and 250 dedicated Ambassadors were trained.
Acea has redeployed part of the tax relief enjoyed thanks to the Welfare Plan **for the benefit of employees**, both with the additional disbursements mentioned above, and by offering **health services and preventive check-ups** (endocrinological, dermatological, etc.), extended also to family members (see also the section on *Protection of health and safety at work*), the renewal of the **dental agreement** with the addition of new services, and for employees enrolled in the health insurance fund the activation of **Long Term Care insurance** that protects people in the event of loss of self-sufficiency.

As regards the **information notice to the employees regarding possible organizational changes or corporate reorganizations that effect employment relations**, Acea takes different positions depending on the situations explained below:

- **organizational changes**: In the event of establishment of new Units or changes in assignments or responsibilities, the Human Resources Management Department issues an Organizational Provision, sends a communication to the competent functions, which post it on the bulletin board and the company intranet. In the event of organizational changes that affect the staff, the trade union representatives are informed. If they concern a single employee (change in workplace, schedules, etc.), they are notified by the Human Resources Management Unit of the person's Company;
- **Corporate reorganizations**: in the event of organization, as a result of significant organizational 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;
- **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[95] which anticipates obligation that allows them to verify the business reasons for the operations, the correct methods of the process and the consequences on the employment relations.

[95] Art. 2112 Italian Civil Code and art. 47 Law 428/90 as amended.

DISPUTES WITH EMPLOYEES AND TRADE UNIONS

The labour disputes in Acea mainly concern **dismissals**, **classification changes**, **differences in remuneration**, **indemnities not received**, **demotions, harassment and employment relationships**.
In 2019, there were **23 new labour cases** (15 in 2018), most of which were **initiated by employees of the Companies**. The total number of disputes still pending – including those initiated in previous years – amounts to 97 cases.
During the year, other 30 rulings were issued, 2 of them initiated during the same year.

OCCUPATIONAL HEALTH AND SAFETY

Prevent with Acea: 2 DAYS OF HEALTH PREVENTION AND **free examinations** FOR EMPLOYEES (ABOUT **230** MAMMOGRAMS, ULTRASOUND, THYROID SCREENING, ETC.)

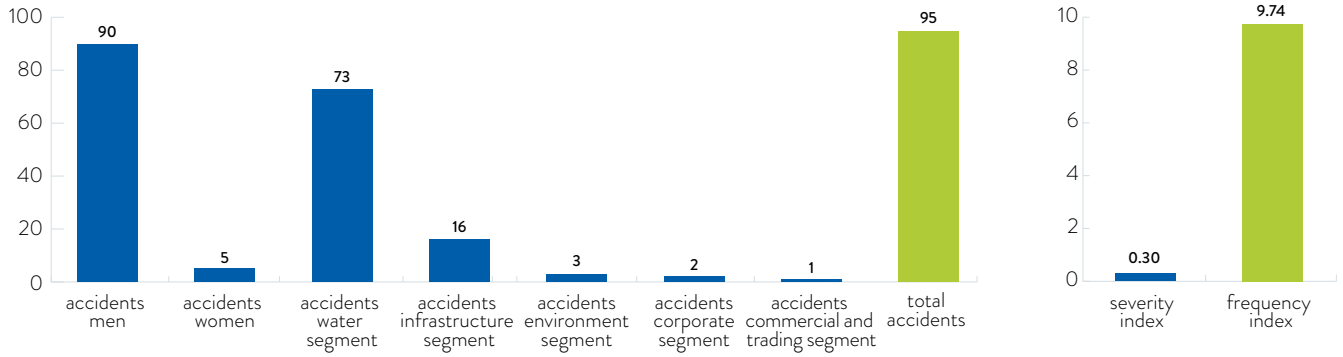
Acea Group SiCura di Te: THE AWARENESS-RAISING EVENT INVOLVES **1,200 people**

Areti Training Camp, HEALTH AND SAFETY TRAINING: **815 people** INVOLVED AND **9,133 hours** OF TRAINING PROVIDED

Safe driving: 175 EMPLOYEES **trained**

Acea is committed to a **widespread safety culture** both in the company, through the direct involvement of employees, and along the supply chain (see the *Suppliers* chapter). Safety management in the Group is structured at an organizational level and most of the Companies have implemented **Certified Management Systems** (see also *Corporate Identity*, *Corporate Governance and Management Systems* chapter).
The **Occupational Safety Unit of the parent company is in charge of the coordination and direction in this area**, monitoring the companies on the application of legislation, guidelines and company policies. **Each Group Company has direct responsibility for the operational management of safety** and takes care of **training the personnel, monitoring accidents** and assessing **the risks to the workers**, preparing the **Risk Assessment Document** (RAD). Following these activities, the **Occupational Safety Unit prepares a centralized 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 7249/95**, with reference to the INAIL measurement criteria and the instructions of ESAW (European Statistics of Accidents at Work).
During the year, consultation meetings were held with the **Workers' Safety Representatives** (RLS), guaranteeing the involvement of the workforce as envisaged by art. 35 of Legislative Decree no. 81/08, and quarterly meetings were held of the **Group's RSPP Coordination Committee (Head of the Prevention and Protection Service)**, also to share the results of the safety performance analyses along with experiences and good practices.
In 2019 there were **95 accidents during work and 32 in transit**, i.e. while commuting between home and work. The **days of absence** for accidents occurring during work were **2,884**, the **frequency index** was equal to **9.74** and the **severity index** was **0.30** (see chart no. 42 and table no. 41). It should be noted that the **increase in the data** compared to 2018 **is due to the inclusion of Gori in the scope** (see table no. 41). Aware of the critical issues, **Gori is launching initiatives aimed at preventing and reducing accidents**, including awareness raising meetings, training and safety workshops for staff.

CHART NO. 42 – ACCIDENTS AND INDICES (2019)



NOTE Male frequency index **12.19** and female frequency index **2.11**, male gravity index **0.36** and female gravity index **0.10**. Excluding data relating to the company Gori, the indices would be: male frequency 9.41 and female frequency 2.48, male severity 0.30 and female severity 0.12.

By observing **the distribution of accidents from a gender perspective** (net of those during commuting) it emerges that **90 accidents**, **equal to 95%** of the total, **involved male staff**, while women **were involved in 5 accidents**.
The Companies with the highest number of accidents are: Acea Ato 2 (32 accidents), Gori (31 accidents) and Areti (16 accidents), which naturally have **greater exposure to the risk** of accidents in relation to the type of activity performed.
During the year, Acea developed tools aimed at improving the operational management of occupational safety, including the **HSE dashboard** (Health, Safety, Environmental) to measure and monitor the performance data underlying the improvement measures, and the new **Group Safety Guidelines** drawn up also taking into account the findings of the meetings with the Group's RSPPs.

Among the **initiatives intended for employees**, in 2019 the awareness campaign **The Acea Group SiCura di Te** for **the prevention of accidents** (see the box for details) is worthy of note.

THE ACEA GROUP SICURA DI TE

The awareness campaign **The Acea Group SiCura di Te** was carried out in collaboration with the **Saipem LHS Foundation** (Leadership in Health and Safety) and planned **workshops dedicated to the Group's top management** during which company **vision and commitments on safety at work were defined.**
In addition, using an innovative approach with moments of high emotional impact, the **Safety leaders** of the Group were trained so that they could convey the value of safety to all the people of the company via cascading.
The campaign involved a total of **31 managers**, **206 safety specialists** and **84 Ambassadors and included 174 cascading sessions**.
The initiative had a high **rate of participation, equal to 90% of the employees invited**.

The Parent Company's **Occupational Safety Unit** has the task of also overseeing aspects related to **organizational well-being**, promoting healthy work environments and **mitigating work-related stress**. For this purpose, in 2019 **monitoring** was activated **to assist and listen to employees** in conditions of personal and/or work hardship. Acea also launched the **Prevent with Acea** initiative with the contribution of the non-profit association **Susan G. Komen Italia** and the medical staff of the **Fondazione Policlinico Universitario Gemelli** in Rome, organizing **two days of prevention for employees, who benefited from about 230 free examinations** (mammograms and ultrasound, gynaecological, thyroid and dermatological screening), and a **conference** aimed at providing basic guidance on health and correct lifestyles.

The Group Companies train the workers and supervisory staff **regarding occupational health and safety** in compliance with current legislation (see also below *Staff training and development*). Below are some initiatives carried out during the year:

- **Acea SpA** provided a **training course on safe driving** mainly for dispatched personnel, which in 2019 involved **175 employees**, aimed at teaching proper driving behaviour in different settings;
- **Acea Ambiente** joined the **Acea Cardio-protected Company project** launched in 2018, equipping operating sites with defibrillators and training staff in the use of the life-saving device;
- **Acea Ato 2** held **meetings between top management and operating staff** aimed at increasing employees' awareness **of safety at work**. It installed "**safety boards**" at operating locations to share information and data with employees, and thanks to a collaboration with a **young Italian start-up called StartSmart** it experimented with training in **confined spaces in virtual mode** to allow operators to practice safely by simulating scenarios and activities typical of an intervention in closed environments directly in the classroom;
- **Acea Ato 5** provided courses on the **planning, control and placement of road signs** for works carried out in the presence of vehicular traffic, on the management of work in **confined environments, with suspected pollution** and **at risk of exposure to vibration and noise**. In 2019, a total of **3,500 hours of safety information and training** were carried out, for a total of about **600 resources involved**;
- in **Areti** the **Training Camp** continues to be operational, a **space dedicated** to **training on health and safety at work**, even for new hires (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.). The space is made available to the operating staff of Areti and the other companies of the Group, and, upon request, to external companies/entities. In 2019 a total of **9,113 hours of training took place**, involving **815 people**;
- **Acea Elabori trained personnel performing technical, professional and engineering activities in general** (CSP/CSE safety coordinators, safety inspectors, etc.) on **electrical risk**, with particular attention to the execution of works on electrical systems;
- **Aquaser** continued to **train drivers**, with the aim of making them more aware of company procedures and safety, in particular with respect to **road** safety;
- **Gori** held the **workshop "Leadership in Safety"** to promote a culture of safety in the company at all levels, and with a view to prevention entered into an agreement with a specialized company to submit **free check-ups to employees over 40 years** of age;
- **Gesesa** developed the **basic training course for the first aid specialists** and the **fire prevention specialists**.

TABLE NO. 41 – HEALTH AND SAFETY (2017-2019)

number	2017	2018	2019(*)
INJURY DISTRIBUTION BY INDUSTRIAL AREA AND GEOGRAPHICAL AREA			
Water segment (Lazio and Campania)	54	44	73
Energy infrastructure segment (Lazio)	23	15	16
Commercial and Trading segment (Lazio)	2	0	1

TABLE NO. 41 – HEALTH AND SAFETY (2017-2019) (cont.)

number	2017	2018	2019(*)
Environment segment (Lazio, Umbria and Tuscany)	5	5	3
Corporate segment (Lazio)	3	1	2
total	**87**	**65**	**95**
ACCIDENT INDICES			
Total days of absence	3,463	2,453	2,884
Frequency index (FI) (number of accidents per 1,000,000/working hours)	**10.87**	**8.02**	**9.74**
Severity index (SI) (days of absence per 1,000/working hours)	**0.43**	**0.30**	**0.30**

(*) The 2019 scope also includes Gori, not present in the 2017 and 2018 scopes. The Company recorded 31 accidents in 2019. The 2019 data on accidents net of Gori would have been as follows: **64 work-related accidents**, 42 accidents in the Water segment, FI equal to 7.73 and SI equal to 0.26.

NOTE The Water segment includes 5 Companies, the Energy Infrastructure segment 3, the Commercial and Trading segment 2, the Environment segment 2 and the Corporate segment 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 **physicians** subject employees to **pre-employment visits**; **preventive** or when changing jobs; **periodic**, according to the Risk Assessment Plan; **at the request of the worker**; in the event of termination of employment, where required by current legislation; **before resuming work** following an absence due to ill health lasting more than 60 consecutive days. Workers **exposed to specific risks** are included in a **targeted check-up programme**. **Company physicians work with employers** and **officers from the Risk Protection and Prevention Service (RSPP)**, in **Assessing the risks** to which employees are exposed, which is **necessary for the preparation of the health monitoring plan**.

At the head office, a **First Aid office** ensures that staff and visitors have a first line of intervention in case of an illness that does not require an immediate hospital visit.

In 2019, **2,633 visits** were carried out, for a total financial value of € 274,000 (including the share relating to the company's first aid service).

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, monitoring any damage to workers' health, issuing suitability assessments, and applying limitations and prescriptions, where necessary, in order to prevent possible occupational diseases. In 2019, in Acea, **there were no reports of suspected occupational diseases**.

HUMAN CAPITAL DEVELOPMENT AND COMMUNICATIONS

Acea places people at the centre of the Group's processes and provides them with the **tools and skills** necessary to respond effectively to corporate challenges, through:

- involving them in the Group's culture and identity;
- improvement and development of skills;
- inclusion and organizational well-being.

PERSONNEL SELECTION

The **selection** process is regulated by **a Group procedure**, **updated in 2019**, which governs the search for skills in the labour market. During the year the **recruiting network was strengthened**, with increasing use of social channels, and **109 personnel searches** were published in the Careers section of the institutional website.

The selection process can include **several stages**: CV screening, online challenge 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.

The search for staff for Acea Energia, Acea Ambiente and Gori involved the organization of four **R-DAYs** involving approximately **320 candidates** (see the box for details). During the year, Acea also participated in **professional orientation events** promoted by university bodies, including Career Day, Job Meeting and Placement days, to meet new graduates to be hired in professional positions.

ACEA RECRUITING DAYS (R-DAY)

Recruiting Days **(R-DAYs)** are the **final days of the selection processes** initiated by Acea, which are conducted with innovative tools and methods. For example, there are plans to use a **virtual reality** application that can reproduce the characteristics of the Group's businesses. During these initiatives, candidates try **group tests** at the end of which Acea HR, supported by technical line representatives, assess the results and proceed with the **individual interviews** to better understand the **motivations** of the candidates and evaluate their **skills with respect to the specific position**. Structured in this way, the initiative makes it possible to select the best profiles among the candidates.

GROUP CULTURE AND STAFF ENGAGEMENT

The expression of the **Group's identity** is defined by the **Leadership Model**, which represents the company's values – **initiative, teamwork and action** – and identifies the measurable and observable conduct of people relevant for the achievement of strategic objectives and **assessed by the bonus and remuneration systems**. The three value drivers just mentioned guide people through the main stages of their career in the company: **mentioned, welcoming, training, rewards and development**.

At a more operational level, the **Execution Model** is focused on the **active participation** of employees and represents an organizational framework for the **continuous improvement of company processes and the achievement of strategic objectives**. In 2019, in order to contextualize the model with respect to the working reality, **three new drivers were introduced** – **proximity, specialisation and speed** – and **10 intra-group action teams were established** to develop **improvement actions with an impact on business, business processes and customer satisfaction**. This project was also made synergistic with management and project management training courses, generating further improvement inputs.

Other **employee engagement initiatives** aimed at increasing the sense of belonging to the Group and identifying its values include:

- "***Sustainability innovators, the challenge***", a **collection of new sustainable ideas proposed by employees** on company businesses, integrated into the internal entrepreneurship programme called *Innovation Garage*;
- "***Pre-boarding***" for the welcoming of new hires, who are provided with a multimedia presentation of the Group's business, values and working methods;
- "***#semprepiuvicini***", a teaser game accompanying the launch of the Acea Welfare Electricity and Gas offer for employees;
- "***Feedback Week***", aimed at promoting feedback as a tool for continuous improvement of people and activities, dissemination of the culture of dialogue and shared responsibility and development of generative leadership.

STAFF TRAINING AND DEVELOPMENT

126,607 hours OF **training provided** IN TRADITIONAL, EXPERIENTIAL AND E-LEARNING FORM

Managerial Academy: 185 people INVOLVED IN THE **2** ELIOS AND AURORA **programmes**

Trade School TO TEACH KNOW-HOW: **60 critical skills** MAPPED AND **72 trade masters trained**

IdeAzione – GIOVANI CORRENTI INNOV@TIVE: A WORK-STUDY PROJECT INVOLVING **360 high school students**

In Acea training **combines the needs of corporate growth with the objective of the professional development** of people. The activity is governed by a **Group procedure** that defines **roles, responsibilities and tasks in the management of training processes** aimed at the development of expertise, knowledge and professional skills necessary to act in company positions.

The process involves:

- the **identification of strategic training needs**, on cross-cutting issues, and **specific training needs** related to individual activities, with an indication of the **objectives and expected results**;
- the identification of **objective assessment parameters** and **criteria for measuring the effectiveness of the training**;
- the drafting of the Group's **Annual Training Plan**, managed by the Parent Company's Training Unit, and the **annual Training Plans** of Group companies;
- **the design, presentation and assessment of training courses**.

The Holding company **establishes guidelines and operating tools** for the identification of needs and **centrally manages** the various types of training: **managerial**, relating to the development of management skills and techniques as well as leadership; **technical-operational of interest to the Group**, for the acquisition and updating of specific skills, in particular **digital**; on the **governance model**, relating to in-depth legislative studies and company instructions relating to the various business areas.

Each **operating Company independently manages its technical and operational training**, aimed at acquiring specific skills for the business of reference, in the **field of safety** and that of **governance** related to its own field of action.

Acea has access to **funded training through membership in inter-professional organizations** for ongoing education – Forte Fund (National Inter-professional Joint Fund for Ongoing Education in the Tertiary Sector), Fondirigenti and Fondimpresa – that the main Group companies belong to.

In consideration of the excellent results achieved, in **2019** the **Managerial Academy** continued its work, offering a **training programme of managerial excellence in collaboration with Ama and Atac Rome** and with **the scientific partnership of the Luiss Business School**. The Academy adopts an **innovative approach to integrated training** that uses a **mix of channels**, each with a specific function: pre-work through an **e-learning** platform, classroom training offering an **experience-based** method and a **mobile app** for further analysis of the topics addressed during the training course. In addition, in order to make the most of the Group's know-how, Acea organized **The Trade School** (see the dedicated boxes).

THE MANAGERIAL ACADEMY: 185 PEOPLE INVOLVED

The Managerial Academy offers two courses of study: **Elios**, dedicated to **senior managers**, and **Aurora**, for **people engaged in professional development**.
In 2019 the **Elios programme** involved **116 people** (executives, managers and office staff), providing **10 training sessions** for a total of **720 hours of training**. The programme was characterized by an integrated training approach, and participants were able to use a **peer coaching** technique, a tool for professional self-development that involves working in pairs and fosters the exchange of experiences between participants.
The **Aurora programme** involved **69 employees**, providing **3 training sessions** for a total of **144 hours** of training.
Both courses were **supplemented by a follow-up to strengthen skills**: a training plan for participants in the Elios programme, and project ideas implemented as part of the Execution Model for participants in the Aurora programme.

THE TRADE SCHOOL: 72 TRADE INSTRUCTORS AND 521 COURSE PARTICIPANTS

The Trade School **expands the Group's technical and operational know-how** through knowledge transmission managed entirely by company professionals.
The programmes envisage the mapping of **critical skills** – skills of particular value possessed by few resources or by outgoing people – and the identification of the relevant **Trade Instructors**, who are entrusted with the task of **transferring** their specialized knowledge.
In 2019 **60 critical skills** were mapped with the involvement of **7 Group Companies** (Acea Ato2, Acea Ato 5, Areti, Acea Produzione, Acea Elabori, Aquaser and Acea Spa), **72 Trade Instructors were trained** and **3,879 hours of classroom training** provided to **521 participants**, with a training effectiveness of 95.9%, assessed through the administration of final knowledge questionnaires.
To support classroom training the courses started with e-learning (**video tutorial**), available to all employees on the Pianetacea platform, with a view to sharing the **Group's technical and operational knowledge assets**.

Acea launched the **Digital Academy** project to disseminate key digital skills (Digital DNA) throughout the Group. Following a **skills survey**, a **pilot training course involving 27 people** was organized.
Finally, courses on **Procurement Regulation** and **Green Public Procurement (GPP)** were organized, respectively involving **67** and **36** employees of the Group. The **GPP** training, provided in collaboration with the **Ecosistemi Foundation**, covered green purchasing with a focus on circular economy and green economy, and the **Minimum Environmental Criteria** made mandatory by article 34 of the Public Procurement Code.

During the year, training on the **governance model** (compliance, anti-corruption, antitrust, privacy, etc.) was provided to the **entire corporate population** via **e-learning** – with **classroom** sessions for the Group's **Risk & Compliance Bodies**, established in 2019 – and on the Financial Information System (Law 262/05), the Administrative Responsibility of Bodies (Legislative Decree 231/01), Unfair Business Practices, Antitrust Law, GDPR (Privacy) and QASE Management Systems.

The Group companies also carried out training independently. The main examples are as follows:

- at the Peschiera Aqueduct and the Purifier in North Rome **Acea Ato 2** organized a **course dedicated to the knowledge of the water business** for the staff employed in the Sales Unit. Furthermore, the Company joined the training initiative for the creation of the **position of Green Manager**, promoted by the Lazio Region as part of the Plastic Free project;
- for the free market service, **Acea8cento** provided training on commercial inbound, welfare tariff for employees and the Pedius service reserved for users with hearing impairment;
- together with Acea Ato 2, **Areti** organized the **Manager of the Territory experience-based project**, which involved a total of **65 professionals of the two Companies**, and the **Social Team Building Optimisation project** aimed at stimulating the application of cohesive and interchangeable teamwork methods, which **involved 75 employees**;
- **Gesesa** offered training in **environmental matters and communication and customer relationship techniques**;
- **Gori** trained **incoming personnel** from the acquired regional plants on **environment, safety, quality, IT systems** and **technical and specialized activities**, with dedicated courses for a **total of 3,400 hours of training**.

Traditional and **experience-based training** involved a total of **648 courses** (600 in 2018) with **1,361 editions** (1,144 in 2018) and **involving 4,420 people**, 20% of whom were women. Moreover, the **e-learning platform** offered **7 courses** that **4,499 people** completed, 26% of whom were women.
The total training hours provided are 126,607 (in traditional, experience-based and e-learning training formats). Their contraction compared to approximately **113,985** hours in 2018 (see table no. 42).
The **total training hours per capita**[96] **are 23** (24 in 2018). When analysing data from a gender perspective, the hours of training per capita provided to male staff amounted to 24 and those provided to female staff amounted to 20. The breakdown by qualification is as follows: 26 hours for managers, 31 for executives, 22 for employees and 22 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 2019, to **€ 1,640,808** (table no. 42).

TABLE NO. 42 – TRAINING (2018-2019)

TRADITIONAL AND EXPERIENCE-BASED TRAINING COURSES AND THEIR COSTS

	courses (no.)		training (hours)		costs (€)	
course type	2018	2019	2018	2019	2018	2019
managerial	6	9	14,287	11,322	515,767	582,994
safety	203	184	42,307	32,650	264,110	300,188

[96] The indicator was calculated by comparing the number of hours attended with the total number of employees.

TABLE NO. 42 – TRAINING (2018-2019) (cont.)

TRADITIONAL AND EXPERIENCE-BASED TRAINING COURSES AND THEIR COSTS						
governance model	23	20	7,750	3,430	23,668	125,537
operating-technical	368	435	44,680	51,843	643,264	604,081
total	**600**	**648**	**109,024**	**99,244**	**1,446,809**	**1,612,800**
COURSES AND COSTS OF TRAINING PROVIDED WITH THE PIANETACEA E-LEARNING PLATFORM						
GDPR – new European privacy regulation	1	1	188	7,088	0	0
Code of Ethics	1	0	197	0	360	0
antitrust law	1	1	2,409	2,153	4,350	600
unlawful business practices	1	1	79	1,750	360	600
project management	1	0	20	0	360	0
administrative liability of entities (Legislative Decree no. 231/01)	1	1	1,832	6,965	720	1,700
safety	2	1	74	746	720	600
QASE management systems	1	1	131	5,009	360	13,100
unbundling	1	0	31	0	360	0
Legislative Decree no. 202/05	0	1	0	3,651	0	10,600
total	**10**	**7**	**4,961**	**27,362**	**7,590**	**27,200**

BREAKDOWN OF TRAINING HOURS BY QUALIFICATION AND GENDER

	2018			2019		
title	men	women	**total**	men	women	**total**
executives	2,652	543	**3,195**	1,493	489	**1,982**
managers	14,723	7,710	**22,433**	9,542	4,060	**13,602**
clerical workers	32,795	14,125	**46,920**	53,525	20,650	**74,175**
workers	41,382	55	**41,437**	36,758	90	**36,848**
total	**91,552**	**22,433**	**113,985**	**101,319**	**25,289**	**126,607**

Acea defines **programmes for employee development and to foster professional growth**. One of these is **Succession Planning**, a programme that develops internal professionals who over time preparing to hold some of the main managerial positions. The plan, which in 2019 identified **100 succession positions**, provides for the **identification** of **organizational positions to prepare for**, **training positions** for the acquisition of **adequate know-how** and **entry positions** for starting career paths.
Succession paths are conceived in a **multidisciplinary and multi-business** logic so as to promote the dissemination of cross-cutting skills, and provide for the inclusion of people involved in specific assessment projects.
During the year, two targeted initiatives were organized to develop the managerial skills of employees: **Business Coaching**, a one-on-one training programme led by a professional and aimed at acquiring behavioural strategies to achieve business objectives, and **Coaching "Leadership 4 Value"**, a training course inspired by the Leadership Model.
Reskilling was also launched, a process that promotes the **professional redevelopment of resources through dedicated training programmes**.

THE RESKILLING METHODOLOGY FOR STAFF DEVELOPMENT

Reskilling is a staff development method that makes it possible to **respond to organizational needs**, **by developing people and their skills**.
The initiative is **for employees who intend to start a new career**: those interested apply for open positions by carrying out a self-assessment, followed by an orientation interview with the person in charge of the activity. Finally, if the person is deemed suitable, work in the new position begins with training support and assistance.
The process was first applied in **Acea8cento** and **Acea Energia**: **97 people applied** for 7 different positions, and **12 resources were chosen and placed in the new role**.

COLLABORATION WITH UNIVERSITIES AND HIGH 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. In 2019 relations with Tor Vergata, La Sapienza, LUISS Giudo Carli, Studi Europei di Roma, Federico II di Napoli and Cassino universities were consolidated through the conclusion of agreements aimed at encouraging the transition of graduates into the working world. Thanks to these interactions, **54 training internships** and **43 curricular internships were established during the year and 26 young graduates were hired.** Acea also hired **45 young people** who had previously participated in internships.
The Company utilizes **the professional skills** of its staff in university master's degrees and courses and for **technical projects**.
In 2019, qualified **company staff** worked as teachers or provided

company testimonies for **university master's degrees**, dealing, in particular, with issues related to **energy**, the **environment, sustainability** and **innovation**. In particular, **Ecogena** collaborated with **SAFE**, centre of excellence for studies and training on issues related to energy and the environment regarding the **Master in Management of Energy Resources**, **Gesesa** contributed along with the Faculties of Engineering and Economics and Management of the **University of Sannio**, to the **course on Management of Integrated Water Service**. Finally, **Acea** participated with corporate testimonies on sustainability in the **Master on Sustainable Development (MARIS)** organized **by the Tor Vergata University of Rome**, and **the Master "Sustainable enterprise: strategies, governance, processes and reporting"** offered by the **CUOA Business School**.

The Group initiated a **work-study programme involving several companies**. It is called the **IdeAzione – Giovani Correnti Innov@tive** project, with which Acea employees and school teachers guide students in the development of innovative projects (see the box for details).

THE IDEAZIONE – GIOVANI CORRENTI INNOV@TIVE PROJECT

For the companies in the reporting scope, the **IdeAzione – Giovani Correnti Innov@tive** project involved **360 students** from **high schools** in Lazio and Campania, who were given a total of **7,920 hours of training** with the dual objective of promoting technical and scientific knowledge and bringing young people closer to the issues of technological and environmental innovation.
Students in the 5th year acting as **Internal Auditors verified the energy efficiency** of their school with respect to three drivers – Water, Energy, Environment – using a kit provided by Acea Energy Managers, thanks to which they carried out an **environmental survey**, **an action plan and the environmental code of the school**.
Students in the 4th year engaged in the idea generation contest offered **innovative solutions** to the challenge posed by 5th year classmates to foster the **transformation of the school** into an **eco-friendly environment**.

INCENTIVE SYSTEMS AND STAFF EVALUATION

The **Performance Management System**, governed by company procedures, is the operational application of the Leadership Model and has the following objectives:

- **leverage personal contributions to the Group's performance**, including through the achievement of individual objectives – the measure of the "what" – and **in relation to the behaviour** – the measure of the "how";
- ensure the **continuous improvement of performance** at the individual and **team** levels.

In this perspective, **performance** is understood in a global sense, as a set of measurable results, and observable behaviours of the person **with respect to a specific objective**.

The **remuneration policy** adopted envisages short-term and long-term fixed and variable remuneration measures (MBO, LTIP).
The **long-term (three-year) incentive Plan (LTIP)** is reserved for **CEO and senior managers**, made up of **Executives from the Group with strategic roles and responsibilities**.
The earning of any bonus with a **three-year cycle**, is aimed at ensuring the continuity of company performance, guiding the actions of management towards **medium- and long-term results**.
The **LTIP calculation system** is calculated as a percentage of the Gross Annual Remuneration (GAR) and is subject to the level of achievement of objectives of an economic and financial nature (Gross Operating Profit – GOP and Return on Invested Capital – ROIC), identified by the Nomination and Remuneration Committee. Both objectives are linked to the appreciation of shares on the stock market (Total Shareholder Return – a measurement of the performance and appreciation of the value of Acea's shares compared to a basket of comparable companies).
The 2016-2018 long-term incentive was terminated early in order to define a new LTIP aligned with the updated Business Plan, and following the approval of the economic-financial results by the Board of Directors, a fee equal to two-thirds of the amount due was paid to senior management.
The new long-term incentive for the 2018-2020 period will be paid to the recipients at the end of the three-year period.
The **short-term incentive system** (annual), **Management by Objectives (MBO)**, is applied to **senior and middle managers** (managers and executives) and entitles them to receive a monetary bonus based on the achievement of objectives established in the performance management system. The system is divided into **Group objectives**, the same for all involved, and **individual objectives**.
Regarding the **Group's objectives**, the system provides "access gates" consisting of **four objectives**, three of an **economic and financial nature** (EBITDA, Gross Profit, Net Financial Position) and one linked to the **qualitative aspects of the services provided** (Quality Award). For the assignment of **individual objectives**, managers can choose from the macro-objectives in the **dedicated Catalogue** that includes targets of the Group's strategic planning, creating a direct link between strategy and the company's operational management.
During the year Acea seeked to increase the **integration of sustainability** in its business activities, acting on the **link between remuneration mechanisms and the achievement of socio-environmental objectives**. To this end, **it aligned the performance management system (MBO) with the objectives of the Group Sustainability Plan**, adding sustainability targets to the 2019 Objectives Catalogue. In 2019 **50% of the company population included in the MBO system set individual goals having an impact on sustainability**.

The **performance bonus** is **awarded annually** to **managers, employees and workers**, including with part-time employment contracts, fixed-term contracts and apprenticeship contracts. A financial amount is allocated to employees as recognition and to **share the good results achieved by the company**. The **criteria for awarding the performance bonus**, as defined by an agreement with the trade unions, **promote individual employee contributions** by providing for an **additional percentage** beyond the basic value of the bonus, linked both to the achievement of **collective objectives** (increases in productivity, quality, efficiency and innovation) and to the **assessment of conduct** in accordance with the Leadership Model.
In 2019, as a result of the Group's excellent economic and financial results, Acea paid employees (excluding executives and managers, already included in the MBO incentive system) **an extraordinary bonus of € 500**, measured on the basis of the months worked in 2018. In addition, in order to promote the Group's Welfare Plan, the company paid the

staff an **extraordinary amount of € 100 to be used in the My Welfare platform**.
There are also **benefits** for employees, including those with part-time, fixed-term contracts and apprenticeship contracts, such as **meal vouchers**, a discount on electricity tariffs (for staff hired before 9 July 1996), the subsidies recognized through the Company Recreational Club (CRC) and a **supplementary health insurance policy**. An insurance policy is also available for all employees, which, in the event of death, guarantees the beneficiaries the payment of monetary compensation. Additional benefits are offered to managers, such as the use of a company car and the reimbursement of fuel costs.

INTERNAL COMMUNICATIONS

In Acea the **Internal Communications** Unit contributes to the **promotion of the Group's principles, values and strategic objectives** through comprehensive information for all staff. The main channel of communication used to promote corporate initiatives and projects is the **My Intranet** portal which was updated in its graphics and content in the second half of the year (see the box).

THE NEW MY INTRANET PLATFORM

My Intranet is the new platform of the Acea Group, accessible to all staff, conceived as a **"service" tool** aimed at improving information sharing, increasing employee involvement in intragroup projects and **strengthening cultural identity**.
The platform consists of **5 macro sections**: **The Group, Life in Acea, Communications, Address Book and My PC.** My Intranet introduced numerous **innovative features**, including: the ability to be accessed from tablets and mobile phones, the Group's address book, an integrated search engine for the immediate usability of information, the simplified organization of documents (organizational and regulatory), a single section for technical assistance and a wealth of complete and exhaustive information about companies. The new platform also conveys **visual content (videos and photos) as strategic tools for sharing intragroup events and projects**, often carried out with the involvement of Group employees.

In 2019 internal communication initiatives remained in line with the pillars of strategic planning: **sustainability, welfare, safety, innovation, engagement, solidarity and community.**
In particular, on the subject of **environmental sustainability**, in 2019 the awareness campaign "**SOSteniamoci – Noi per la Sostenibilità"** was proposed again, focusing on **reducing the volume of plastic** through the distribution to Group employees of over 5,000 customized aluminium bottles and the installation of **8 Water Kiosks** at company headquarters. "**The Day that Makes a Difference**" was also organized, dedicated to the **waste collection** and promotion of a logic of "circular economy", also combining the value of solidarity: In fact, at its headquarters Acea hosted the Community of Sant'Egidio and the association Antea, which received products donated by employees including used clothes, toys, children's products, blankets, plastic caps.
In terms of **solidarity**, for the Easter and Christmas holidays **Acea Solidarity Mondays** continued, aimed at involving employees in the charitable activities of some humanitarian associations present in the capital and throughout the country.
In order to promote the topic of **corporate welfare and well-being**, Internal Communications has supported a number of projects:

- the **my Welfare** platform (see the *Industrial Relations* section);
- the second phase of the **Smart People project – Acea Group's agile work**;
- **Acea welfare electricity and gas**, the commercial offer for employees and their families.

As part of the policies to **promote the culture of well-being and prevention**, in collaboration with the Industrial Relations Unit Internal Communications has organized the **Previeni con Acea** campaign, continuing with Komen Day (see also the section on *Protection of health and safety at work*) and continued the campaign **Non mandiamo in fumo la salute** with the launch of an anti-smoking course aimed at employees who voluntarily and freely joined the project.
Particular attention was paid to the **issue of occupational safety** with the new edition of the campaign "**The Acea Group SiCura di Te**", which involved top management and organization staff of the Group companies (see also the section on *Protection of health and safety at work*). In December **an event was organized** at the Teatro dell'Opera in Rome with the participation of company leaders and **1,200 employees** aimed at retracing the main stages of the awareness-raising campaign, including through videos and guest testimonies.
Among the initiatives aimed at stimulating the **engagement of the staff** and the **consolidation of the link with the local community**, Internal Communications supported all the collaborative projects with the schools and that have involved the participation of employees as promoters (including the IdeAzione work-study programme, the Trade School, the Pre-boarding Project, etc., already illustrated in the subparagraphs *Training and development of the staff* and *Collaboration with the university and high schools*). It also collaborated in the organization of the **annual intragroup sports tournament** featuring numerous sports disciplines, and availed itself of a nationwide partnership for the **collection of donations benefiting the Fondo per l 'Ambiente Italiano** (FAI), and organized the delivery of **Christmas packages** to employees, **assembled with environmentally-friendly packaging**, packaged by disabled people of the "Cooperativa Sociale La Ruota Onlus". Finally, it organized year-end events for employees of the **Group's Industrial Segments** to **share the activities carried out** and **plan development prospects**.
On the subject of **innovation**, the Unit supported the launch of the **Acea Innovation Garage** Project, the first internal entrepreneurship programme of the Acea Group (see all the *Institutions and the company* chapter).

DIVERSITY AND INCLUSION

SMART PEOPLE PROJECT:
508 people teleworking

SIGNED THE UTILITALIA PACT – **Diversity makes the Difference** – FOR THE CORRECT MANAGEMENT OF DIVERSITY OF GENDER, AGE, CULTURE AND SKILLS IN BUSINESS PROCESSES

ACEA PARTICIPATES IN THE **Inspirational Talks Role Model** PROGRAMME FOR THE PROMOTION OF STEM (SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS) TRAINING COURSES AMONG FEMALE STUDENTS

Inclusion and protection of diversity **are monitored at the governance level**. Indeed Acea has a *Code of Ethics* and a *Charter for the management of diversity* and an active **Committee for Ethics and Sustainability**, which 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**.
This commitment saw **Acea among the signatories of the "*Utilitalia Pact – Diversity makes the Difference*"** drafted by the Commission for the Management and Promotion of Utilitalia's Diversity. The Pact **establishes the principles of Diversity Management** – including diversity of gender, age, culture and skills – in business processes: selection, welcoming, training, rewards and staff development. In particular, the programme focuses on **inclusive policies** at all levels of the organization, work-life balance, **transparent merit management** and internal and external awareness raising policies.

Acea has adopted a **Group procedure** on "***Protection, inclusion, promotion of the diversity and well-being of workers***" and measures to support parents, such as the **extension of parental leave** for additional three months for family reasons for both mothers and fathers; the **extension of paternity leave**, with the recognition of two more days of paid leave to be taken within two months of the birth, adoption or foster care of the child; **hourly leave for taking children to the first day of nursery school, preschool or elementary school** and the **holiday** bank.
In addition, it adopted work-life balance measures such as **teleworking** (see the box for details), and has disseminated the Microsoft **Teams** application to the Group: **a virtual co-working space** that allows sharing and storing files, exchanging instant messages, making video calls and holding meetings online.

ACEA'S SMART PEOPLE PROJECT

The **Smart People** agile work project has **structurally implemented teleworking** in the Group, both to improve work-life balance and to attract talent and increase productivity.
Altogether 508 people worked from home one day a week during the year, with a participation rate that almost doubled between the first and second half years.
The innovative scope of the project has to do with the **deconstruction of constraints connected to the work place and working hours**, defining working methods and **focusing** on the objective. Teleworking also allows the **values of the Leadership Model** (implementation, teamwork and initiative) to be acted upon by experimenting with a new way of working.
Monitored **by means of qualitative and quantitative KPIs** and specific surveys of teleworkers and managers, the project was appreciated by the workers involved, who saw it as an effective work-life balance tool.
In 2019, as a result of a Trade Union Agreement, **innovations were introduced** that will come into force from 2020: **extension of the period of use** of teleworking from 6 to 12 months, **going beyond the access limit** (no longer limited to 50% of the staff of a Unit) and **expansion of the types of activities** that can be carried out with agile work.

In the first half of the year the company held the presidency of the innovative ***Business School System* project** coordinated by the Elis consortium, contributing to the realisation of two initiatives:

- ***Inspirational Talks Role Model***, a programme for the promotion of **STEM (Science, Technology, Engineering and Mathematics) training programmes among female middle and high school students**. The project involved more than 100 women professionals, including four from the Acea Group who as role models shared their experience of professional success in male-dominated sectors;
- ***Intergeneration lab***, an initiative to **promote intergenerational diversity** through mixed teams composed of employees of Acea, Wind Tre and Terna, university and higher education students, professors and university researchers who have worked together to find solutions to the business challenges proposed by the companies involved.

Acea participated in the **Marisa Bellisario Foundation**, which focuses on **promoting female talent** in the workplace. It sponsored the 31st Edition of the "Women at High Altitude" Award, and for Pink October it **lit the Lazio Region building with pink lighting** as it was a promoter of the breast cancer prevention initiative.
Finally, Acea activated services aimed at better **integrating customers with disabilities**, for example by working with Pedius to develop the app that allows people with hearing impairments to call company call centres.
In compliance with the law[97], there are **employees belonging to protected categories** (disabled, orphans, etc.) who are guaranteed support services, assistance and technical support tools to facilitate the performance of the tasks entrusted to them. In 2019, **291 employees** (201 men and 90 women) belonged to protected categories.
In 2019 there were no cases of discrimination against Group employees in Acea.

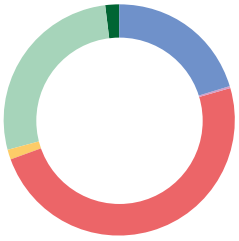
97 Italian law no. 68/99.

COMMUNITY LIFE IN ACEA

Some structures within the company 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).
The number of members enrolled in 2019 in the Company Recreational Club (CRC), including managers, remained unchanged and amounted to **4,619 people**. **The CRC** was responsible for **managing the company's creche**, open to children of employees and children of residents of Municipality I, and accommodating 25 children in the first semester and 20 in the second semester of 2019.
The Club **offers cultural, sport, tourism, economic, 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 Management Department or to the CRC, in which they authorize 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 (ACIW) is very active in Acea and **promotes social initiatives, solidarity and support**. Examples of that support are the presence of the Chaplain from whom employees can seek guidance, and the organization 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 organization of language courses and cultural and sports activities.

CHART NO. 43 – MEMBERS THAT HAVE USED CRC SERVICES (2019)



- 535 | members who have utilizedtourism services
- 7 | children of members who used summer programmes
- 1,290 | members interested in insurance instalments
- 41 | members interested in purchase instalments
- 714 | members who have utilized the so-called "dono della Befana" bonus benefits
- 48 | members who have utilized scholarships

SHAREHOLDERS AND FINANCIERS

Acea is a listed company that provides to the financial community, through its **Investor Relations Department** and in partnership with the competent corporate structures, **a continuous, timely and useful flow of information for the correct assessment of the current and future situation of the Group**, also highlighting **Environmental, Social and Governance (ESG) items**. The information is conveyed through current and potential **direct relationships** with analysts and investors, and through **specific communications** (price-sensitive press releases, company presentations, credit ratings, stock performance, highlights, etc.) that are made available on the institutional website (www.gruppoacea.it), respecting the fundamental principles of propriety, clarity and equal access.
Additionally, working with the competent structures, the **Corporate Affairs and Services** Department 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 FINANCIERS

Shareholders received **€ 165.8 million in dividends** as management profit for the year (they received € 150.9 million in 2018), which correspond to € 0.78 per share (+10% compared to 2018), with a **payout of 58.6%** on net income, after allocations to third parties.
In the last trading session of 2019, **Acea stocks** recorded a closing price of **€ 18.44** (capitalisation: € 3,927 million), **up 53.5%** from the same date of the previous year.
Acea shares performed very well and almost twice as well as the Italian market as a whole (FTSE Italia All Share +27.2%). There was also a significant increase in the share compared to the benchmark FTSE Italia Mid Cap (+18.3%). During the year a maximum value of € 19.02 was achieved on 12 December, while a minimum value of €11.82 was achieved on 2 January. Average daily volumes were about 157,000, more than the 116,000 in 2018.

TABLE NO. 43 – PERFORMANCE OF STOCK EXCHANGE INDEXES AND ACEA SHARES (2019)

	change % 31.12.19 (compared to 31.12.2018)
Acea	**+53.5%**
FTSE Italia All Share	+27.2%
FTSE Mib	+28.3%
FTSE Italia Mid Cap	+18.3%

€ 106.1 million are destined to **financing stakeholders** (compared to € 100.7 million in 2018). The change is due to opposing items: on the one hand, the reduction in interest on bonds, default interest and deferred interest and commissions on assigned receivables, on the other hand the increase in interest rate swap charges, discount charges and the presence of charges deriving from the first application of accounting principle IFRS 16. The average overall all-in cost of the Acea Group's debt on 31/12/2019 was 2.15%.

Regarding the **composition of medium/long-term debt** consolidated as at 31/12/2019, approximately 77.55% of the total amount derived from transactions on the capital market (corporate bonds). Regarding the banking sector, Acea mainly deals with entities whose mission is to **finance strategic infrastructure**, such as the European Investment Bank (EIB, 11.1% of the consolidated debt) and the Cassa Depositi e Prestiti (CDP, 5.9% 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.

AGENCY RATINGS

Both **Moody's** and **Fitch confirmed Acea's rating**. The assessments expressed reflect the approval of the Company/Group's strategic focus on regulated activities and the positive results achieved to date.

TABLE NO. 44 – RATINGS 2019

agency	long-term rating	short-term rating	outlook
Moody's	Baa2		stable
Fitch	BBB+	F2	stable

FINANCIAL DISCLOSURE

During the year Acea participated in **numerous events** (meetings, extended presentations, utilities conferences, roadshows and reverse roadshows), **with about 120 equity investors, buy-side analysts, investors and credit analysts**.
The **roadshows and utilities conferences** organized by Borsa Italiana and the main investment banks were held in the **most important national and international cities**: Rome, Milan, London, Paris and New York.
Conference calls were held with the financial community to approve the annual and interim results and the 2019-2022 Business Plan, followed by **approximately 130 analysts/investors**.
Approximately 145 studies/reports on Acea shares were published during the year under review. Eight **business banks** analyse Acea shares with a high level of continuity, five of which, as of 31 December 2019, express "positive" ratings and three of which express "neutral" ratings.

ESG ANALYSTS EVALUATE ACEA

According to the latest analyses carried out (November 2019), the **"sustainable investors"** present in Acea represent almost 4% of the share capital and **about 26% of the total institutional investors**. These are mainly European funds (3% of Acea's capital), followed by North American investors. It should be noted that as a result of changes in investment policies increasingly linked to ESG aspects, an increasing number of institutional investors qualify as "sustainable" investors. These entities are showing an increasing attention to Acea.

Relations with Environmental, Social and Governance (ESG) finance professionals are monitored and frequent. In 2019 Acea the opinions of analysts, ratings and benchmarks were as illustrated below.

ISS ESG (formerly ISS Oekom) gave Acea a C+ rating (D-/A+ scale), in line with the previous year.

The **CDP (formerly the Carbon Disclosure Project)**, supported by more than 500 international investors with managed assets in excess of $ 96,000 billion, promotes worldwide attention to the management of climate change risks and impacts, inviting companies to provide detailed and timely information on their ability to manage the issue. Based on the data and information received, each year the CDP publishes a ranking of its assessments for each organization. Acea, already evaluated for years, received an **A- score** in 2019 (B in 2018), returning to the **Leadership category** (for details see the BOX in the chapter *Strategy and Sustainability*).

Acea is included in the *Ethibel Excellence investment register*. The analyst states that: "This selection by the **Ethibel Forum** indicates that the company operates better than average in its sector in terms of corporate social responsibility".

In 2019 Acea received the first **sustainability solicited rating** from the independent agency **Standard Ethics**. The assessment carried out by the Agency focuses on corporate, environmental and social governance aspects and measures the level of compliance with EU, OECD and UN guidelines, offering a measure of the level of adherence of the practices adopted by the applicant companies to the principal international guidance on sustainability. After a structured process involving an in-depth dialogue regarding of relevant policies, procedures and initiatives, Acea's rating is **EE-** (investment grade, F/EEE scale (non-investment grade/full investment grade)) with a positive long-term outlook.

The Group's ESG performance was also analysed by **Sustainalytics**, **VigeoEiris**, **Gaia Rating, FTSE Russel ESG** and **Alliance for corporate transparency**.

Finally, during the year Acea was involved by data agencies, investment banks and index providers such as **EQUITA** and **ECPI** in some studies and analyses. More specifically, these initiatives concerned the analysis of the dynamics of **interaction between mid-caps and ESG rating agencies** and the study for the possible definition of a national **Low Carbon** stock Index.

INSTITUTIONS AND THE COMPANY

ACEA FOUNDS THE **Acea Innovation Company** AND ORGANIZES ITS FIRST **Innovation Day**

RESEARCH AND INNOVATION: PROJECTS WORTH AROUND **€ 27 million** DURING THE YEAR

COOPERATION AGREEMENT WITH **ENEA** FOR THE DEVELOPMENT OF **projects for sustainable waste cycle** AND WATER RESOURCE MANAGEMENT

ACEA ADOPTS A **new cyber security model** THE GROUP LEVEL

LAUNCH OF THE ACEA **SmartComp** PROJECT FOR THE DEVELOPMENT OF **diffused** AND PROXIMITY **composting** WITH **mini-plants**

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*.

The economic value distributed to **public authorities** in the form of taxes in 2019 is **€ 123.2 million** (€ 124.3 million in 2018). The tax rate for the year is equal to 28.6% (it was 30.4% last year).
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 2019, the total amount of this item was approximately € 2.94 million (€ 2.87 million in 2018). More specifically, approximately € 1.63 million was paid to regulatory authorities (ARERA, AGCM, Consob and other public services authorities), € 76 thousand was incurred as a mandatory charge to the chambers of commerce and about € 1.2 million was incurred for contributions to confederation bodies and for membership fees.

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*).
Article 17 of the Group's ***Code of Ethics***, which discusses relations with institutions, the public administration and political and trade union bodies, states that: *"Acea cooperates actively and fully with the independent Authorities, establishes relations with the Public Administration by strictly observing the provisions of the law, applicable regulations, provisions contained in the Organisation and Management Model pursuant to Legislative Decree 231/01 and in internal procedures [...] Acea does not contribute in any way to the financing of political parties, trade unions movements, committees or organizations...or their representatives and candidates [...] Acea does not make contributions to organizations with which a conflict of interest may arise... In any case, Acea's personnel shall refrain from any behaviour aimed at exerting pressure (direct or indirect) on political and trade union representatives or representatives of associations in potential conflict of interest in order to obtain personal or corporate advantages"*.

The supervision of relations with institutional entities is defined by an **organizational model** that attributes **competences and responsibilities** to the corporate structures of reference. In particular, the **Institutional Relations Unit** 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 **Corporate Affairs and Services Department** supports the Group Companies **for legal aspects** related to the activities, dealing with communications with the securities market **Supervisory Authorities** (Borsa and Consob) and 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: INVESTIGATIONS, BONUSES AND PENALTIES

In the regulated sectors, the **Regulatory Authority for Energy, Networks and Environment** (ARERA) has long established **bonus and penalty mechanisms** to encourage the improvement of the performance of service operators. With regard to management in 2018, in 2019 **Areti** has paid: a penalty of approximately € 5.12 million relating to the continuity of electricity service for LV users; approximately € 1.87 million in compensation to users and penalties paid to the Energy and Environmental Services Fund (EESF) for prolonged and extended interruptions, and approximately € 191,000 for exceeding the pre-set standards for LV users.
The **Acea Ato 5**, **Gori** and **Gesesa** water companies respectively paid automatic compensation to customers during the year

INTERVENTIONS BY SECTOR AUTHORITIES WITH RESPECT TO ACEA: INVESTIGATIONS, BONUSES AND PENALTIES (cont.)

for € 120,000, € 192,000 and € 26,000 (the latter two are estimated values) and **Acea Ato 2** paid € 667,000 in automatic compensation to customers relating to contractual quality performance, in particular for billing. In January **Acea Ato 2** communicated the performance of 2018 regarding quality to the Operating Technical Secretariat (STO) of the area authority for verification, based on which bonuses will be calculated, and again during the year the STO awarded the Company approximately € 33.6 million as a bonus for **achieving improved standards of service** rendered in 2018.

At the conclusion of proceedings initiated previously, two sanctioning measures served to **Acea Ato 5** in 2019 by **ARERA and AGCM** are noted. In the first case (resolution 253/2019) the area in question concerns tariff regulation, in the second case (measure 27798/2019) conduct contrary to the requirements of the Consumer Code (unfair and aggressive practices). The Company **challenged** these measures **before the relevant regional administrative courts**.

Finally, in October the **Lazio Regional Administrative Court fully upheld the appeals filed by Acea SpA, Acea Energia and Areti against the AGCM measure** (measure 27496/2018), which jointly and severally penalized companies for € 16.2 million for alleged anti-competitive conduct in the energy sales market, highlighting the non-existence of the conduct alleged by the AGCM and the **Companies' fully appropriate actions in the market**.

As for the litigation procedures of an **environmental** nature with public enforcement authorities (Arpa, Forestry, etc.), see *Relations with the environment* and the *Environmental Accounts*.

PROTECTION OF COMMON ASSETS

In synergy with public institutions, private parties and research bodies, Acea deals with **initiatives and projects of an environmental and social nature aimed at protecting common assets**.

In 2019 the procedure for the **renewal of the Peschiera-Le Capore Aqueduct concession in Acea** was completed, with the signing of the agreement by the Lazio Region and Municipality of Rome, and the foundations were laid for the construction of the **new upper section of the Aqueduct** to ensure the water supply in Rome and the Province of Rome.

With regard to the **implementation of Water Safety Plans** aimed at preventing and mitigating water risks, the multidisciplinary teams that will prepare the Plans for the different regions have been qualified and the risk assessment has been started.

During the year, by means of the Acea Ambiente Company Acea partnered with institutional bodies to carry out **projects of public utility**, including: the **reuse of poor quality** water with the application of technologies borrowed from the aerospace sector, able to facilitate the availability of water for urban or rural use with reduced cost and time in the event of a water crisis; the **efficiency of water systems** with the aim of developing a model for the active control of the water network following a smart grid logic; the improvement of water infrastructure resilience and protection in the event of **climate change**; the creation of new **purification systems**, for example for the city of Benevento; **the redevelopment of areas of environmental interest**, such as the water catchment area of the Sarno river.

Ecogena participated in the **Smartmed project** promoted by the Municipality of Rome and aimed at disseminating best practices in urban energy efficiency, contributing to the design and construction of an energy district in the Pietralata district of Rome in collaboration with universities, research bodies and companies.

Regarding **the circular economy**, Acea has joined the **Italian Circular Economy Stakeholder Platform (ICESP)** coordinated by ENEA to promote a national approach to the circular economy (Italian way for circular economy) through the involvement of stakeholders engaged in the area, and together with 13 other companies and research centres **has signed** the **Network Contract for the establishment of the first Italian Research and Industrial Development Centre (AIRES)**: a network of companies, institutions and technology consortia engaged in the **development of a circular economy and environmental sustainability** (see box).

THE NETWORK CONTRACT FOR THE ESTABLISHMENT OF THE AIRES CENTRE

The AIRES Research Centre, set up on the basis of a network contract between **companies and research centres**, develops **joint projects on environmental sustainability**, including **innovative waste treatment**, initiatives to combat the effects of climate change, etc. The network contract covers five years and envisages **activities aimed at improving technical and economic performance in the circular economy**, strengthening innovative and productive capacity at lower costs thanks to the system of **economies of scale**, upgrading know-how and **professional training**.

The implementation of the network programme also includes the organization of **technical roundtables and in-depth seminars** and participation in regional, ministerial and Community calls for proposals for financing research and development projects compatible with the object and objectives set out in the contract.

OPERATIONAL RISK MANAGEMENT AND EMERGENCY MANAGEMENT PLANS

Acea participates in high-profile institutional **working groups**, regarding **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**.

Cyber threats that are potentially capable of causing a malfunction or interrupting the provision of essential services such as energy and water is one of Acea's national security issues. In particular, the company collaborates with the **Computer Emergency Response Team (CERT)** of the Ministry of Economic Development, the **Network and Information Security Authorities (NIS)** of the Ministry of the Environment and the **National Anti-Crime Information Centre for the Protection of Critical Infrastructure** (CNAIPIC) of the Ministry of the Interior.

Acea also participates in the **ECHO programme** (European network of Cybersecurity centres and competence Hub for innovation and Operations) for the **establishment of a European network of expert centres on cyber security**, which in 2019 passed the first design review with excellent results, and in the **H2020 ATHENS project** dealing with security and resilience of digital infrastructure.

With regard to **consumer health and safety**, Acea is committed both to the implementation of the water safety plans already mentioned and to research into **emerging organic micropollutants (EOMS), emerging viruses, legionella and micro-nanoplastics in the water sector**.

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 set up organizations, **procedures and tools** that, in the event of critical events (unavailability of central systems, breakdowns, adverse weather conditions, peak demand and network stress, etc.), **protect the normal operating conditions of networks, plants and systems to be restored in a timely manner** (see also the chapter on *Customers*, *Quality delivered* and, later 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 Roma Capitale**.
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 in order to facilitate the coordination of interventions.
Acea SpA has a **procedure for the management** of health and environmental emergencies having an impact on the population, for which **it defines a risk level** (low, medium and high) and consequently organizes intervention teams.
The **Areti emergency management plan**, the company that handles 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 established 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 is committed to the **creation of a platform** for the real-time acquisition and monitoring of **weather events** capable of altering the operating conditions of the electrical grid.
Plans for the management of emergencies of the **water companies** and shared with local institutions (such as Governmental Territorial Offices, Local Health Authorities, Area Management Agencies) 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). In 2019 **Acea Ato 2 updated the Plan, consistent with the guidelines of the Water Safety Plans (WSPs)**, examined **25 critical scenarios** and indicated for each the consequences, manoeuvres and mitigation actions required. The Plan was presented to the prefecture, civil protection, the Lazio Region, the metropolitan city, the municipality of Rome and the relevant ASL national health office.
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. All the structures of each site are 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 emergency interventions in order to limit 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.

PROJECTS FOR THE INNOVATIVE AND SUSTAINABLE DEVELOPMENT OF THE TERRITORY

In 2019, in continuity with past years and in concert with local administrators, Acea Ato 2 continued the installation of **Water Kiosks** in Rome and vicinity, which made it possible to equip the areas **with 83 kiosks** (see chapter *Customers*, section *Quality delivered in the water segment)*.
In the area of **smart cities**, in 2019, in partnership with Roma Capitale, Acea launched the **plan for electric mobility**, also defining the **strategy for e-mobility** to combat the mobility divide due to the infrastructure gap. It launched the testing phase of the Charging Point Operator and Mobility Service Provider platforms through an **internal car-sharing service** with 25 electric cars, and **installed the first charging columns for electric cars**. A partnership was also established with Guido Carli LUISS University, which made it possible to provide students with a mobility services platform, including the management of charging and booking of the car or a seat in the shuttle.

In order to promote the innovative and sustainable development of the sectors of reference, Acea establishes **collaborations and partnerships with complementary companies** or organizations operating in sectors **similar to the businesses it manages** and with **innovative players**.
During the year Acea signed a **memorandum of understanding with Google Cloud** in order to improve the quality of services provided and efficiency of operating processes, through the company's digital innovation with ASL (Advanced Solutions Lab) programmes and machine learning techniques.
In order to build the broadband communication network necessary to create a smart grid in the territory of Roma Capitale, Acea has signed an agreement with **Open Fiber** aimed at **connecting stations and substations with fibre optics**. In addition, the company has signed an **agreement with the Agostino Gemelli University Polyclinic Foundation and Cassa Depositi e Prestiti** for the creation of a **digital platform of innovative smart health services** (home telehealth, telemedicine, prescriptions via email, etc.), with the aim of improving health services with remote controls and monitoring of certain diseases.

The virtuous relationship with the local region is also expressed through the **collaboration between Group companies and schools in the geographical areas served**, for example as part of the **work-study** programme (see the chapter on *Personnel*, *Valuation of human resources and communication* section).
Other initiatives for schools in addition to the Acea School programme which has been active for many years (see chapter *Customers*, section *Communication, events and solidarity*) were held

on the occasion of Acea's participation in **Sustainability Island** and **Ecomondo**.
Acea Ato5 carried out the project "*H2O in small steps*", aimed at primary schools in some local municipalities, to **raise awareness among children on the correct use of water**.

THE COMPARISON WITH THE REFERENCE CONTEXT

Acea participates in **Research Centres, Standard-setting Bodies and Industry Associations**, acting as promoter or contributing to studies in the businesses in which it operates.

THE 2019 MEMBERSHIPS OF RESEARCH CENTRES, STANDARD-SETTING BODIES AND INDUSTRY ASSOCIATIONS

During the course of the year the Group renewed and activated numerous memberships of organizations of interest, including:

- AGICI – Finanza d'Impresa;
- AICAS Associazione Italiana Consiglieri, Amministratori e Sindaci;
- AIDI Associazione Italiana Illuminazione;
- Andaf;
- ASCAI;
- Aspen Institute Italia;
- Assochange;
- Associazione Amici della Luiss Guido Carli;
- Associazione Civita;
- Associazione Geotecnica Italiana;
- 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 Idrotecnica Italiana (Italian Hydro-technical Association – AII);
- Associazione nazionale fornitori di elettronica (National Electronics Suppliers Association – Assodel);
- Assonime;
- 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;
- CISPEL Confservizi Toscana;
- CLUB Ambrosetti;
- Comitato Elettrotecnico Italiano (Italian Electro-Technical Committee – CEI);
- Conseil de cooperation economique;
- CSR Manager Network Italia;
- Distretto Tecnologico Nazionale sull'Energia (Di.T.NE.);
- E.DSO Bruxelles (European Distribution System Operators' Association for Smart Grids);
- Elettricita Futura ("Future Electricity" formerly Assoelettrica-Asso-Rinnovabili);
- Energy and Strategy Group – Politecnico di Milano (Polytechnic of Milan) (ES-MIP);
- 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);
- ISES Italia (International Solar Energy Society – Italian Section);
- Laboratorio dei Servizi Pubblici Locali di REF-Ricerche (Local Public Services Laboratory of REF-Ricerche;
- Servizi Professionali Integrati;
- Italian Phosphorus Platform coordinated by AENEA and MATTM;
- 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);
- 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 thematic conferences, forums and workshops** on topics linked to its managed companies, also presenting publications and works of technical-scientific relevance. In particular, during the year it built a network of relationships with universities, research centres, technology partners, startups and SMEs to strengthen its national and international presence in the field of **innovation**.
The Group participated in events and organized numerous initiatives, which have already been mentioned (see the chapters *Customers and the community*, paragraph *Communication, events and solidarity*; *Strategy and sustainability* in *Corporate identity* and the section *Relations with the environment*). A few examples include **Sustainability Day**, an opportunity for discussion and debate between representatives of institutions, researchers and experts of the green economy on the new challenges posed by the sustainable economy, **Ecomondo**, the fair of the green and circular economy in the Euro-Mediterranean area, where Acea presented **AceaSmartComp** and **Sludge Mining** projects, the third edition of the **Resource Recovery Conference**, organized in Venice by the International Water Association, which involved the world bodies of 43 countries on the topic of the **recovery and sustainable reuse of resources from wastewater**, the third edition of **Rome Startup Week**, an event of reference for innovation and the Italian and European business ventures, and **Open Italy**, the co-innovation programme of the Elis Consortium.
The Company has also joined the **Startup Europe Partnership**, the open innovation platform **created by the European Commission** that supports startups in the transition from the laboratory development phase of the prototype to that of production on an industrial scale, connecting them with companies and the financial world, and **has received the Smau Innovation Award**, an award given to companies active in Open Innovation.

Collaborations between Acea, universities and research bodies take place within the framework of **conventions and dedicated agreements**.
In 2019 Acea signed a **four-year cooperation agreement with ENEA for the development of projects related to sustainable waste cycle and water resource management**. In this manner Acea will benefit from scientific expertise and platforms and laboratories will be shared, with the aim of applying innovative technologies and solutions to the industrial projects managed, mainly in the sectors of waste treatment and water, in line with the circular economy development plan envisaged by the strategic planning.
Particularly worthy of note are the Framework Agreements that

Acea signed with the **University of Tuscia** – Department of Innovation in Agri-food and Forestry Biological Systems (DIBAF) and with **La Sapienza University** – Department of Civil and Environmental Engineering, within which projects have been launched for the recovery of energy and matter from wastewater purification residues, with a view to **waste transition**.
In the **water sector**, Acea Ato 5 entered into an agreement with the **University of Cassino and Southern Lazio** aimed at creating a collaboration in the field of **research and innovation**, while Acea Ato 2, in partnership with the **University of Rome Tor Vergata – Faculty of Economics**, developed an **experimental study of Cost Benefits Analysis (CBA) for the project relating to the new upper section of the Peschiera Aqueduct**, performing a socio-economic and territorial impact assessment to calculate the cost-benefit ratio of the individual project solutions examined in the feasibility document, and subsequently of the chosen solution.
In the **energy field**, Areti has established **collaborations with the Universities of Naples, Rome, Turin and Milan** on specific technical projects, including: the development of algorithms for estimating and **measuring the technical losses** of the low voltage electricity network, the study of an electronic **current transformer** capable of solving the limitations inherent in traditional magnetic core devices, the creation of classifiers to identify **failure patterns on the MV network** and estimate the probability of failure, the development of **vulnerability models for the MV electricity network** and, as part of the Smart Metering 2G project, the study of the theoretical model of RF 169 MHz coverage to identify the total number of sites/concentrators to be installed in the territory of Rome for the purposes of second generation intelligent metering systems.
In 2019, Acea also participated in **Startup Intelligence** workshops with the **Polytechnic University of Milan** to identify trends, scenarios and innovative projects of interest to the Group, and in the **Artificial Intelligence Observatory**, a community of debate on the subject, combining managerial and technological perspectives. Working with **Guido Carli LUISS University**, **a scientific research site was opened aimed at disseminating the model for the leveraging of company assets**, with the contribution of employees involved in dedicated workshops.
Finally, in **scientific partnership with the LUISS Business School**, a training programme called **Managerial Academy** continued throughout the year, aimed at creating a centre of **managerial excellence in the field of multi-utilities** in the Roman area (see the chapter *Personnel*, paragraph *Training and development of personnel)*.

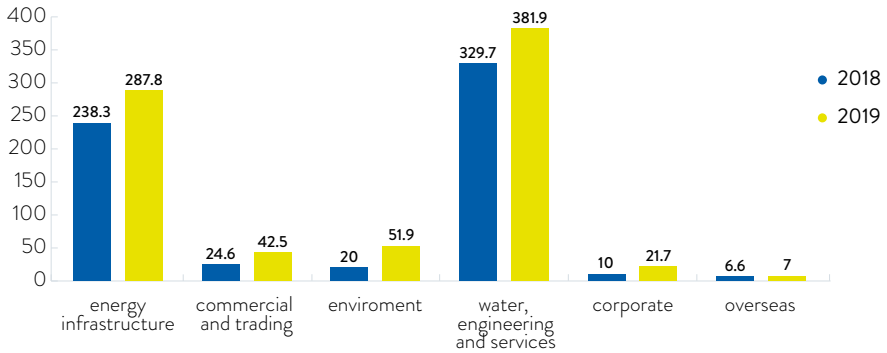
With regard to **sustainability** issues, Acea participates in **networks of experts, working groups, studies and sector research** organized by the academic world, civil society, institutions or business entities. Indeed, the company is active as an associate in the **Global Compact Network Italy Foundation**, the representative body of the United Nations Global Compact in Italy, and in **the CSR Manager Network**, the national association that brings together the main Italian companies active in corporate social responsibility. In this context, together with SCS Consulting in 2019 Acea conducted the **ERM and Sustainability working group**, which involved participating companies and others interested in the debate on integrated risk management, and participated in the **working group on the Non-Financial Statements** (NFS, pursuant to Legislative Decree no. 254/2016), which defined a qualitative questionnaire on mandatory non-financial reporting and carried out the first dissemination test, analysing the results and sharing them within the Network (see also *Corporate governance and management systems* in *Corporate Identity*).
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**, **including the one dedicated to Sustainability**.
More specifically, in 2019 Aquaser participated in working groups aimed at **revising the Decree on sludge management**, Acea Elabori took part in **technical working groups** on: **water, drinking water and wastewater, biomethane and sludge**, **technological innovation and phosphorus platform**.
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, seeking 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 2019 **investments** totalled **€ 792.8 million**, **up 25.7%** (€ 630.8 million in 2018). These were distributed by business segment as follows: € 51.9 million for the **Environment** segment, in particular for the revamping of Monterotondo Marittimo, for works on the WtE plants in Terni and San Vittore and for the expansion of the landfill in Orvieto; € 42.5 million for the **Commercial and Trading** segment, especially on activities related to the acquisition of new customers and for IT implementation and licensing projects; € 381.9 million for the **Water** segment, also including the Engineering and Services segment, mainly related to reclamation and expansion works on water and sewerage pipes in the areas served, extraordinary maintenance of water centres, works on purification and recovery of water leaks and improvement of the relationship with users; € 287.8 million for the **Energy Infrastructure** segment, mainly for works on MV/LV networks and works on cabins and meters and partly for revamping works on some power plants. Finally, the **Parent Company** with investments for about € 21.7 million.

CHART NO. 44 – DISTRIBUTION OF INVESTMENTS BY MACRO AREAS (2018-2019)



Depreciation, amortisation, provisions and write-downs amounted to **€ 524.2 million** (15.3% higher than 2018). Specifically, amortisation and depreciation amounted to € 409.6 million (€ 366.8 million in 2018), mainly due to the change in the scope of consolidation. Write-downs of receivables amounted to approximately € 66.8 million, down by 11% compared to 2018 due to dynamics of an opposing sign: the increase due to changes in scope and the reduction mainly as a result of ARERA resolution 2019 that intervenes positively on the GALA dispute. Provisions for the year amounted to € 47.8 million.

PROTECTION OF PHYSICAL AND DIGITAL ASSETS AND MANAGEMENT OF INTERNAL RISKS

The protection of the **company's assets**, the **prevention of fraud** and **compliance with current security regulations**, with particular reference to the **protection** of **privacy and sensitive data** (GDPR Regulation 2016/679) are handled by the Risk & Compliance Function, which includes the **Company Protection** Unit.
This Unit is entrusted with the task of **defining the Guidelines** and policies in terms of the **safeguarding and protection of property** and of coordinating the **implementation of plans for the continuity of operations and the management of emergencies** prepared by the competent structures and Companies of the Group. In line with the **procedure** regarding accessing company premises with reception services, the Corporate Protection Unit manages the security and reception facilities and personnel and controls the **Security Room (SS)**, the video surveillance, anti-intrusion and alarm systems active within the company, and in collaboration with the relevant structures and companies of the Group coordinates the proper performance of the activities required by judicial authorities, security institutions and the police.
In 2019, **surveillance and reception activities were unified** and a project was launched to define new guidelines and procedures for corporate protection.

The protection of the Group's information assets and central ICT systems in order to **minimize system down times** and ensure business continuity includes **guidelines and procedures** that define the conduct required of the staff, the methods for using IT resources and the controls.
In line with the guidance of the Ministry of Economic Development, the Ministry of the Environment and the Security Information Department, Acea has expanded the **protections in the domain of cyberspace**, **improving the measures for the protection** of networks and IT and OT systems that include SCADA (Supervisory Control And Data Acquisition) devices, and has launched a project to assess the status of central and field systems, especially those of a strategic nature, to be able to then implement increased security in the systems.
Acea has also developed organizational, procedural and technological measures to monitor and manage cyber risk. In particular, in 2019 it adopted a **new cyber security model at the Group level**, with the establishment of the **Strategic Committee for Information Security** (CSSI), a strategic coordination structure in contact with the relevant institutions, and the **Computer Security Incident Response Team** (CSIRT) of the Group, a technical-operational structure to support the Strategic Committee, dedicated to the coordination of responses to security events/incidents at the Group level.
Finally, **a vulnerability assessment campaign** was conducted on the entire external perimeter (services and systems exposed to the Internet) and systems and programs were developed to support CSIRT and **combat fraudulent behaviour on the main corporate databases**, with machine learning, advanced analytics and big data.

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**, which in 2019 invested approximately **€ 27 million** on this aspect.
In order to manage the **Group's innovation**, during the year the company **Acea Innovation** was established with the mission of developing innovative projects with high added value for the Group and creating an ecosystem conducive to innovation and an entrepreneurship culture, and the **Innovation Board** was established, composed of the innovation representatives of the industrial segments, which defines and implements the Group's innovation strategy in a shared manner. **Workspaces dedicated** to the **development of innovation** and a **corporate innovation** programme were also created.
Acea's **new innovation orientation** is built on **three pillars**:

- the **Model of Innovation as a service**, where innovation is at the service of the business and involves the entire company (see box);
- the **promotion of a culture of innovation**, supported by an internal crowdsourcing platform that allows employees to propose ideas and participate in innovation projects, and is also carried out through the Digital Academy (see also the chapter *Personnel*, paragraph *Staff training and development*) and dedicated programmes such as **Acea Innovation Garage** (see box);
- the **innovation factory**, an agile model of market analysis in sectors of strategic interest involving all industrial areas, divided into 12-week cycles, at the end of which a pilot is launched to validate the idea through a market test. The initiative made it possible to **launch three strategic projects** on digital health, e-mobility and waste transition.

ACEA INNOVATION GARAGE, THE FIRST ENTREPRENEURSHIP PROGRAMME FOR THE EMPLOYEES OF THE ACEA GROUP

In 2019 Acea Innovation developed **Acea Innovation Garage**, the **entrepreneurship programme** for employees aimed at **promoting a culture of innovation**, with the goal of supporting the Group in achieving its objectives through the enhancement of internal know-how.
Based on 4 Challenges of Innovation Needs, the programme **launched a Call4Ideas** open to all Group employees.
The Call gathered **120 project ideas**, 10 of which were selected and **3 were successful**, undertaking a 12-week **incubation and development of the project** iin specific spaces and with dedicated working times and with the support of coaches and technical mentors.
During the incubation process, the 3 teams developed the prototype of their idea which was then presented during the Investor Day to an audience of potential investors, with the strong support of Acea's top management.

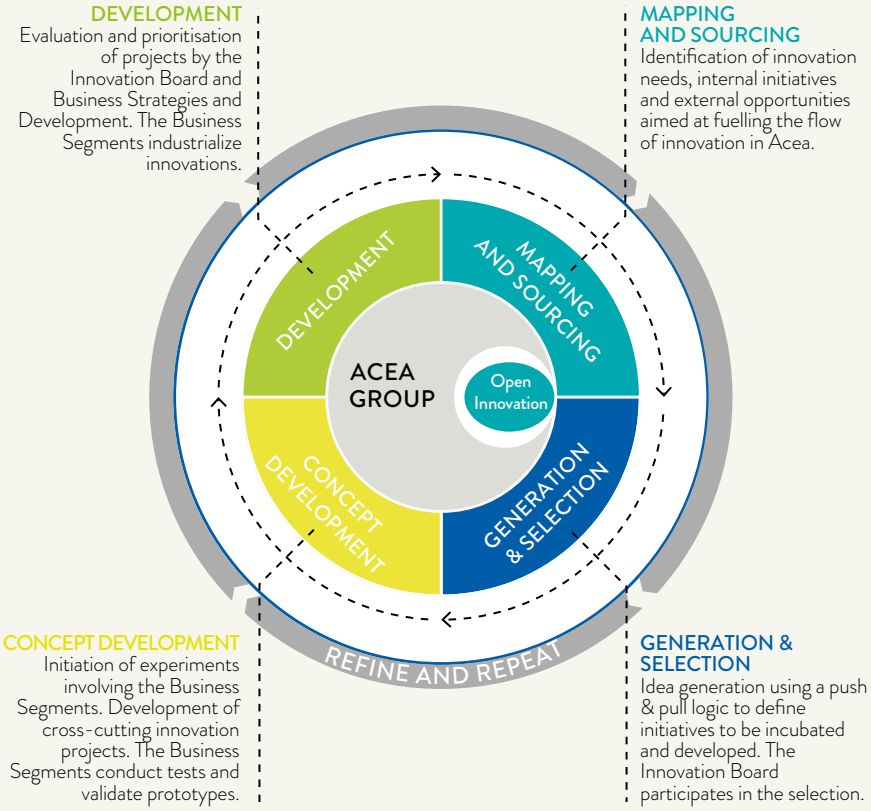
Also during the year, Acea organized its first **Innovation Day**, an event dedicated to artificial intelligence at the service of businesses (see the box for details).

ACEA INNOVATION DAY

In May 2019 the **first Acea Innovation Day** was held, a day **dedicated to the new frontiers of artificial intelligence and the use of data** that are changing the way of doing business.
Conceived and organized by Acea, the first part of the day featured the **participation of the CEOs of Italian companies in the energy and infrastructure sectors**, including Italgas, Terna, A2A and Open Fiber, and the contribution of the **Management & Innovation Systems department of the University of Salerno**, in the presence of an audience of professionals, students, Acea employees and the press. One of the topics discussed at the roundtable was the application of **new technologies** and their effects on industrial processes, including the creation of new opportunities for growth and employment.
The event continued in the afternoon with the **involvement of start-ups and key players in the innovation ecosystem**, including the Country Manager of Google Cloud Italia and the CEOs of Green Rail and Solenica. The **most innovative projects of the Acea Group**, illustrated by the Director of Innovation, Technology & Solutions, in line with the Acea 2019-2022 Business Plan, which **includes € 500 million of investments in innovation and technology**, were presented on the occasion.

THE INNOVATION MODEL AT THE SERVICE OF BUSINESS

The **Innovation Model** defines governance (management of phases and methods for the involvement of actors), processes (standardisation of actors' phases of engagement) and supporting tools.
It is **open to the involvement of external and internal actors** and operates in a **structured and systemic** manner, generating synergies and sharing innovation projects in a widespread manner.
The Model envisages a process divided into **four phases** starting from the identification of innovation needs, through the participatory generation of ideas and experimentation and ending with implementation of the projects in collaboration with the Industrial Segments and innovation actors outside the Group. The innovation process is fuelled by the continuous **scouting of innovative organizations**.
During the year more than 1,000 innovative startups were analysed and 12 trials were carried out.



With reference to the Group's industrial processes and infrastructure, the following boxes illustrate, by way of example, some of the main **research and innovation projects** carried out in 2019 by Acea Innovation, Acea Elabori and the Group's Industrial Segments. In any case, we also recall what was illustrated above in the paragraph *Relations with institutions*, and in particular in the sub-paragraphs *Some projects for the development of the territory* and *The comparison with the reference context*, see also the chapter *Customers and the community*, paragraph *Quality provided* and the section *Relations with the environment*.

RESEARCH AND INNOVATIVE SOLUTIONS IN ACEA INNOVATION

During the year, **Acea Innovation** together with all the Industrial Segments, Acea Elabori and external start-up, initiated and/or carried out **the following experiments**:

- the development of a **system for the safety of car drivers capable of identifying dangerous situations** and preventing accidents;
- the use of **virtual reality** and immersive technologies to carry out **technical training in greater safety**;
- the development of an **artificial intelligence algorithm** to autonomously cluster **tickets** sent by employees for computer problems;
- the development of a **method of eliminating arsenic from water** as well as other types of pollutants and materials using state-of-the-art nanotechnology to produce protein-based carbon membranes;
- the **Urban Intelligence project** to use satellite technology to monitor the quality of public lighting;
- the **Pedius solution** adopted by Acea Energia to **make the call centre accessible to the deaf**.

On the **electric mobility** front, Acea Innovation is testing an electric mobility services management platform with car sharing services, currently only for internal use, and recharging.

RESEARCH AND INNOVATION IN THE ENERGY INFRASTRUCTURE SEGMENT

As part of its electricity distribution activities, in 2019 **Areti** initiated or developed numerous innovative projects, including:

- the **PlatOne project**, funded by the European Community, coordinated by Areti and participated and 12 participating partners distributed between Germany, Belgium, Greece and Italy, promotes a **new approach to the management of distribution networks** that makes them **more stable in the presence of large amounts of energy from variable renewable sources** through the use of flexibility measures, storage and demand response services, with smart grid technologies and tools for automation and control of the network and distributed energy sources;
- the **LIGHT+ project** for the engineering and mass use of an **intelligent public lighting pole** capable of managing sensors and functionalities of the public lighting service while providing useful services to the electrical distributor (such as integrated modems, etc.) and third parties (such as environmental sensors, video analysis, etc.). As part of this project, 5 patent applications for industrial inventions were submitted during the year;
- the **G.I.M.M.I. project**. (Mass Inspection and Targeted Infrastructure Management) to **reduce faults not found on overhead lines** and asset monitoring through periodic analysis of satellite images and targeted inspections carried out with drones;
- the **AUTONOMOUS project** to **reduce the incidence of failures in the primary station** by means of preventive inspections independently or remotely guided by an UGV (Unmanned Ground Vehicle) ground drone;
- the **FIBRE project** for the construction of the fibre optic network in synergy with Open Fiber.

With regard to **electric mobility**, during the year Areti developed **design solutions** for the **interaction between electric vehicles and the distribution network** as part of smart grid development;
Also during the year, **Acea Produzione** launched the technical-economic feasibility study for the creation of an electric battery storage system.

RESEARCH AND INNOVATION IN THE WATER SEGMENT

In collaboration with Acea Elabori, **Acea Ato 2** carried out **technological and digital research and innovation** during the year with the aim of improving operating performance.
With regard to process innovation in the management of **water distribution networks**, cutting edge techniques – **satellite, noise recorder and fibre optics used to search for hidden leaks** (Noise Logger and Satellite Radar Interferometry) – were tested and **more than 6,000 km of network were divided into districts**, with the integration of a mathematical model for the preparation of pressure control valves and the installation of instrumentation for **advanced remote management**.
With regard to **wastewater treatment**, the main projects concerned:

- the evaluation of innovative **sludge reduction** technologies, with the experimental study of the **ozonolysis system** and the **experimentation of a sludge dehydration system by solar drying** at the Ostia treatment plant;
- **optimisation of the anaerobic sludge digestion sectors**, activated at some of the major treatment plants, also with respect to the sludge's biomethanisation power (primary, secondary, etc.);
- **research into emerging organic micropollutants (EOMs)** to limit their release into the natural environment as they are potentially dangerous (endocrine disruptors, non-target substances and transformation products);
- the study of RAMAN spectrometry technologies and techniques for **micro-nanoplastic monitoring**, in collaboration with ENEA;
- the development of **process-modelling analyses** concerning the **residual capacity of the purification plants** and the simulation of the **propagation of odours in the atmosphere** produced by the treatment plants.

As for the **protection of water**, **satellite monitoring of the protected areas** has continued, aimed at detecting morphological variations (new buildings, earth movements and others) and carrying out any needed inspections.
During the year, the process of identifying a technological partner for the development of the **Water Management System (WMS)** project continued: a multi-channel, user-friendly application solution capable of representing, analysing, monitoring and reporting huge amounts of data and information from multiple information systems.
With reference to **water purification**, studies were carried out at the Grottarossa plant on emerging micropollutants in treated water (Tiber) and their fate during the treatment phases, as well as on the formation of disinfection by-products (chlorine dioxide and sodium hypochlorite), and experiments have been launched to detect emerging viruses in drinking water intended for human consumption.
Acea Ato 5 conducted experiments on:

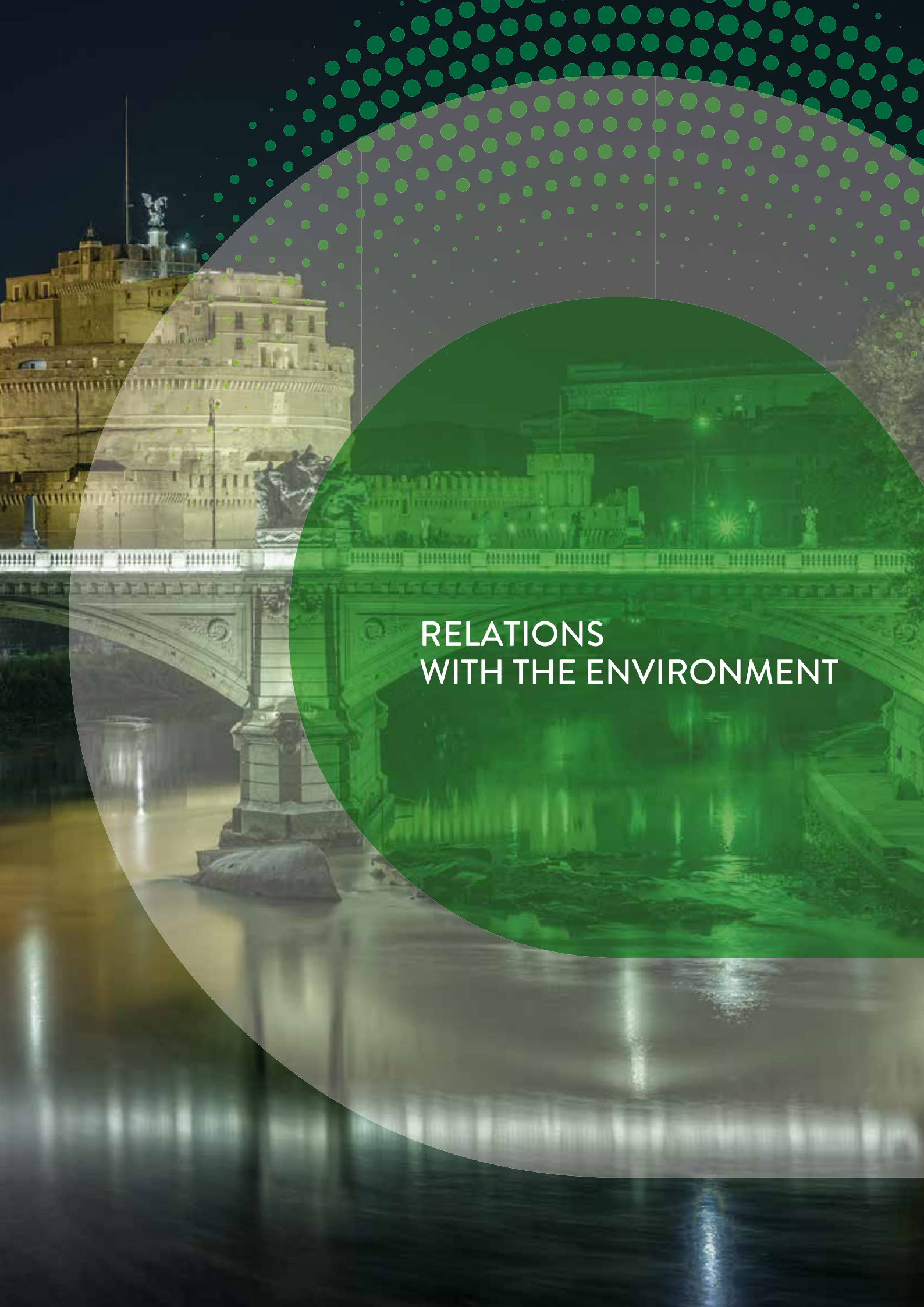
- a **drying bed system** consisting of a permeable geotextile tubular for the dehydration of excess sludge mixed with polyelectrolyte;
- **hydrocarbon abatement techniques in sludge** with mixtures of micro-organisms in the stabilisation tank;
- a magnetic polariser for drinking water.

Moreover, with regard to the **areas for the protection of drinking water springs**, **studies have been carried out to study the area** surrounding the springs (geological, stratigraphic and groundwater circulation aspects), proposals have been drawn up for the delimitation of areas of absolute protection and safeguarding of certain springs (derivations of Anagni Tufano, Castrocielo Capodacqua, Collepardo Capofiume and Posta Fibreno) and instrumentation has been prepared at three additional springs to locally take water level measurements for the monitoring needed to prepare for the study of the protected area.
Gori has implemented **IoT technologies and advanced sensors** for the monitoring of wastewater overflow dischargers.

RESEARCH AND INNOVATION IN THE ENVIRONMENT SEGMENT

In 2019 in the Environment Segment the following research and innovation activities are worth mentioning:

- the completion of the study on the development of a solution aimed at **recovering sodium bicarbonate and calcium chloride dihydrate** (by-products of reaction) from the treatment of the Residual Sodium Product (RSP) resulting from the neutralisation of acid fumes produced by the waste-to-energy plants, currently under contract negotiations;
- the initiation of an **experimental study for the treatment of fly ash for the recovery of the inert fraction** and its treatment for the purpose of reducing its hazardous characteristics;
- the collaboration with the Polytechnic University of Milan and the National Inter-university Consortium for the Science and Technology of Materials to launch a study on the implementation of a type of **conversion of the energy content of plasmix** (waste not otherwise separable from the mechanical selection processes of plastic) **for the production of methanol**;
- the **Sludge Mining project** for the production of fertilizers, biofuels and biomaterials from sewerage sludge;
- the **Acea SmartComp project**, launched by Acea Elabori for the waste transition and the development of **diffuse and proximity** composting with **mini-plants equipped with sensory technology able to locally transform organic waste into compost** through an aerobic process that in about 90 days produces fertilizer ready for use. The **first Acea SmartComp** was **installed at the canteen of Acea's headquarters**, which has thus become organic waste free, and Acea aims to install 250 Acea SmartComps by 2022.



RELATIONS WITH THE ENVIRONMENT

ENVIRONMENTAL SUSTAINABILITY AND THE PRIMARY CHALLENGES

The main challenges for environmental sustainability dealt with by Acea during the year are included in the framework outlined in the 2030 Agenda and focus on a few key issues, including **climate, water resources, circular economy and technological innovation applied to infrastructure management.**

With regard to **climate change**, the Group is undertaking initiatives aimed on the one hand at the process of **adaptation** to these changes, for example, by making infrastructure more resilient and incorporating the analysis of critical scenarios into operations, and on the other hand at the **mitigation** process through the progressive reduction of climate-changing emissions. In 2019 it continued the path towards the implementation of a system consistent with the **UNI EN ISO 14064 standard** (on the inventory of greenhouse gases), which enables a more **accurate analysis and knowledge** of emissions generated by plants, and achieved positive results on the **CDP- Carbon Disclosure Project Questionnaire** for which Acea improved its score, obtaining an A- (see also the box in the *Corporate Identity* chapter *Strategy and sustainability*).

With regard to the **management of water**, in agreement with the institutions of reference Acea continued the actions necessary for the **construction** of the **new upper section of the Peschiera-Le Capore Aqueduct** to safeguard the water supply in Rome and the Province of Rome. In addition, the wastewater reuse project continues, important both for preserving water resources and for the circular economy. Acea has been investing in the **circular economy** for some years now, with the aim of both reducing waste of resources, for example by using process waste, and obtaining energy recovery. This commitment was reinforced by the signing of a **Memorandum of Understanding** with Enea for the **joint development of projects in the circular economy**, with regard to the sustainable waste cycle and water resource management (see also the chapter *Institutions and the company*).

Also this year Acea contributed to the pursuit of some of the objectives set by the four European Directives of the "Circular Economy Package". Indeed, at Ecomondo Acea Elabori, Acea Ambiente and Acea Ato 2 presented some **projects aimed at the development of diffused composting, the reuse of water, the recovery of matter in urban purification plants and the reduction of sludge** (see the box for details).

Promoting a circular economy also requires the best possible management of water including through the use of water kiosks, see in this regard the chapter *Customers and the community*.

With regard to **technological innovation** particular attention is paid to applications that concern the **management of networks and their evolution** (see also *Corporate Identity* and the *Institutions and the company* chapter).

ACEA AT ECOMONDO

Acea once again this year participated in Ecomondo, the **most important international trade show of sustainable development in the Euro-Mediterranean area** held in **Rimini** with an innovative format that brought together the sectors of the **circular economy referring to the recovery of matter and energy, and the sustainable management of water resources.** The topics covered during the event were "waste and resources", "circular bioeconomy", "reclamation and hydrogeological risk" and "water", with a focus on the most advanced and sustainable technological solutions for the correct management and leveraging of resources (types of waste, water, polluted marine sites and raw, second and renewable materials).

Acea presented some **projects** focused on the circular and green economy such as **Acea SmartComp** for local composting (for more information see also the box in the chapter *Environment – waste management*), **Sludge Mining** for the recovery of fertilizers and biofuels from sewerage sludge and Water Kiosks, and shared **, testimonies** shared in the topical seminars and **interviews** by project managers.

In addition, the Chairwoman of Acea addressed the international plenary session of the General Assembly of Ecomondo entitled "Climate and Green New Deal: a compact between companies and governments".

The **booth set up by Acea**, visited by many and also by the Minister of the Environment, proposed **several activities engaging visitors**, including an **educational presentation on the water cycle** for boys and girls of school age, **practical demonstrations on chemical analyses and water controls**, a social activation on the importance of the **reuse of objects** thanks to creative restyling. In addition, experts in the **scientific and environmental field** have **given advice on the conduct** needed in everyday life to help improve the quality of the environment, by recycling plastic or reducing its consumption.

Acea also presented the **AIRES network contract**: A network of companies, institutions and technology consortia engaged in the **development of a circular economy and environmental sustainability** (see also the chapter *Institutions and the company*).

ENVIRONMENTAL AND CLIMATE RISKS: IN-DEPTH ANALYSIS AND DISCLOSURE

CLIMATE RISKS

Climate change is one of the most important environmental and social challenges, both internationally – as evidenced by the Paris Climate Agreement and the long-term European strategy "for a prosperous, modern and climate-neutral economy by 2050 – A clean planet for all" and the recent Green Deal promoted by the European Commission – and nationally, as indicated in the Integrated Energy and Climate Plan (IECP), which shares the Community's orientation aimed at strengthening the commitment to decarbonisation of the economy.

In 2019, the **Climate Action Summit** was held in New York, an important event organized by the United Nations with the dual objective of stimulating countries to achieve the objectives of the Paris Agreement and encouraging concrete actions in support of these objectives in the real economy.

In this context, consistent with international, European and national orientations, **Acea** has strengthened **its mitigation and adaptation strategy with respect to climate change** with **concrete actions**, including energy efficiency for companies and, in the water sector, the reuse of purified wastewater in agriculture or the production of drinking water from the Tiber in cases of emergency (see the *2019-2022 Sustainability Plan and the operational objectives* in *Corporate Identity*).

Furthermore, in line with the provisions of the **Task Force on Climate-Related Financial Disclosures (TCFD)**, Acea assesses climate risks by breaking them down into physical and transition risks (see also *Corporate identity* chapter *Corporate Governance and Management Systems*) and reports them in the aforementioned CDP. Acea is increasingly working to align itself with the recommendations of the TCFD by progressively including the consideration of climate risks in economic and financial reporting.

Through targeted initiatives such as the increase in **production from renewable energy sources**[98], the **Group** has the dual objective of **achieving high efficiency both in internal energy end-uses** and in **process uses** and **reducing carbon intensity** (gCO_2/kWh produced). The results obtained to date are shown in table no. 59 on energy intensity indices and table no. 65 on emission intensity indices.

ENVIRONMENTAL MANAGEMENT

The **Management Systems** integrated and certified according to the UNI EN ISO standards are implemented, or in the process of implementation in the majority by the company (see the chapter *Corporate governance and management systems* in *Corporate Identity*). The parent company itself has **an Integrated Management System with Quality, Environment, Safety and Energy components** that facilitates environmental compliance, and a **Sustainability Policy and QASE System** that guides the Group's approach to respecting and protecting the environment, also in line with the principles set out in the *Code of Ethics*.

The commitment of the operating companies to keep management of environmental issues efficient is very high. Nonetheless, situations can occur – usually provoked by contingent circumstances – that generate **non-conformities** that may be questioned by the competent control bodies.

During the year the main operating companies of the group received about 60 environmental fines, with the consequent payment of **about € 64,500**. An additional **144 environmental disputes** are currently being settled.

The Aprilia plant, seized in 2017 by the Latina Public Prosecutor's Office for aspects related to odorous emissions, in 2019 operated close to full capacity, although all activities were subject to daily control by a judicial custodian[99].

The majority of the water Companies of the Group – such as Acea Ato 2, Acea Ato 5, Gesesa – and the Companies of the Environment Segment) **receive environmental reports principally from the Control Bodies** or other Relevant Bodies, called upon by individual citizens. The Bodies, therefore, act autonomously with checks on site and, at times, they initiate proceedings and impose penalties, as mentioned above. Complaints/reports submitted by the Bodies on environmental issues of a certain importance are forwarded to the responsible office, which asks those involved to provide information on the problem that is the subject of the complaint in order to ascertain what has been reported and request the necessary action, as well as provide feedback to the Bodies concerned. 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.

With respect to electricity distribution, Areti can receive observations regarding alleged environmental damage in the case of buildings housing electrical plants. However, this concerns **installations indispensable for the correct exercise of the electricity distribution network**, created by Areti 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[100]. 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 **Occupational Safety Unit carries out the instrumental checks** in response to the disputes. During 2019 **6 environmental checks were processed and closed with a positive outcome** concerning electromagnetic fields and transformer substations.

THE MANAGEMENT AND CONTROL OF ACTIVITY WITH ENVIRONMENTAL IMPACTS

The Group monitors the processes which have the **potential capacity to generate environmental impacts** and in particular the activities which necessitate the use, or envisage the presence in installations, of materials which are intrinsically dangerous, such as for example sulphur hexafluoride, radon and dielectric oil.

With regard to the latter, in particular, in 2019 Areti continued its **experimentation with vegetable oil**, launched some years ago. Indeed, **dielectric oil** is a substance used as an insulating and cooling fluid in power transformers, which has advantageous technological characteristics and also some environmental issues related to its chemical nature as a derivative of petroleum. The experiment is based on the use of an **insulating liquid of vegetable origin**

98 More specifically, in 2019 Acea Produzione purchased some photovoltaic systems for 26 MW of power.

99 The Aprilia plant was placed under seizure in 2017, for aspects related to odorous emissions. On 14 April 2018 the Public Prosecutor authorized the resumption of operations by removing the seals from the Aprilia plant, without prejudice to the seizure. In 2019 the plant operated close to full capacity, although all activities were subject to daily control by a judicial custodian.

100 In this case, the environmental regulatory reference is D.P.C.M. of 8 July 2003.

(natural esters), which has electrical and physical characteristics similar to oil of a mineral origin, but the significant advantages of a **higher temperature of flammability** and a **total biodegradability and reusability** at the end of its life. The ongoing experiments, having the precautionary aim of maximising confidence with this new product by minimising any risks and/or defects connected with its use, concerns **three MV/LV transformers designed and built for this purpose** (two with 400 kVA power and the third with 630 kVA power put into operation in 2015).

PROTECTION OF THE TERRITORY

Acea pays attention to the **protection of the territory region** and the **safeguarding of biodiversity**. The protection of ecosystems is contemplated in the procedures of the **Environmental Management Systems**, in the context of the design and construction of plants, as well as in the management of the relevant areas. Moreover, as required by the Authorisations of existing plants and every time an Integrated Environmental Authorisation (IEA) is renewed for a plant, this is managed by protecting the flora and fauna and protecting the environment and the landscape in which the plant is located. The main activities of the Group Companies that may have an impact on biodiversity are primarily attributable to the management of water sources, the operation of electricity production systems (hydroelectric, thermoelectric and waste to energy), the distribution of electricity and the treatment of waste.
In 2019, in order to verify the presence of species listed in the red list (IUCN) and in the national lists of protected species in the areas of operation, Acea carried out a specific investigation that involved the verification of the location of the Group's main plants within the following types of protected areas: Sites of Community Interest (SCIs), Special Protection Areas (SPAs) covered by the Natura 2000 network and other areas of biodiversity value, such as protected parks. In addition to the progressive extension of the analyses to all Group companies, Acea intends to continue this investigation, verifying the presence of protected species in the areas of interest and the possible contact between them and the operations of the Companies. The surveys carried out in 2019 found **no Acea Ambiente plants** (thermal renewal and composting) or **Acea Produzione thermoelectric plants in protected areas**, while the analyses carried out on **Acea Ato 2** infrastructure found 7 plants in protected areas (SPAs, SCIs or regional parks)[101]. Built prior to the establishment of parks, protected areas and special conservation areas, the sites are considered to require absolute protection as they are close to springs are managed with the utmost attention to the conservation of existing ecosystems and the preservation of the water flow. In an area around the Acqua Vergine springs, for years Acea Ato 2 has monitored the presence of the Peregrine falcon, a **protected species** that, despite preferring open and wild areas, can nest even in artificial constructions like towers and bell towers in heavily built-up territories. Every year a large community including scholars, ornithologists and simple enthusiasts follows the lives of the Peregrine Falcons who 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).
Acea Ato 2 also monitors the **areas surrounding the largest treatment plants** in Rome. The results of the analyses carried out at the purification plant in Rome Nord have shown that the plant constitutes a synanthropic biodiversity hotspot, i.e. a place where species that coexist or are learning to coexist with humans through mechanisms of evolution and natural selection tend to form a rich and stable ecological community. Indeed, the specific ecological conditions combined with the low impact of man-made structures facilitates the presence of an extremely particular wildlife community.
Acea Produzione manages the water basins of hydroelectric plants and provides for the protection of the habitats of all species present in these areas 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 variation of the native flora of the banks. In addition, the Company's protection of the aforementioned basins ensures the living conditions of the "settled" and "migratory" birds, which use these sites for reproduction/feeding even during migration.
Finally, 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. In particular, through the Memorandum of Understanding for the rearrangement of the electricity grids signed by Areti, Terna and the Municipality of Roma Capitale in 2007, interventions have been planned to dismantle and demolish tens of kilometres of overhead power lines within very important areas subject to protection, such as: Veio Park, the Marcigliana Nature Reserve and, to the south of Rome, the Decima Malafe Nature Reserve and the Roman Coast Nature Reserve. For details of the interventions carried out in 2019, please refer to the *Memorandum of Understanding for the rearrangement of the electricity grids* in the section *Energy distribution*.

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. For example, Rome is one of the few metropolitan areas in the world to boast a water resource of such excellent quality at the origin that it hardly requires pre-treatment for purification.
The supply system of the entire area covered by **OTA 2 – central Lazio** is composed of **seven large aqueduct systems** that transport water derived 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 distribution network extends for about **10,400 km.** In addition to this priceless natural heritage, Lake Bracciano is a reserve to be used only in cases of emergency, after treatment. In 2019 Acea Ato 2 **completed the transformation of the "Grottarossa" water purification plant on the Tiber**, formerly a treatment plant for non-potable uses, which, once having obtained the necessary authorisations, will be ready to be used for water purification in the event of a water emergency.

[101] Specifically the Peschiera, Le Capore, Pertuso, Ceraso Doganella, Acqua Vergine, Lago di Bracciano and Sorgenti Simbrivio catchment facilities.

THE NEW SUSTAINABLE WORKS ON THE PESCHIERA – LE CAPORE E MARCIO AQUEDUCTS

In 2019, after the approval issued by the relevant Bodies, Acea Ato 2 **began the design of works on the Peschiera-Le Capore and Marcio aqueducts** aimed at ensuring the continuity and security of the supply to Roma Capitale and the territory of OTA 2. The design of the new works, carried out in compliance with current regulations, will be developed following the ***Envision*** protocol procedures, the first rating system that assesses the economic, environmental and social sustainability of infrastructure.

New upper section of Peschiera-Le Capore

In July the specifications for the renewal of the concession for the derivation from the springs for Roma Capitale were signed, and consequently, due to the current management agreement, Acea Ato 2 was awarded the pro tempore concession of the integrated water service in the territory of OTA 2 Central Lazio – Rome. This important result, awaited for 23 years, is preparatory to the design and implementation of the aqueduct's safety works. The planned works, now in the final design stage, involve the construction of a second 27 km line of infrastructure that will connect the spring with the Salisano node, which represents the upper section of the Peschiera-Le Capore aqueduct system. The planned doubling will make the supply of the concession capacity to Rome and the other areas more secure and resilient, countering the risks associated with the ageing of the current infrastructure and the seismic nature of the territory. The size of the infrastructure and the duration to be guaranteed have dictated innovative design choices **inspired by the most modern execution techniques and monitoring technologies**, for the definition of which experts in different fields of engineering have been involved and consulting from universities and research institutes has been requested. In the coming months the design will also undergo numerical/physical modelling for the most important elements.

In 2019 the objectives of the works were identified, with the drafting of the Requirement Framework (QE), the design specifications were defined with the drafting of the Design Guidance Document (DIP) and the Feasibility Document of the Project Alternatives, the Technical-Economic Feasibility Project and the Final Project. The cost-benefit analysis prepared by the Department of Management and Law of the University of Rome "Tor Vergata" was used to choose the solution to be developed. In 2020 the authorisation phase will be carried out, preparatory for the call for tenders, which will also include an Environmental Impact Assessment (VIA).

New Marcio aqueduct

Two parallel aqueducts originate from the springs of Acqua Marcia, located in the valley of the Aniene river, namely the Marcio I and II aqueducts, which for more than 100 years have carried the water from the springs to Rome and the various municipalities along their path (for a total average flow of 3.5-5 m^3/s). The layout of the two aqueducts has some problems related to the ability to ensure adequate hygienic protection of the transported water. Moreover, given the age of the works and their limited management flexibility, works have been started to make the Marcio system reliable from the point of view of the quality and continuity of the resource and the flexibility of operations, benefiting the overall resilience of the capital's supply.

In 2019 the objectives of the works were identified with the drafting of the QE, the design specifications were defined with the drafting of the Design Guidance Document and the drafting of the Feasibility Document of the Project Alternatives was completed. After careful examination with the multicriteria analysis, from the many possible solutions four hypotheses were identified that will be assessed as part of the cost-benefit analysis performed by the Department of Management and Law of the University of Rome Tor Vergata.

The completion of the design process and the start of the authorisation process prior to the call for tenders are expected in 2020.

The **drinking water system** of the **OTA 5 Southern Lazio – Frosinone** region is constituted by installations and networks, for conveyance and distribution, which are in charge of **7 principal springs** from which **the same number of aqueduct systems** have their origin, for a total of 5,500 km of network[102]. In the region of the **Sarnese Vesuvian District**, the different springs and wells described in table no. 45 feed about 4,970 km of water network, of which 811 km of aqueducts and supply networks. Just as in the province of **Benevento** the plurality of springs feeds about 170 km of aqueducts and supply networks, with about 1,540 km of total distribution[103].

Protection and safeguarding of water resources are also facilitated by compliance with the provisions of Legislative Decree no. 152/2006, which, in Article 94, regulates the methods for protecting areas where there is surface water and groundwater intended for human consumption.

Table no. 45 describes the location and surface areas in square metres of the areas **subject to absolute protection**[104] in the provinces of Rome, Frosinone and Benevento.

TABLE NO. 45 – THE PRINCIPAL SOURCES UNDER PROTECTION

sensitive area	municipality	surface (m^2)(*)
IN OTA 2 – CENTRAL LAZIO		
Peschiera springs	municipality of Cittaducale (Rieti, Lazio)	375,322
Le Capore springs	municipality of Frasso and Casaprota (Rieti, Lazio)	997,848
Acqua Marcia spring	municipalities of Agosta-Arsoli-Marano Equo (Rome)	1,181,979
Acquoria spring	municipality of Tivoli (Rome)	17,724
Pantano Borghese Acqua Felice springs	municipality of Zagarolo (Rome)	779,143
Simbrivio springs and wells	municipality of Vallepietra (Rome)	194,755

102 The Acea Ato 5 water network as a whole consists of 5,496 km, of which 1,208 km of aqueducts and supply networks.
103 2018 data.
104 The areas of absolute protection are the areas immediately surrounding the catchments or off-springs, as defined in Legislative Decree no. 152/2006.

TABLE NO. 45 – THE PRINCIPAL SOURCES UNDER PROTECTION (cont.)

Pertuso springs	municipality of Trevi – Filettino (Lazio)	133,711
Doganella sources	municipality of Rocca Priora (Rome)	350,000
Acqua Vergine springs	municipality of Rome	500,000
Torre Angela wells	municipality of Rome	70,829
Finocchio wells	municipality of Rome	64,166
Laurentina wells	municipality of Ardea	13,661
Pescarella wells	municipality of Ardea	2,433
Lake of Bracciano	municipality of Rome	169,200
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		
12 wells	municipalities of Benevento, Telese Terme, Castelpagano, Vitulano, Melizzano, Sant'Agata de' Goti, Cautano and Forchia	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
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
spring and well field S.M La Foce	municipality of Sarno (Salerno)	60,202
Fontana grande spring	municipality of Castellammare di Stabia (Naples)	330
Murata, Pugliana, Casaliciello, Santa Lucia, Tartaglia complexes	municipalities of Cercola, Ercolano, Pollena Trocchia, Roccarainola, San Giorgio a Cremano (Naples)	15,473
Monte Taccaro complex, Angri well field	municipality of Angri (Salerno)	43,072
Suppezza, Gragnano, San Mauro Montalbino, Mercato Palazzo, Santa Lucia well field	municipality of Castellammare di Stabia, Gragnano, Nocera Inferiore, Sarno (Salerno)	46,610
Traiano, Stromboli-Vesuvio, Petraro wells	municipalities of Castel San Giorgio, Mercato San Severino, 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, Siano (Salerno)	10,657
4 wells in the province of Naples	municipalities of Castellammare di Stabia, Palma Campania, Roccarainola, San Giorgio a Cremano (Naples)	1,529

(*) The surface area data is estimated.

For the **monitoring of the area** where the springs are located, Acea also uses **"satellite observation"**. 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 in any event suspect morphological variation**, such as new, unsurveyed constructions, earth movements, small landfills. Acea Ato 2 directly verifies the actual existence of threats to the water, ensuring **precise monitoring**. In fact, in 2019, thanks to the use of a satellite to perform change detection and additional inspections carried out along the supply and capture network, **57 violations** were identified.

ENERGY SEGMENT

SCOPE OF REFERENCE

The Energy Segment chapter includes Areti, Acea Produzione, Acea Ambiente's plants and Ecogena's data, the latter in terms of energy produced and Energy Efficiency Certificates. The waste to energy activities are described in the chapter *Environment Segment – Waste Management*.

904 GWh TOTAL PRODUCED ENERGY:
70% FROM RENEWABLE SOURCES (**635 GWh**)

229,000 tonnes of CO_2 saved
THROUGH THE PRODUCTION OF ELECTRICITY FROM RENEWABLE SOURCES INSTEAD OF TRADITIONAL SOURCES

The Group **oversees the entire electricity supply chain** thanks to the operations of companies that, as required by the regulation of the electricity market, are independent of each other.
In particular, Acea is active in the **production** of electricity and heat seeking to increase the share from renewable sources; in the **distribution** of electricity in the Rome and Formello areas, including the management of public lighting; and in the **sale** of electricity, heat and gas.
Acea is also committed to innovation applied to the management of networks – remote management and smart grid – having to manage, for example, prosumers connected to its energy distribution network, whose flows of electricity generation and consumption are no longer one-way (see also the chapters *Customers and the community* and *Institutions and the company*).

ENERGY PRODUCTION: FOSSIL AND RENEWABLE ENERGY SOURCES

GROUP PLANTS

Acea produces electricity mainly through **hydroelectric plants**. A **significant share** is produced by **waste-to-energy** of **pulpers and Refuse-Derived Fuel** – RDF, a primary energy source derived from waste, both with shares equal to about 50% of **biodegradable** material.
Generation from renewable sources (hydroelectric and photovoltaic, with the exception of waste-to-energy) and from fossil fuels (thermoelectric) – the latter mainly through the **high-efficiency cogeneration plant** – is entrusted to **Acea Produzione**.
The inventory of generators available to the Company consists of:

- **7 hydroelectric power stations** located in the Lazio and Abruzzo regions for a total of **122 MW**;
- **2 thermoelectric power stations** located in the territory of the Municipality of Rome: Montemartini (78.3 MW) and Tor Di Valle (19.0 MW), for **97.3 MW_e total installed power available**;
- A **photovoltaic park**, for a total of **36.5 MW_p**, of which 28 MW acquired in the second part of the year.

The Company **Acea Ambiente** ensures the generation of energy from waste-to-energy with **two waste-to-energy plants** located in San Vittore del Lazio and Terni.
The total gross electrical power currently available is equal to about **58 MW_e**.
In addition, Acea Ambiente produces electricity using biogas derived from the anaerobic digestion process.

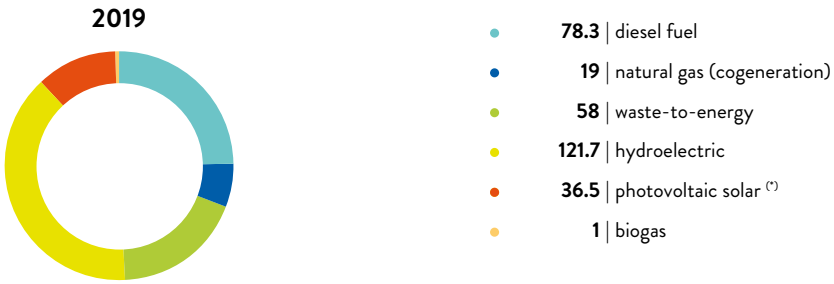
TABLE NO. 46 – INSTALLED POWER OF THE ELECTRIC POWER STATIONS OF ACEA PRODUZIONE

hydroelectric power stations	thermoelectric power stations
Castel Madama power plant (Rome) gross power **9.4 MW**	Tor di Valle power plant: high efficiency cogeneration section (CAR)(*) (Rome) methane fuel – gross power **19.0 MW**
G. Ferraris power plant in Mandela (Rome) gross power **8.5 MW**	Montemartini (Rome) power plant diesel fuel – gross power **78.3 MW**
Salisano (Rieti) power plant gross power **24.6 MW**	
G. Marconi power plant in Orte (Viterbo) gross power **20.0 MW**	
Sant'Angelo (Chieti) power plant gross power **58.4 MW**	
Cecchina (Rome) power plant gross power **0.4 MW**	
Madonna del Rosario (Rome) power plant gross power **0.4 MW**	
general total: gross capacity 219 MW	

(*) The CAR plant in Tor di Valle provides district heating service in the area south of Rome.

The installed capacities, which **overall amount to about 315 MW**[105], are represented in chart no. 45, distinguished by energy source.

CHART NO. 45 – INSTALLED ELECTRICAL POWER OF THE GROUP BROKEN DOWN BY ENERGY SOURCE (MW) (2019)



(*) Photovoltaic MW under the responsibility of Acea Produzione also include 28 MW acquired in the second half of 2019. The energy produced by the new plants will be reported from 2020.

ELECTRICITY PRODUCED

In 2019, the **total gross production of electricity** decreased to about **904 GWh**, -7% compared to 968 GWh last year due to the low rainfall, which reduced hydroelectric production, and some problems related to the line turbines of the waste-to-energy plant in San Vittore del Lazio which, in addition to the postponement of the plant's maintenance (due to the regional ordinances put in place to overcome the waste emergency in Rome), resulted in less positive energy performance than planned.
The share of electricity generated by **renewable sources**, about **635 GWh**, has proven to be **predominant** and equal to **about 70% of the total**, with the following contributions:

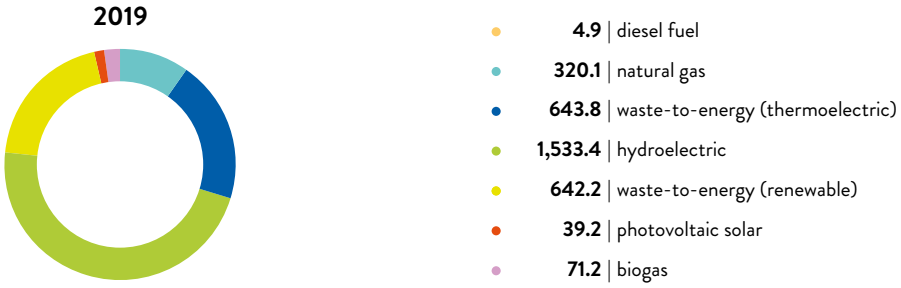
- 426 GWh from hydroelectric power,
- 178 GWh from waste-to-energy,
- 20 GWh from biogas (Orvieto plant),
- 11 GWh from solar panels (see chart no. 45 and table no. 47).

Acea Produzione has continued to **modernize and improve the efficiency of its hydroelectric plants**. After the works carried out in previous years at the Guglielmo Marconi, Salisano and Alessandro Volta power plants in 2019, **revamping** continued on the **Galileo Ferraris hydroelectric plant in Mandela**, also located in the province of Rome, which will end in January 2020, making it possible to **optimize the use of available water resources**, under the same conditions of installed and licensed power.

With regard to the **share of green energy from waste-to-energy**, **about 50%** of the production from this type of plant **is renewable**, being associated to the combustion of the **biodegradable fraction of waste** used as a primary source. In particular, **the renewable share of the fuel** (RDF) entering the **San Vittore del Lazio plant** was equal to **51%** of the total of waste-to-energy, while **in the Terni plant** this share was around **47%**.

[105] The total installed power includes the Acea Produzione plants, the waste-to-energy plants and the Orvieto plant (Acea Ambiente) for the production of biogas.

CHART NO. 46 – ELECTRICITY PRODUCED SUBDIVIDED BY PRIMARY ENERGY SOURCE (TJ) (2019)



NOTE The values reported in the chart are expressed in TJ (1 GWh=3.6TJ).

TABLE NO. 47 – ELECTRICITY PRODUCED (BY PRIMARY ENERGY SOURCE) (2017-2019)

	2017	2018	2019
PRIMARY ENERGY SOURCE		TJ (GWh) (*)	
diesel fuel	7.7 (2.2)	2.0 (0.6)	4.9 (1.4)
natural gas (cogeneration)	135.2 (37.6)	261.9 (72.8)	320.1 (88.9)
waste-to-energy (about 50% of the total)	682.9 (189.7)	718.4 (199.5)	643.8 (178.8)
total thermoelectric	**825.8 (229.4)**	**982.3 (272.9)**	**968.8 (269.1)**
hydroelectric	1,369.7 (380.5)	1,715.5 (476.5)	1,533.4 (426.0)
waste-to-energy (about 50% of the total)	700.2 (194.5)	684.6 (190.2)	642.2 (178.4)
biogas	78.7 (21.9)	67.1 (18.6)	71.2 (19.8)
photovoltaic solar (**)	41.7 (11.6)	36.7 (10.2)	39.2 (10.9)
total renewables	**2,190.4 (608.4)**	**2,503.9 (695.5)**	**2,286.0 (635.0)**
general total	**3,016.4 (837.9)**	**3,486.2 (968.4)**	**3,254.8 (904.1)**

(*) 1 GWh = 3.6 TJ.
(**) Photovoltaic includes the production at the plants of the water area (Acea Ato 2) and at the waste management plant of Orvieto, for a total of 2 GWh produced. The energy produced by the plants acquired in the second half of 2019 will be included in the next report.

The decrease in energy produced by hydroelectric power plants, equal to about 10.6% compared to 2018, is due to the lower rainfall recorded during the year.
With regard to thermoelectric energy, the increase in production is due to a greater availability of the Tor di Valle plant.

THERMAL ENERGY PRODUCED

In 2019 Acea Produzione continued the project of **extending the district heating network** of Mezzocammino district in the zone South of Rome.
The Tor di Valle thermoelectric power plant generated about **96 GWh of thermal energy**. The heat generated was used to serve **40,054 inhabitants in the zone south of Rome** (Mostacciano, Torrino and Mezzocammino) by means of a district heating network which sever a volume equal to 3,651,124 cubic metres[106].

In addition to the management described above, the Group operates Ecogena which, 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 **trigeneration plants**[107] for the production, in combined mode, of **electrical, heat and cooling energy**.
In **2019 cogeneration plants were managed**, combined with **district heating networks for a total of 5 MW of electrical power**. The production of thermal and refrigeration energy is increasing compared to previous years, while there is a slight overall decrease in electricity production (see table no. 48).

106 The data is from August 2019.
107 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.

TABLE NO. 48 – THE PRODUCTION OF ENERGY BY ECOGENA PLANTS AND ENERGY EFFICIENCY CERTIFICATES EEC (2017-2019)

	2017	2018	2019
ENERGY PRODUCED		TJ (GWh)	
electricity	61.9 (17.2)	54.1 (15.0)	51.5 (14.3)
of which plants owned by Ecogena	*56.7 (15.7)*	*50.3 (14.0)*	*49.0 (13.6)*
of which plants owned by third parties	*5.1 (1.4)*	*3.9 1.1*	*2.7 (0.7)*
thermal energy	90.4 (25.1)	95.4 (26.5)	103.3 (28.7)
of which plants owned by Ecogena	*74.8 (20.8)*	*81.1 (22.5)*	*89.2 (24.8)*
of which plants owned by third parties	*15.7 (4.4)*	*14.3 (4.0)*	*14.0 (3.9)*
refrigeration energy (all owned plants)	17.0 (4.7)	34.5 (9.6)	37.6 (10.5)
		EECs	
Total EECs (all from plants owned by Ecogena)	1,039	1,359	954

NOTE The topic of EECs is dealt with in the *Energy savings* section of the chapter *The use of materials, energy and water*.

ENERGY DISTRIBUTION

THE DISTRIBUTION NETWORKS

DISTRIBUTION NETWORK IN ROME AND FORMELLO: ABOUT **31,000 km**

APPROXIMATELY **10,600 GWh** ELECTRICAL POWER DEMAND ON OUR GRID

CONSTANT **territorial protection** (UNDERGROUND HV GRID/ TOTAL HV GRID): **46%**

Areti manages the **electricity distribution network** of Rome and Formello, extending over **about 31,000 km** and capable of supplying about **2.8 million resident inhabitants**. In terms of volumes of electricity distributed, about 9,830 GWh in 2019, Acea is the third largest Italian operator in the sector.
In table no. 49 the principal plant data of the Company are described, including the number of primary and secondary substations, the transformers[108] and the km of overhead and underground distribution lines.

The **environmental indicator** related to the **protection of the region**, calculated as a percentage share of the **underground high voltage grid** (**HV**) in relation to the **total of the HV lines in use** (overhead and underground), **has improved in recent years, and in 2019 was stable compared to the previous year**, equal to **46%** (44% in 2017). This also as a result of the ongoing **transformation and modernisation of the high and very high voltage electricity distribution grid**.

TABLE NO. 49 – NUMBER OF OVERHEAD AND UNDERGROUND DISTRIBUTION LINES AND PLANTS (2017-2019)

Areti

SYSTEMS AND OUTPUT	m.u.	2017	2018	2019
High Voltage/High Voltage – High Voltage/Medium Voltage primary sub-stations	no.	71	70	70
High Voltage/High Voltage and High Voltage/Medium Voltage transformers	no.	169	166	170
transformation power	MVA	7,921	7,631	7,781
sub-stations in use	no.	13,159	13,211	13,238
Medium Voltage/Medium Voltage – Medium Voltage/Low Voltage transformers	no.	12,832	12,838	12,883
transformation power	MVA	6,203	6,236	6,282
OVERHEAD AND UNDERGROUND NETWORKS				
high voltage network – overhead lines	km	310	282	282
high voltage network – underground lines	km	243	243	243
medium voltage network – overhead lines	km	419	424	422
medium voltage network – underground lines	km	10,137	10,166	10,470
low voltage network – overhead lines	km	1,641	1,641	1,642
low voltage network – underground lines	km	18,147	18,306	18,417

[108] 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 2019, 194 transformers with PCBs above 50 ppm but below the 500 ppm threshold, including 93 for public lighting, were reported to Arpa, and 10 transformers were disposed of, for a total weight of 13,420 kg and a quantity of PCBs of 1,838 ppm.

With reference to the **electric and magnetic fields**, in particular related to the primary transformer substations, High and Medium Voltage overhead electricity lines and secondary transformer stations, the **possible risks for the health** of employees and the community of reference are dealt with, respectively, in the **Risks Evaluation Document** and in the **Corporate Environmental Analyses Document**. Areti conducts periodic **sample checks in the company's sites**, carried out also following reports by users/customers or External Bodies. Additional checks are conducted by ARPA Lazio[109] following specific requests by the public and customers.

MEMORANDUM OF UNDERSTANDING FOR THE REARRANGEMENT OF THE ELECTRICITY NETWORK

2019 saw the continuation of the **plan to modernize the high voltage electricity distribution network (150 kV)**, defined in the **Memorandum of Understanding** signed in 2010 among Areti SpA (formerly Acea Distribuzione), the Municipality of Rome and Terna SpA. In particular, during the following activies were carried out:

- continuation of the demolition of the 150 kV Flaminia 2 – East Sorting 2 line, for a length of 22.6 km and 74 supports;
- continuation of construction works for the 150 kV "Rome North-San Basilio" line, relative to the new section starting at the Rome North Electrical Station for a length of 4 km with green coloured pylons and tubular supports, consistently with the requirements of the Rome Nature Body.

The complete rearrangement of the grid, as envisaged in the Plan, will generate **significant environmental benefits** related to the **energy savings expected, amounting to about 58,000,000 kWh**, equivalent to the annual consumption of about 20,000 households.

The management of the electricity distribution network of Rome and Formello is characterized by the **continuous improvement of the performances**, with particular attention to energy efficiency.

Every year Areti implements **initiatives to reduce grid losses**, which include the reclassification of medium voltage levels from 8.4 kV to 20 kV and the installation of MV/LV transformers with very low losses. For further information see the *Energy savings* section in the chapter *The use of materials, energy and water*.

The activities performed for the **smart city** that continue to **improve the performance of the networks** thanks to the evolution and integration of management systems and, in general, the applications of technological innovation in the management of the network, are illustrated in the chapter *Institutions and the Company*.

Also as a result of the activities mentioned above, **energy losses on the grid** during the year amounted to approximately **7% of the total transported**, a slight decrease compared to 2018.

ENVIRONMENT SEGMENT – WASTE MANAGEMENT

SCOPE OF REFERENCE

The chapter includes the activities of the waste treatment hub, the waste-to-energy plants, the compost production plants and Aquaser, all in Acea Ambiente.

16,540 t
OF **quality compost**
PRODUCED
(**+40%** COMPARED TO 2018)

ABOUT **11,500 kNm³**
OF BIOGAS PRODUCED
AND, FROM THIS,
20 GWh OF ENERGY

357 GWH
OF ENERGY PRODUCED BY
waste-to-energy

WASTE-TO-ENERGY:
ABOUT **434,600 t**
OF WASTE INPUT AND
ABOUT **97,400 t**
OF WASTE OUTPUT:
22% (output/input)

In line with the European vision of the Circular Economy, Acea manages the waste cycle in order to recover, recycle and reuse waste in the best possible way and, when possible, recover energy. The Group, in particular, occupies itself with the following phases of the waste cycle:

- **treatment of municipal solid waste** (MSW) and other types of waste (like green waste from separate collection, industrial waste, etc.), **for the recovery of material** and disposal of only the residues in landfills;
- **incineration with energy recovery** with consequent reduction of the soil needed for disposal;
- **production of high quality compost** for agriculture.

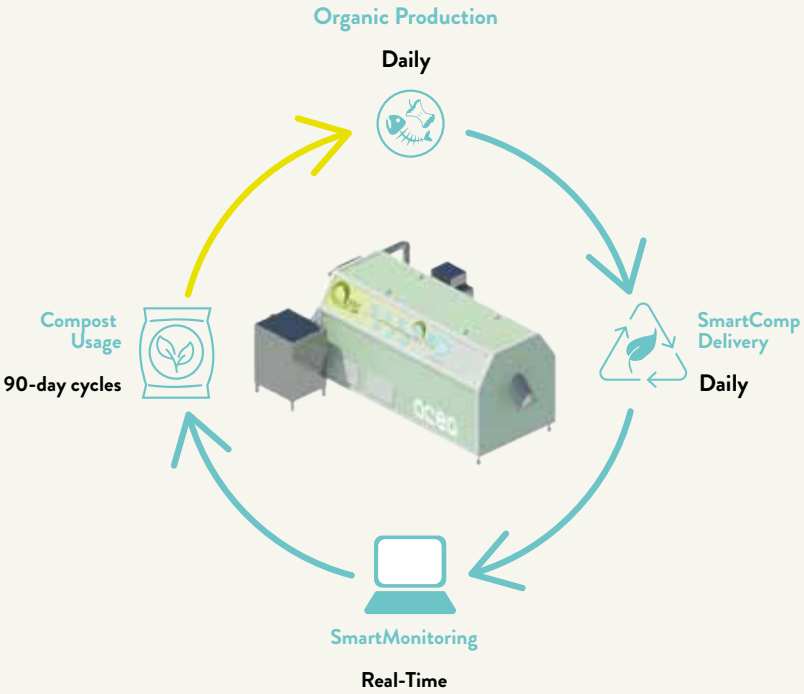
Of importance for the company is also the issue of **treatment and reuse of non-hazardous waste**, and in particular **hazardous waste** that presents the greatest problems for disposal, not only in environmental and social terms, but also in economic terms, given the high cost.

In 2019 Acea developed the widespread composting project called **Acea SmartComp** (see the box below and also *The commitment to research and innovation* in the chapter *Institutions and the company*)

[109] According to the following legislative references: Legislative Decree no. 81/08; Italian Electro-technical Committee Guide 211-6 first ed. of 01/2001; Prime Ministerial Decree 8/7/2003 "Fixing of the limits of exposure, the values of attention and the quality objectives for the protection of the population from electric and magnetic fields at the network frequency (50Hz) generated by the power lines".

ACEA SMARTCOMP

Acea SmartComp is an **innovative solution for the transformation of organic waste into a product (compost), directly at the site where the waste is produced.**
The project is inspired by the waste transition, a new model of zero km waste management based on a **widespread and distributed network of mini-processing plants for the organic fraction**.
Specifically, the composter is an accelerator of the aerobic degradation process of organic substances, and the compost produced, reduced in weight by up to 20% compared to the original treated waste, is a product that is naturally sanitized and ready for use as a soil conditioner. The innovation of the process lies in the smart operating logic based on advanced sensors – algorithms and dashboards, prepared jointly by ENEA and the University of Tuscia – and smart remote control of the process, with the optimisation of ageing times, product quality and environmental impacts.



The **advantages of the process** are both financial, with **reduction of waste collection and treatment costs**, and environmental, with **reduction of CO_2 emissions** associated with transport.
Strong interest has been expressed by large food distribution and by big companies for the use of the composter in company canteens, and commercial initiatives launched in 2019 have led to the signing of a commercial agreement with Fiera di Roma and contracts with other entities and distribution companies.
Acea installed the first SmartComp at the canteen in its own headquarters and uses the soil conditioner produced in its green spaces, thus reducing the use of other types of fertilizer.

The following paragraphs provide further information on the operating aspects of the activities already mentioned and carried out in terms of waste management. These are **modern plants**, that have recently been revamped or expanded to improve and renew the processes and recover matter and/or energy where possible, and the **use of advanced technologies** necessary to improve the efficiency of waste management.

WASTE MANAGEMENT: COMPOSTING, WASTE-TO-ENERGY AND RELATED SERVICES

INTEGRATED WASTE TREATMENT – ORVIETO PLANT

The company **Acea Ambiente** manages a major plant for the treatment, recovery and disposal of waste in Umbria, 3 km from the town of Orvieto, in particular the treatment of the integrated cycle of solid urban and assimilated waste produced in the area that includes all the municipalities of the province of Terni. The landfill is also authorized to receive special waste.
The main plant sections are mechanical biological treatment of solid urban waste, composting and refining of the organic fraction of the separated waste and disposal in landfills. The activities carried out enable the recovery of material (production of quality compost) and energy (use of the biogas produced).
Management is carried out in compliance with certified management systems (see *Management systems* in *Corporate identity*) with the aim of achieving **maximum recovery from the materials** and encouraging both the **production of energy from renewable sources** and the **reduction of waste to be sent to landfills**.
In 2019 the total waste entering the plant was **99,910 tonnes**. 57% (about 56,700 tonnes) was disposed of in landfills and the remainder almost entirely sent to the **anaerobic digestion and composting** section of the treatment plant. For more details see *Environmental Accounts*.
At the Orvieto 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 by the landfill. The electricity generated is broken down as follows:

- about **3.3 Mm³ of biogas** and **6.7 GWh of energy** were produced at the treatment plant in **2019**;
- **about 7.9 Mm³ of biogas** and **13.1 GWh of energy** were **produced at the landfill.**

Overall, **about 18.6 GWh** of electricity **was fed into the grid**.
The Orvieto hub **is also equipped with a photovoltaic plant** owned by Acea Produzione, which generated about 390 MWh in 2019, used to **cover part of the plant's consumption of electricity**.

QUALITY COMPOST PRODUCTION

In addition to the Orvieto site, Acea Ambiente has three other composting plants in Aprilia, Monterotondo Marittimo and Sabaudia.
The Aprilia plant, still under seizure, was the subject of an expansion which, once completed, **will enable the recovery of 120,000 tonnes of organic fraction per year**, **while the Monterotondo Marittimo plant**, which has undergone expansion and revamping in recent years, has a **recovery capacity of 70,000 tonnes/year for organic waste fraction, green fraction and sludge**. Both sites have also implemented a new **anaerobic digestion section**, which will allow the **recovery of electrical and thermal energy from 2020**[110].
At the Sabaudia plant, which has been undergoing revamping/maintenance since 2016, operations were resumed in August 2018 and again suspended on 31.10.2019 to allow further revamping[111]. The liquid waste treatment section is currently inactive. The plant has a treatment capacity of **20,000 tonnes of compostable waste per year and 30,000 tonnes of liquid waste per year**.

INTERMEDIATION AND TRANSPORT OF WASTE

In 2019, **Aquaser**, which **loads, transports, recovers and disposes of waste produced by purification plants**, managed a total of **580,000 tonnes** (570,000 tonnes in 2018).
With regard to **intermediation**, during the year Aquaser took charge of **approximately 207,000 tonnes of waste**, of which **184,000 tonnes** are attributable to the **Group's water companies**[112], and in particular approximately **130,000 tonnes to Acea Ato 2 and Acea Ato 5**.
The dried out and dehydrated sludge coming from these companies was sent to the following end destinations:

- 49.3% to material recovery operations (pretreatments aimed at agricultural use – conditioning, composting);
- 1.6% to recovery of energy (waste-to-energy).

The remaining 49.1% was disposed of. Also this year, due to regulatory constraints direct spreading was not used in agriculture.
Aquaser in particular **used its own means** to transport about **61,000 tonnes of non-hazardous waste**.

WASTE-TO-ENERGY

Energy recovery from waste is an important part of the Circular Economy[113] and, in addition to providing energy and economic advantages, it leads to a **notable volumetric reduction and the biological stabilisation of waste**, avoiding as far as possible the disposal of this waste in landfills as such.
In addition to the activities already described of waste treatment and anaerobic digestion, **Acea Ambiente** also manages the waste-to-energy process through **two plants**, one in San Vittore del Lazio and the other in Terni. The plants operate according to certified environmental management systems: UNI EN ISO 14001:2015 certification and EMAS III European registration, extended to 2021. For additional information on these aspects see also the section on *Management systems* in *Corporate identity*.

WASTE RECOVERY TO IMPROVE RECYCLING AND THE CIRCULAR ECONOMY IN THE PAPER SECTOR

Working with Assocarta and Comieco, Acea Ambiente organized the conference "**Closing the Circle: Recovering waste to improve Recycling and the Circular Economy in the Paper sector**", held in Terni for the Paper and Cardboard Recycling Month. Designed to **take stock of the circular economy in the paper sector**, thanks to the large number of players involved in the supply chain the initiative provided an important opportunity for reflection to offer **significant insights into the recovery of waste and the improvement of recycling**. For example, Acea Ambiente's waste-to-energy plant in Terni uses pulper as its fuel, a waste of paper processing that is not recyclable and would therefore end up in a landfill. Treating almost 100,000 tonnes of waste per year, the plant is one of the top industrial entities on a national scale for the amount of pulper converted into electricity, on average 75,000-80,000 MWh/year, and the recovery chain is planned to be further extended through the **use of fly ash**, a volatile by-product generated by the combustion. The conference, which included presentations by the President of Acea's Industrial Environment Segment, the Head of the Research and Development Unit and the Operations Director of Acea Ambiente, highlighted **the sustainability aspects inherent in the sector**.

110 The anaerobic digestion plants were started in early 2020.
111 During 2020, it is hoped that the pending authorisation procedures will be concluded so that the tender procedure for the executive design and construction of the new composting plant can be published. The upgrading project will increase the treatment capacity to 60,000 t/year of incoming waste.
112 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, AdF, Umbra Acque, Publiacqua, Acque, Crea Gestioni, Umbria2SII.
113 The European Union's circular economy package has been in force since 04.07.2018.

The Plant of San Vittore del Lazio is composed of **three independent lines** of waste-to-energy designed to be fed with refuse-derived fuel (RDF), now called Solid Refuse Fuel (SRF), with these characteristics:

- 52 MW_t of thermal power for line 1 and 56.7 MW_t of thermal power installed for each of the other two lines;
- 13.9 MW_t of electric power for line 1 and 15.1 MW_t of each of the other two lines;
- Approximately 400,000 t/year of SRF, sludge and other waste at full capacity.

2019 was a year of normal operation. The plant's **actual available electric power was about 44 MW** and about **276 GWh** of electric power was produced. In 2019 energy from waste has been generated from about **340,500 tonnes of waste**.

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 urban waste, both for the advanced technologies used for its construction and for its considerable treatment potential[114].

TABLE NO. 50 – THE SAN VITTORE DEL LAZIO WASTE-TO-ENERGY PLANT: OPERATING DATA (2017-2019)

	m.u.	2017	2018	2019
incinerated fuel	t	345,639	357,174	340,531
gross electric power produced	GWh	301.15	306.731	276.270
conversion efficiency (*)	kWh/kg CSS	0.87	0.86	0.81

(*) Relationship between gross electricity produced (GWh) and quantity of SRF converted from waste to energy (t).

The Terni plant is composed of **a waste-to-energy line** and has the following characteristics:

- 52 MW_t of thermal power installed;
- 12.33 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.

TABLE NO. 51 – TERNI WASTE-TO-ENERGY PLANT: OPERATING DATA (2017-2019)

	m.u.	2017	2018	2019
pulp incinerated	t	99,970	99,971	94,092
gross energy produced	GWh	83.10	82.41	80.93
conversion efficiency (*)	kWh/kg pulper	0.83	0.82	0.86

(*) Relationship between gross electricity produced and quantity of pulper waste converted to energy.

The plant of Terni **is also equipped with a photovoltaic plant**, which in 2019 has generated about 453 MWh of electricity, about 56% consumed on site and the rest injected into the grid.

For data on the emissions of both waste to energy plants see the chapter *Air emissions* in addition to the data in the Environmental accounts.

WATER SEGMENT

SCOPE OF REFERENCE

The scope of reference includes the companies Acea Ato 2, Acea Ato 5, Gori and Gesesa.
Acque, AdF, Publiacqua and Umbra Acque, water companies not included in the scope of the *Consolidated Non-Financial Statement* (pursuant to Legislative Decree no. 254/2016). They have been included only in the water graphs, where their contribution is immediately evident, 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 company data sheets and overseas activities*.

5.8 million
INHABITANTS SERVED AND
446 Mm^3 OF DRINKING WATER SUPPLIED BY ACEA ATO 2, ACEA ATO 5, GORI AND GESESA

APPROXIMATELY
24,200 km OF DRINKING WATER NETWORK MANAGED BY ACEA ATO 2, ACEA ATO 5, GORI AND GESESA

IMPLEMENTED THE FIRST
Water Safety Plan
(WSP) OF GROTTAROSSA IN ACEA ATO 2

607,309 analytic tests
ON DRINKING WATER (ACEA ATO 2, ACEA ATO 5, GORI AND GESESA)

[114] With reference to Decree Law 133/2014 (so-called "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.

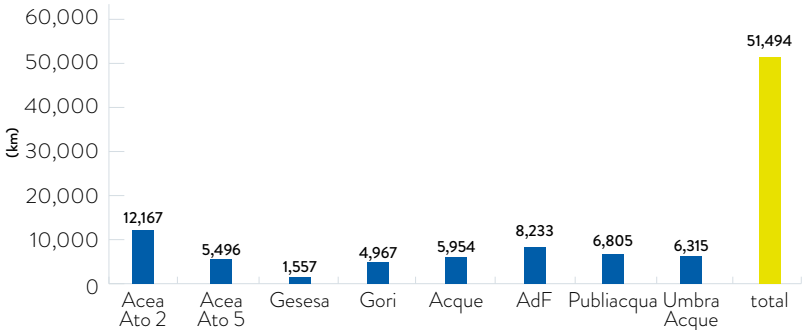
Of all the Group's core businesses, the **management of water** in all phases of the **integrated water service** is one of the **most important**. The activities are carried out with growing attention, in line with the greater attention to water resources at an international level. The protection of the resource is expressed in the priority of **recovering losses** (see the box in the paragraph *Attention to water consumption*), **circular economy**, activities to **combat climate change** and in the already mentioned **protection of springs** (paragraph *Protection of the local region*) and searches for new springs and also in an increasingly precise **monitoring** of water consumption, seeking to reduce it.

The **total** pool of users served in Italy by the **Group**[115] is about 8.6 million inhabitants, with **volumes of drinking water fed** into the network in 2019 equal to about **1,370 million cubic metres**.

The **volumes of drinking water introduced by Acea Ato 2, Acea Ato 5 and Gesesa** amounted to **1,018 million cubic metres**, with a total supply[116] of 447 million cubic metres for **5.8 million inhabitants** served. For specific data on the three companies, see the *Environmental Accounts*.

In **OTA 2 – Central Lazio** alone, comprising the city of Rome and 111 other municipalities – of which 79[117] under management at 31 December 2019 – the **volume of water withdrawn and fed into the network** serving the approximately 3.7 million inhabitants was approximately **690 million cubic metres**[118].

CHART NO. 47 – THE WATER DISTRIBUTION NETWORK OF THE GROUP IN ITALY (2019)

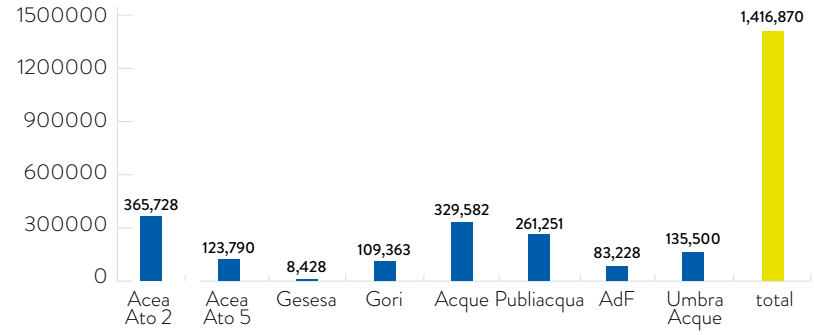


NOTE The kilometres of network include the aqueducts

WATER QUALITY

The **checks on the quality of the drinking water** supplied and of effluent returned to the environment, after purification, are performed in a planned and constant manner by the companies of the water industrial area. The **analyses** on the **drinking water** distributed to users play an **essential role** for the resulting health related effects. A summary of the work carried out in this area, by all the water companies, is shown in chart no. 48.

CHART NO. 48 – TESTS OF DRINKING WATER, TOTAL AND BY COMPANY (2019)



NOTE For Acea Ato 2 it should be noted that out of the total of 365,728 analyses, 320,801 were performed by Acea Elabori, and for Acea Ato 5, including in the analyses performed by the Company those done by Acea Elabori, there are 129,599.

In **Rome**, the qualitative characteristics of the resource 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. In Lazio there are areas of volcanic origin where the water has drinkability problems, linked to the natural presence of some substances in greater concentrations compared to those permitted by the relevant legislation. In these areas Acea Ato 2 has carried out, over the years, a number of initiatives aimed at solving these problems, increasing the purification plants able to remove the unwanted substances and returning their values of concentration well below the legal limits.

115 As specified at the start of the chapter, the data of the total inhabitants served by the water business, of the volume fed into the network, and the size of the networks and checks on the water (shown in special graphs) include all the operational companies in the Group, also those not included within the scope of the Consolidated Non-Financial Statement.

116 This refers to the total amount of drinking water dispensed and billed in the network by the companies in the scope.

117 In 18 other municipalities the integrated water service was managed partially.

118 The items of the water balance of the past three years were calculated using the calculation criteria supplied by ARERA. See the Environmental Accounts for details.

Regular monitoring of the chemical/biological parameters of the water which circulates in the distribution network of the water system allows the quality safety level to be kept high. Altogether, during 2019, of the 365,728 analyses[119] in the territory of OTA 2, for a total of 12,482 samples in addition to those of the Health Authority, 320,801 were performed in the Grottarossa Laboratories, managed by Acea Elabori. The analytical checks on the water and the related measurements are also performed by Group companies independently. **The subsidiary 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. 52 for the analyses performed on Rome drinking water). Gesesa instead uses two outside laboratories (see the *Environmental Accounts* for aggregate and detailed data).

TABLE NO. 52 – ANALYSES IN ROME (2017-2019) AND MAIN QUALITY PARAMETERS OF THE DRINKING WATER DISTRIBUTED IN LAZIO AND CAMPANIA (2019)

ANALYSES PERFORMED BY ACEA ELABORI ON DRINKING WATER – ROME HISTORICAL NETWORK (2017-2019)

sampling area	no. of sampling points	no. of samples			no. of analyses		
	2019	2017	2018	2019	2017	2018	2019
collection	57	423	437	329	21,636	21,119	11,968
water system and water feed pipes	22	183	130	164	6,599	5,167	5,617
tanks/water centres	22	119	152	203	4,988	6,306	7,096
distribution networks	405	3,381	3,326	3,095	109,838	109,571	99,835
total	**506**	**4,106**	**4,045**	**3,791**	**143,061**	**142,163**	**124,516**

MAIN AVERAGE CHEMICAL AND MICROBIOLOGICAL CHARACTERISTICS OF THE DRINKING WATER DISTRIBUTED IN LAZIO AND CAMPANIA (2019)

parameters	measurement unit	average value – Acea Ato 2 (Rome)	average value – Acea Ato 5	average value – Gori	average value – Gesesa (Pezzapiana site)	parameter Legislative Decree no. 31/01
chlorides	mg/l Cl	9.4	6.8	62	47.4	<250
sulphates	mg/l SO_4	13.7	8.3	28	64.3	<250
calcium	mg/l Ca	82.9	87.9	126	exempt(*)	not required
magnesium	mg/l Mg	16.3	15.6	31	exempt(*)	not required
sodium	mg/l Na	9.1	4.7	38	40.3	<200
potassium	mg/l K	7.5	1.3	14	exempt (*)	not required
calculated fixed residue	mg/l	365.0	348.3	646	541.5	(**)
nitrates	mg/l NO_3	5.5	3.7	17	37.1	<50
fluorides	mg/l F	0.3	0.16	0.55	0.5	<1.50
bicarbonates	mg/l HCO_3	349.8	347.9	504	exempt(*)	not required

(*) 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.

WATER SAFETY PLANS (WSPS)

The implementation of a **Water Safety Plan** (WSP) is required for all water systems pursuant to the Decree of the Ministry of Health of 14.06.2017, in implementation of European Union Directive 2015/1787, which endorsed the WSP methodology developed by the World Health Organization (WHO). The WSP approach is to **prevent and reduce the risks inherent in the drinking water service**, assessing dangerous events along the entire water supply chain (collection, treatment and distribution to the user meter). The risk is calculated according to the severity and probability of a pollution event or water shortage. Based on this assessment, the following are defined: **actions to mitigate risks**, **monitoring systems**, **operating procedures** under normal and emergency conditions, the water **quality control plan**, the methods for **informing the public** and the competent authorities, etc. WSPs must also be constantly updated to take into account plant development, changes in the regulatory environment and climate and environmental changes. Finally, the implementation of WSPs must be carried out according to internationally recognized methodologies developed by the WHO. In Italy, the Istituto Superiore di Sanità (ISS) has introduced WHO guidelines and will therefore have to approve WSPs.
Overall, the implementation of **Water Safety Plans** will concern the large aqueducts managed by Acea Ato 2 that supply the city of Rome, up to 90% of the population of OTA 2 and more than 200,000 inhabitants of the 45 municipalities of the Provinces of Rieti and Frosinone.

[119] The data on analyses of drinking water from 2018 also include tests on aqueducts acquired recently (Civitavecchia and others).

In **Acea Ato 2**, the **first WSP implemented in 2019** concerned the water system fed by the **new Grottarossa plant for the purification of water from the Tiber**, normally used to supply the network for watering green areas of the city of Rome and Vatican City but immediately available in case of emergency to supply the drinking water network at the service of 350,000 inhabitants of the central areas of Rome. In particular, during the year studies for the areas of protection and influence were presented to the Lazio Region as required under the new Regional Water Protection Plan (PTAR). The concession request was published but has not yet been released.
In the future the network for watering the green areas of the city of Rome and Vatican City will be supplied by the **water coming out of the COBIS purification plant**. For this purpose, in 2019 the plant underwent upgrading for the implementation of a specific purification treatment[120] (see also *Water distributed and returned to the environment* in the chapter *Customers and the community*).
Acea Ato 5 identified the first water source to be studied to draft the WSP, and continued the mandatory training organized by the Istituto Superiore di Sanità and the Ministry of Health for the staff who will draw up the Water Safety Plans (WSPs).
In Gori in 2019 the team was formed to prepare the WSPs, and the evaluation of the water system was started.
In 2019 Gesesa, like Acea Ato 5, trained personnel for the Water Safety Plans (WSPs), and started the acquisition of information on water collection sources.

WATER LOSSES

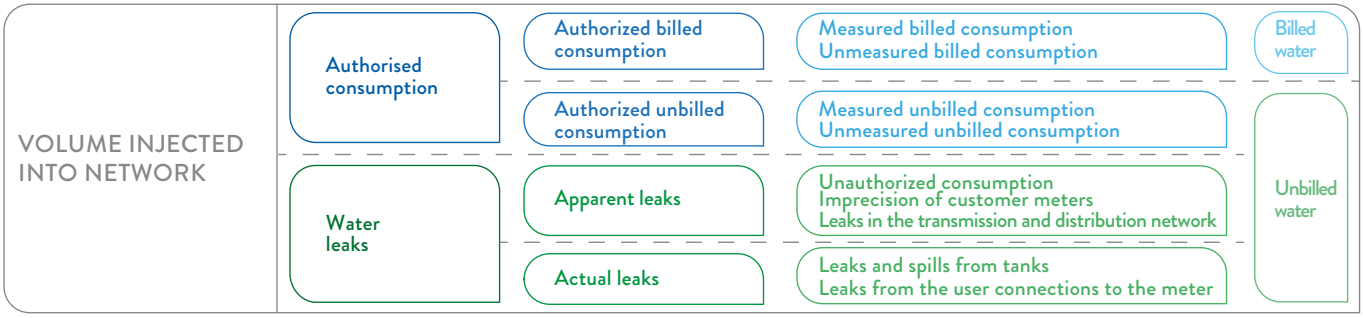
Sustainable water management includes the issue of **limiting leaks from distribution networks** (see also *Quality in the water segment* in the chapter *Customers and communities*). During 2019, as in the previous year, the water companies – in particular Acea Ato 2 – continued their intense search for leaks in order to recover as much water as possible (see the box for details). Furthermore, Acea Ato 2 established a unit dedicated to the protection of water resources and the implementation of initiatives aimed at reducing losses.
Together with the search for hidden leaks, Acea Ato 2 **continued to divide the network into districts** not connected to each other and with measured inputs, which enables the optimisation of their management, facilitating and making repairs more timely and reducing their frequency. Dividing the network into water districts makes it possible to optimize operating pressures with an immediate advantage in terms of reducing lost volumes, facilitating targeted searches for leaks in the most critical districts.
To date, **overall** approximately **6,200 km of distribution network have been studied** and **300 measurement districts** have been created. The activity consisted of surveys, flow and pressure measurements, map production, user analysis and water balancing, mathematical modelling and searches for leaks. The results of the study and efficiency actions were imported into the GIS systems.

THE DIVISION OF THE ACEA ATO 2 WATER NETWORK INTO DISTRICTS

As part of the work to divide the water network into districts, in 2019 approximately **520 flow and pressure meters were installed** by Acea Ato 2 technical personnel **in the water districts**, which will enable the timely monitoring of new and hidden leaks in Rome and in the 12 municipalities concerned, the optimisation of piezometric quotas and the consequent reduction of lost water volumes. The **district planning and installation of meters in the districts** will progressively involve the entire territory managed by Acea Ato 2.

In 2019 **Acea Ato 5** also developed the analysis of the water network (especially in the areas of Atina, Cassino, Castrocielo, Colfelice, Fiuggi, Frosinone, Morolo, Serrone, Sora, Strangolagalli, Roccasecca, Patrica, Sgurgola and Supino).).
In total, **148 districts** were created, involving approximately 1,190 km of water network. In addition, a total of 140 leaks – of which 40 hidden – were identified with leak searches, mainly using acoustic systems. The division of the network into districts and installation of pressure reduction devices has made it possible to reduce network input volume[121] by about 5%.
In the Sarnese-Vesuvian District, managed by **Gori**, numerous interventions were carried out to reduce water leaks, including the installation of pressure regulation valves, and several systematic leak search searches were performed along the water networks. Moreover, the reclamation projects carried out on 66 km of water networks, distributed over almost all the municipalities of the District, enabled recoveries estimated at about 193 l/s.
In 2019 **Gesesa** further developed the division of water networks into districts by extending the reduction of pressures and setting the goal of progressively intervening on the network of all the municipalities managed. Following an analysis of the water networks, **about 2 km** of infrastructure was reclaimed.

CHART NO. 49 – ACTUAL WATER LOSSES



NOTE The image refers to the model of the International Water Association.

120 A tertiary treatment of double-stage filtration and disinfection with UV rays.
121 The figure is not yet consolidated.

In recent years, **ARERA** has intervened with several resolutions, introducing progressive changes to the process of calculating the water balance[122]. The new data, illustrated in detail in the ***Environmental Accounts***[123], has been prepared according to the new ARERA calculation method (Resolution 917/2017/R/IDR), also recalculating the previous two-year period, in line with the model of the International Water Association (see chart no. 49), which requires the assessment of water losses on the entire scope of the aqueduct system (and not only on the distribution network), including apparent losses.
Thanks to efforts to improve the efficiency of metering and to combat illicit use, at **Acea Ato 2** the overall losses for the year fell to about 44% (they were equal to 47% in 2018). Furthermore, in line with the downward trend of the previous two years, the real losses of the "historical network" (Rome and Fiumicino) decreased to 31.9% (they were equal to 38% in 2018 and 41.5% in 2017), while the real losses on the distribution network of the entire OTA 2 decreased to 39.2% (they were equal to 44% in 2018 and 45.7% in 2017).
At **Acea Ato 5** the losses in 2019 amounted to approximately 76% of the amount fed into the aqueduct system. It is expected that there will be a reduction in these losses as a result of a search for illicit users and the division of the networks into districts. See the *Environmental Accounts* for details on individual water balances.
Following the actions described above, **Gori** saw a reduction in global losses from 53.8% to 52.6%.
At **Gesesa**[124] the losses of the year amounted to approximately 56% of the total fed into the aqueduct system.

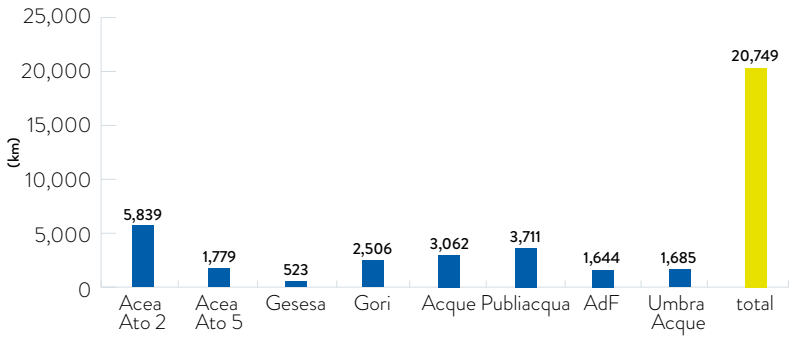
SEWERAGE SERVICE AND TREATMENT SYSTEM

ABOUT **127,750 tonnes** OF SLUDGE PRODUCED BY ACEA ATO 2, ACEA ATO 5, GORI AND GESESA, OF WHICH **34%** RECOVERED

APPROXIMATELY **8,650 km** OF SEWERAGE NETWORK AND **338 treatment plants** MANAGED BY ACEA ATO 2, ACEA ATO 5, GORI AND GESESA, FOR **666 Mm³** OF TREATED WATER

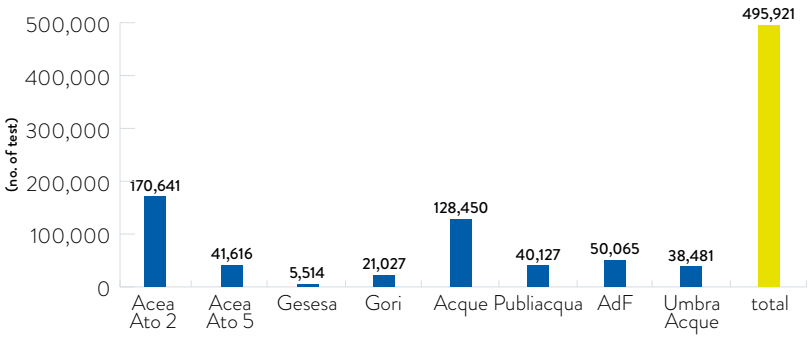
The integrated water service (IWS) includes the management of the sewerage and treatment system. The water resource, after uses for the various civil purposes, is **collected through the sewer pipes** and **sent to the purifiers**. There pollutants are **removed via physical processes** (filtering, sedimentation, flocculation) **and biological ones** (aerobic and/or anaerobic decomposition of the organic substance with bacteria).
Thanks to approximately **896** treatment plants (of which **338** managed by Acea Ato 2, Acea Ato 5, Gori and Gesesa), the total volumes of water treated by the Group[125] in 2019 were approximately **855 million cubic metres**, of which 666 million cubic metres by Acea Ato 2, Acea Ato 5 and Gori[126]. **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 values of the parameters which must not be exceeded in order to guarantee full compatibility (as per Legislative Decree no. 152/2006). The sewerage networks managed amount to about **20,750 km**, of which 10,647 km relate to the four Companies cited.

CHART NO. 50 – SEWER NETWORKS OF THE GROUP IN ITALY (2019)



122 The loss assessment was carried out this year for the three-year period 2017-2019, according to Resolution ARERA 917/17 R/IDR. Until last year the losses were calculated according to the model specified in Ministerial Decree 99/97.
123 The water reports of the Companies active in Umbria and Tuscany, with consolidated net worth, can be examined in the chapter Water company data sheets and overseas activities.
124 Calculations of previous years according to the Arera provisions were not yet available for comparison at the time of publication.
125 Again in this case, the 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 those not included in the full scope of consolidation.
126 At the moment Gesesa does not have the flow meters so it is not possible to measure the quantities of wastewater treated in its purification plants.

CHART NO. 51 – ANALYTICAL CHECKS ON WASTEWATER, TOTAL AND BY COMPANY (2019)



For Acea Ato 2, Acea Ato 5, Gori and Gesesa, the percentage coverage of the sewerage and purification services, out of the total users served by the water service, and the volumes of effluent treated are given in tables nos. 53 and 54.
In particular, for **Acea Ato 2**, the **good abatement performance** achieved in the **purification process**, which allowed approximately 600 million cubic metres of sewage to be made compatible with the receiving ecosystem, were confirmed by the over **170,600 calculations** performed.

TABLE NO. 53 – PERCENTAGE COVERAGE OF THE SEWER AND PURIFICATION SERVICES OVER THE TOTAL UTILITIES OF THE WATER COMPANIES OPERATING IN LAZIO AND CAMPANIA (2017-2019)

Company	2017		2018		2019	
	sewer	purification	sewer	purification	sewer	purification
Acea Ato 2	91.7%	88.0%	91.6%	88.2%	91.5%	88.1%
Acea Ato 5	67.7%	56.5%	66.9%	56.1%	66.5%	55.9%
Gori	79.9%	57.3%	82.2%	65.7%	82.3%	66.0%
Gesesa	81.2%	26.1%	80.2%	27.3%	80.3%	30.4%

TABLE NO. 54 – VOLUMES OF EFFLUENT TREATED BY WATER COMPANIES OPERATING IN LAZIO AND AT BENEVENTO (2017-2019) (*) (Mm^3)

Company	2017	2018	2019
Acea Ato 2	553.6	582.7	599.8
Acea Ato 5	21.1	21.2	21.3
Gori	9.0	7.7	45.2

(*) For the time being there are no flow meters at the entry of the purification plants managed by Gesesa.

THE NEW LABORATORIES AT THE MAIN PURIFICATION PLANTS IN ROME

In 2019, the renovation of 4 of the 6 laboratories owned by Acea Ato 2 was completed. The first to be inaugurated, in July, was the new **laboratory of the purification plant in North Rome**, followed by the other three inaugurations of the new laboratories located at the purification plants in South Rome, Ostia and COBIS.
The laboratories carry out activities to support the control of the operation and functionality of the systems, ensuring rapid responses according to management needs.
The Analytical Control Unit of Acea Ato 2 manages these infrastructures and for each treatment plant prepares a programme for the control of the management and quality parameters of the treated waste. In 2019 the following were analysed by the personnel in the laboratories:

- **31,336 samples**, 13,874 on the water line and 17,462 on the sludge line;
- **135,940 parameters**, of which 92,825 for the water line and 43,115 for the sludge line.

In the "historic" area managed by Acea Ato 2, which includes **Rome and Fiumicino**, the **main purification plants treated in 2019 approximately 514 million of cubic metres of wastewater**, a figure that has increased (490 million cubic metres in 2018). Considering also the smaller purifiers and the plants of the municipalities acquired in OTA 2 (a total of 169) a **total volume of approximately 600 million cubic metres of wastewater treated**, a very slight increase compared to 2018. Table no. 55 shows the details of the main parameters from the main treatment plants of Acea Ato 2, Acea Ato 5, Gori 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. 55 – OUTPUT PARAMETERS OF THE MAIN PURIFIERS MANAGED BY ACEA ATO 2, ACEA ATO 5, GORI AND GESESA (2019)

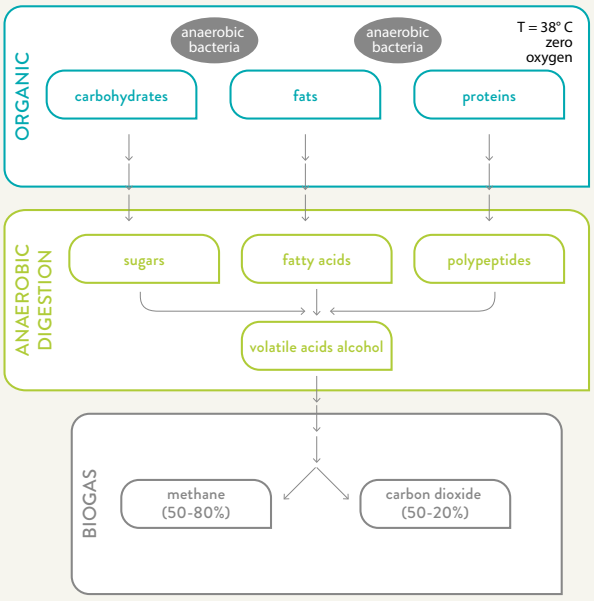
	Acea Ato 2	Acea Ato 5	Gori	Gesesa (Benevento)	concentration limits in surface waters Legislative Decree no. 152/06
parameter		**average values (mg/l)**			
BOD_5	4	4	11	11	≤ 25
COD	25	20	27	40	≤ 125
SST	11	6	14	29	≤ 35
nitrogen (ammoniac, nitric and nitrous)	6	6	7	1	-
fosforo	2	1	1	2	-
		output quantity (t)			
COD	19,587	1,099	1,203	n.a.(*)	-
SST	10,267	424	661	n.a.(*)	-

(*) For the time being Gesesa has not installed flow meters so the data are not available.

The sludge produced during the purification process i**s mostly** sent for **recovery of material** (see in *Environment Segment*, the paragraph *Intermediation and transport of waste*).
Numerous actions were carried out in 2019 to reduce the **amount of sludge produced by the purification plants** managed by the Group's companies. In particular, Acea Ato 2 developed several experiments together with Acea Elabori, including the commissioning of the ozonolysis plant in Ostia, the dryer of the purification plant in North Rome and the initiation of anaerobic digestion at the purification plant in South Rome (see the box for details and also *The commitment to research and innovation* in the chapter *Institutions and the company*).

BIOMETHANE AS AN OPPORTUNITY FOR INTEGRATED WATER SERVICE OPERATORS

One of the most established methods of achieving sludge reduction is **anaerobic digestion**: at a temperature of about 38 °C and in the absence of oxygen, a bacterial strain is naturally selected from the sludge mass consisting of anaerobic micro-organisms capable of transforming the starting organic substance (carbohydrates, fats and proteins) into a mixture of methane (CH_4) and carbon dioxide (CO_2), called biogas.



The process results in a reduction of about 30-35% of the total sludge mass entering the treatment, enabling an easier and less expensive management of the sludge to be disposed of, and a production of about 35 Sm^3 of methane for each tonne of sludge, with a consequent energy benefit.
Recently, a significant financial benefit was added linked to an **incentive**[127] that rewards the **transformation of biogas into biomethane** and its subsequent use in **motor vehicles**, in compliance with strict sustainability constraints that must be **certified by a third party**.
The process of transforming biogas into biomethane is called **upgrading**, at the end of which the product obtained is almost completely free of substances other than methane (CH_4 at about 98%), in particular carbon dioxide, present in the biogas of origin. It is eliminated along with other undesirable substances by filtration through special **selective membranes**.
The biomethane is suitable to be injected into the natural gas distribution network.
Acea Ato 2 is about to start the production of biomethane for upgrading biogas already available in the treatment plants in East Rome and North Rome, with a **total annual production of about 2.5 million Sm^3** and a corresponding **abatement of about 25,000 tonnes/year of sludge**.
In this perspective, the **executive design phase of the two upgrading plants has already been completed**, allowing the start of the qualification process at Gestore Servizi Energetici (GSE), the Public Body responsible for the proper management of the incentive, and the **publishing of calls for tenders for the construction of technological works**, including those necessary for the interconnection of the biomethane produced with the natural gas distribution network.

Among the many actions carried out by Acea Ato 2 aimed at mitigating the effects of parasitic waters[128] in the sewerage system and improving the resilience of the systems to exceptional weather events, in 2019, **16 studies** were completed that involved the **verification of about 800 km of sewerage** system present in the managed territory.

[127] With Ministerial Decree of 2 March 2018, which encourages the production of biomethane from the treatment of waste materials (sewerage sludge but also the organic fraction of municipal waste), Italy aligned itself with the requirements of the objective of the European directive called RED II – i.e. the Renewables Directive 2018/2001/EU repealing Directive 2009/28 – RED I: achieve a share of gross final energy consumption in the transport sector covered by RES of at least 14% (of which advanced biofuels > 0.2% by 2022, > 1% by 2025, at least 3.5% by 2030).

[128] Parasitic waters are those that can enter the sewerage system and represent a component that does not conform – in terms of quality and/or quantity – to the size of the sewerage system. They can be from weather, surface water, groundwater, man-made (aqueduct losses, illicit connections, etc.).

THE USE OF MATERIALS, ENERGY AND WATER

ENERGY EFFICIENCY ENHANCEMENT: IN ARETI ABOUT **1.4 GWh** OF SAVINGS PER YEAR AND **500 t** OF CO_2 NOT EMITTED, IN ACEA ATO 2 ABOUT **4 GWh** OF SAVINGS PER YEAR AND **1,400 t** OF CO_2 NOT EMITTED

APPROXIMATELY **424 GWh of electrical consumption** OF THE COMPANIES OF THE GROUP FROM G.O.-CERTIFIED **renewable energy**

CONSUMPTION OF MATERIALS

Table no. 56 shows the main materials used in the different production processes by the Companies of the Group. For **companies in the Environment segment**, the most important resources are **incoming waste for the production of compost and electricity** (pulper and SRF waste-to-energy). In **Acea Produzione**, thermoelectric plants use **combustible fossil fuels (natural gas and diesel) for the production of electrical energy**. For **Areti**, **sulphur hexafluoride (SF_6) is a primary component** of the electricity distribution process, as it is used in medium and high voltage transformers for its insulating, electrical and thermal power.

The **Water Companies**, on the other hand, use **chemical products** in their activities, such as reagents for the purification, disinfection and purification of waste water. Please refer to the environmental accounts for further information on the resources used for each area of reference. Finally, **Acea Energia** and the water companies responsible for the management of commercial aspects use **paper** for billing customers.

TABLE NO. 56 – CONSUMPTION OF MATERIALS BY THE MAIN COMPANIES IN THE GROUP (2017-2019)

materials	m.u.	2017	2018	2019
incoming waste	t	144,747	119,857	153,330
pulper	t	99,970	99,971	94,092
SRF	t	45,639	357,174	340,531
methane	Sm^3 x 1,000	15,965.6	21,420.2	23,703.0
diesel fuel	l	864,520	230,350	574,405
SF_6	t	29.8	21.7	21.9
miscellaneous chemicals	t	10,746	10,782	14,581
paper	t	n.a.	319	342

NOTE Data on incoming waste includes waste sent for anaerobic and aerobic treatment at the Orvieto landfill and waste processed for the production of compost (sludge, green, OFMSW and other agri-food waste). Pulper and SRF for waste-to-energy are resources with a renewable component linked to the biodegradable fraction of the waste. In 2019 the share of renewable and biodegradable pulper was about 47%, while that of SRF was about 51%. The increase in the use of water resources is mainly due to extraordinary maintenance planned on the purification areas. The data for paper are related to the billing of the Companies Acea Energia, Acea Ato 2, Acea Ato 5, Gori, Gesesa.

ENERGY CONSUMPTION

THE GROUP'S ENERGY CONSUMPTION

Total **direct and indirect** energy **consumption** amounted to about **12,000 TJ,** a slight decrease of 5% compared to 2018, mainly due to the decrease in direct consumption at San Vittore del Lazio (see table no. 57). Indirect consumption, on the other hand, increased by 5%, in consideration of the consumption associated with the plants acquired by Gori, previously managed by the Campania Region. The data shown in table no. 59 show the slight reduction of the losses of the electricity distribution grid, attributable to the transformation and transport phases of energy, and the contraction in consumption for public lighting, equal to 17%, related to the replacement of traditional lamps with LED systems.

It should also be pointed out that, for the third year running, the **electricity consumption of the main companies**, in particular consumption linked to waste management plants, the distribution of drinking and non-drinking water, purification and consumption for the work sites, **for a total of approximately 424 GWh, was certified as coming from renewable sources** (certification by means of the Guarantees of Origin – GOs) (table no. 58).

Trends in **energy consumption intensity indices** are shown in table no. 59.

TABLE NO. 57 – DIRECT ENERGY CONSUMPTION OF THE MAIN COMPANIES IN THE GROUP (2017-2019)

	2017	2018	2019
ENERGY PER SOURCE		TJ (GWh)	
RDF/SSF and pulper (waste-to-energy) – renewable share(*)	3,638.0 (1,010.6)	3,665.5 (1,018.2)	3,283.0 (911.9)
biogas (100% renewable – waste management and water segment)(**)	207.2 (57.6)	206.3 (57.3)	243.9 (67.7)
RDF/SSF and pulper (waste-to-energy) – non-renewable share (*)	3,584.6 (995.7)	3,857.6 (1,076.6)	3,280.8 (911.3)
methane (for electricity generation, district heating, water area dryers and heating for offices(***)	732.0 (203.3)	965.6 (268.2)	1,077.0 (299.2)
PG (heating)	0.8 (0.2)	0.2 (0.1)	0.7 (0.2)
diesel (for electricity generation and other uses, composting plants)	48.4 (13.4)	22.8 (6.3)	38.1 (10.6)
petrol (road haulage)	3.0 (0.8)	3.5 (1.0)	3.8 (1.1)
diesel (road haulage)	129.6 (36.0)	124.4 (34.6)	109.1 (30.3)
total	**8,343.5 (2,317.7)**	**8,863.9 (2,462.2)**	**8,036.4 (2,232.3)**

(*) The figures for 2018 were adjusted due to a mistake in the calculations.
(**) The figures for 2018 were adjusted to also include biogas produced and consumed at the anaerobic digesters of Acea Ato 2 and Gori.
(***) The figures for 2018 have been restated to include Gori's consumption.
NOTE The energy produced by the Group plants and fed into the network is illustrated in the Environmental Accounts (Products – Energy Segment).

TABLE NO. 58 – INDIRECT ENERGY CONSUMPTION OF THE MAIN COMPANIES IN THE GROUP (2017-2019)

	2017	2018	2019
TYPES OF INDIRECT CONSUMPTION		TJ (GWh)	
electrical energy losses on the distribution networks and transport	1,244.9 (345.8)	1,204.6 (334.6)	1,188.4 (330.1)
losses and self-consumption in the production of electrical energy(*)	232.5 (64.6)	245.5 (68.2)	233.1 (64.8)
losses of heat in the district heating network	72.5 (20.1)	104.1 (28.9)	109.7 (30.5)
consumption for public lighting	416.3 (115.6)	302.3 (84.0)	252.3 (70.1)
electrical consumption for waste management plants(**)	27.5 (7.7)	28.5 (7.9)	31.2 (8.7)
electricity consumption for distribution of drinking water(*) (***)	1,252.2 (347.8)	1,161.7 (322.7)	1,356.1 (376.7)
electricity consumption for effluent purification(*) (***)	712.8 (198.0)	751.0 (208.6)	817.4 (227.1)
consumption of electrical energy for the offices(**)	36.1 (10.0)	34.8 (9.7)	32.4 (9.0)
total indirect energy consumption	**3,994.9 (1,109.6)**	**3,832.6 (896.6)**	**4,020.6 (1,117.0)**

(*) The figures for the two-year period 2017-2018 have been restated to include those of Gori to make them comparable.
(**) Energy with GO certification (Guarantee of Origin).
(***) 68% of the energy used is GO-certified. (Guarantee of Origin).

TABLE NO. 59 – ENERGY INTENSITY INDICES (2017-2019)

ENERGY CONSUMPTION INTENSITY INDEX	m.u.	2017	2018	2019
electrical energy consumed for public lighting per lamp (*)	TJ/lamp	0.0019	0.0013	0.0011
total electrical energy consumed by Acea Ato 2, Acea Ato 5, Gori and Gesesa for water supplied (**)	TJ/Mm^3	4.3783	4.3124	4.8639
electrical energy consumed by Acea Ato 2, Acea Ato 5, Gori and Gesesa for sewer service per km of sewer network	TJ/km	0.0144	0.0168	0.0148

(*) The decrease in the intensity index is due to the 17% decrease in consumption for public lighting, thanks to the completion of the replacement of lamps with LED lamps.
(**) The increase in electricity consumption for water delivered in 2019 compared to the previous two years is mainly due to the increases in electricity consumption in Gori, since in 2019 it acquired the management of several plants previously owned by the Campania Region.

ENERGY CONSUMPTION OUTSIDE OF THE GROUP

Since 2015, Acea has been monitoring **energy consumption outside the Group** along the supply chain using specific questionnaires. In December 2019 the questionnaire was sent to 117 suppliers, the most representative in relation to the orders value for the year. Thanks to the results from 40 of those contacted (equal to 32% of the total Acea expenditure for the procurement of goods/services and works), their total energy consumption was estimated at approximately 298,043 GJ.

ENERGY SAVING

As noted, **Ecogena** is the appropriate body to develop the **energy efficiency initiatives of the Group Companies** and report their results to the Gestore dei Servizi Energetici (GSE) for the **awarding of Energy Efficiency Certificates** (TEE).
As at 31.12.2019, the plants managed by Ecogena received 7,591 TEEs under the Ministerial Decree of 5 September 2011, of which 954 related to 2018 production (and finalized in 2019) (see table no. 48).
To make it possible for **Areti** to achieve its **energy savings goal**, the actions of the year were focused on the purchase of EECs on the market managed by the electricity market operator (EMA) equal to **122,369 EECs**, to which is added the residual portion of the 2018 obligation equal to 89,073 EECs with respect to the initial 111,348 EECs, and the residual portion relating to the 2017 obligation equal to 14,132 EECs.

ENERGY EFFICIENCY ACTIONS

Acea, during the year in question, carried out various **schemes for**

the recovery of energy efficiency in the managed processes, in particular in the **Companies engaged in the Water, Energy Infrastructure and Environment segments**.
In 2019, for the **Water industrial segment**, despite the numerous efficiency initiatives described below, there was an **increase in electricity consumption** equal to **13%** compared to 2018, mainly due to the new acquisitions of plants by Gori[129] and the launch of other infrastructure by Acea Ato 2, including: the Grottarossa drinking water plant[130], the new departments in the Roma Nord treatment plant (such as anaerobic digestion and thermal drying of sludge) and the ozonolysis of sludge at the Ostia treatment plant. The **energy efficiency measures** carried out by the Companies on ordinary activities **partly offset the overall increase in consumption**.
In this regard, **Acea Ato 2** achieved a **total savings of 9.3 TJ** (2.59 GWh) in 2019, against an expected annual energy savings target of 4.7 TJ (1.3 GWh). More specifically, with regard to the **water sector, through significant interventions aimed at the recovery of the resource, about 2 TJ (0.56 GWh) of electricity was saved** thanks to efficiency works on five valves of a pumping group of the Ceraso plant, **while with regard to the purification sector there was an energy efficiency of about 3.4 TJ** (0.93 GWh) through interventions to optimize the oxidation sector of the Fregene, Palmarola and other minor plants (purification plants of: Reotula, Montelungo, Vignacce, Grottoni and Santa Severa). Regarding the **efficiency improvements related to the consumption of electricity avoided for water loss recovery, a value of 3.9 TJ (1.09 GWh) was quantified**, referring to the area of Rome.
In **Acea Ato 5 the efficiency improvements** equal to about **2.4 TJ** (0.68 GWh) were related to the installation of pressure meters, inverters and level probes.
Gori carried out **efficiency** projects mainly related to the division of the water network into districts and the installation of inverters, for a total of **2 TJ** (0.6 GWh) saved.
Gesesa's consumption, in absolute value, **decreased by about 3.6 TJ** (1 GWh) compared to 2018. Moreover, **increased efficiency** and revamping initiatives are under way for the plants, with the installation of more energy-efficient equipment also from an energy point of view.

In the **Energy Infrastructure** segment, during the year **Areti** continued several **efficiency improvement projects** on the managed electricity distribution grid:

- the use of **344 MV/LV transformers with very low losses**, which allowed a reduction in electricity consumption of 404 MWh;
- other **interventions on the HV/MV/LV distribution network** aimed at optimising the structure of the MV network and other adjustments for the HV and LV lines, for 946 MWh saved.

Table no. 60 shows the type of work and the related energy savings of Areti for the last three years. These efficiencies have led **in 2019** to overall **energy savings** of about **5 TJ** (1.4 GWh) and about **500 tonnes of CO_2 avoided**.

TABLE NO. 60 – ENERGY EFFICIENCY IN ARETI (2017-2019)

ENERGY SAVINGS ACHIEVED (GJ)

action	2017	2018	2019
reduction in losses from the grid	24,959	25,200(*)	4,860(**)
of which reduction in losses through the purchase of new transformers	*662*	*1,112*	*1,454*
transformation of air conditioning and domestic hot water production system into heat pumps	-	47	94

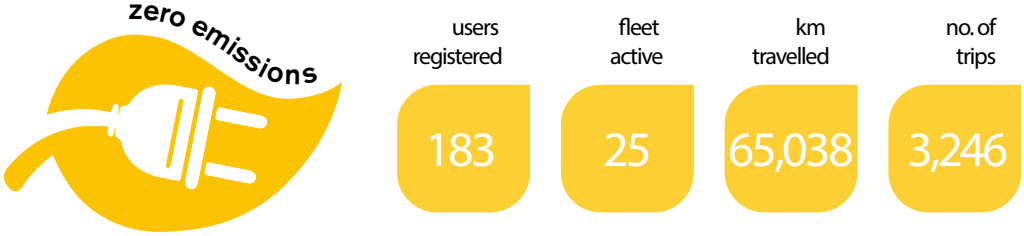
(*) Value measured after a detailed study of the grid.
(**) Value estimated while awaiting the detailed study of the grid.

In 2019 **consumption for public lighting fell to about 70 GWh** (252 TJ) (115.6 GWh and 416.2 TJ in 2018), mainly due to the installation of **LED technology lamps**: from 172,971 in 2017 to 205,670 in 2019, out of a total of 225,730 lamps.

A further positive contribution was provided by the **25 electric vehicles** in use and shared by the Company's staff.

Areti monitors the average and maximum travel of vehicles on a daily basis, the specific consumption in km/kWh, the battery use and the amount of CO_2 not emitted. The monitoring activity has found: a total of about 65,000 km of travel corresponding to electricity consumption of about 10,000 kWh and savings of about 6,200 kg of CO_2, net of emissions from the energy consumed.

CHART NO. 52 – CAR SHARING DATA (2019)



[129] Since February 2019 Gori has acquired the management of: a well field in Angri, regional plants in the Sarnese area including the large plants of Santa Maria La Foce and Santa Marina di Lavorate (Sarno); regional plants in the Monti Lattari and Sorrento Peninsula area including the Sepolcri Water Plant (Gragnano). Also acquired during the year were the purification plant in Bosco Fangone (Nola) and the related supply lifts and the purification plant in Nocera (Nocera).
[130] In addition to the start of the new Grottarossa drinking water plant, the Cecchina Bis plant was used on an ordinary basis. Until 2018 it was used occasionally as a reserve, then from the end of 2018 on an ordinary basis to no longer use the previous reserve of Lake Bracciano.

Finally, in the **Environment** segment, in 2019 some energy **efficiency improvements** continued at the **San Vittore del Lazio plant**, which were launched in 2018. In particular, in 2019 the project consisted in creating a new "configuration" for the $DeNO_x$ plant[131] of line 3, with the reprogramming of the quantities of natural gas (and ammonia solution) necessary to reduce nitrogen oxides, both with positive repercussions on consumption[132].

ATTENTION TO WATER CONSUMPTION

For Acea, the rational use of water is a fundamental prerequisite in the conduct of its business, therefore all **Companies are committed to optimising its use and seeking recovery and recycling solutions**, with a view to circular economy and resource protection. The main water consumption is related to production processes, such as the production of thermal energy at the Tor di Valle plant, that of electrical energy at the waste-to-energy plants and the production of compost. Furthermore, water is also used in laboratory activities, albeit in small quantities. Finally, water is an integral part of purification activities, in particular in plants equipped with anaerobic digesters.

The **Companies in the Environment segment** limit the consumption of drinking water, mainly using **water from wells** (including for civil uses, after sanitisation). In addition, **rainwater recovery systems** are active at the **San Vittore del Lazio, Orvieto, Aprilia** and **Terni** plants, and **since 2019 the latter has two rainwater collection tanks** equipped with a filtration system and storage tanks. **Aprilia's composting plant** has a **system for the treatment of residual water from waste awaiting processing** for reuse in production processes, and at the **San Vittore del Lazio waste-to-energy plant** rainwater is used in the production of demineralized water, after treatment in a specific chemical-physical plant. Finally, the **Orvieto plant hub collects rainwater** through the roofs of some buildings, **keeps it in underground storage tanks** and then **uses it in the compost maturation and storage phases**. Thanks to the presence of these solutions at the plants, the volume of water recovered from the Environment Segment was around 27,000 m^3.

In order to promote the reuse of purified wastewater, **Acea Ato 2** completed the revamping of the COBIS plant during the year and began work to modernize the industrial network (non-potable water) connected to the purification plant in South Rome.

The **water consumption of the Group**, illustrated in table no. 61, refers both to **industrial processes** and **civil uses**[133]. The increase in consumption in 2019 is particularly attributable to the users of the purification plants in South Rome and East Rome. In fact, at the purification plant in South Rome the startup of a new digestion department for the processing of organic sludge and the treatment systems of the emission points led to an increase in the use of the resource. At the purification plant in East Rome, on the other hand, due to critical issues related to the industrial network it was necessary to increase the use of water from the aqueduct. In this case as well in 2019 interventions for the renovation of the network were identified and planned.

TABLE NO. 61 – WATER CONSUMPTION OF THE GROUP'S MAIN COMPANIES (2017-2019)

	2017 (*)	2018 (*)	2019
TYPE OF CONSUMPTION		(Mm^3)	
industrial processes (district heating, thermoelectric generation, Acea Ambiente plants, Water companies)	**0.967**	**0.324**	**0.334**
of which aqueduct (**)	*0.896*	*0.243*	*0.236*
of which well	*0.060*	*0.053*	*0.067*
of which river water (***)	*0.003*	*0.003*	*0.003*
of which recovered water	*0.005*	*0.025*	*0.027*
water consumption for civil use (****)	**1.434**	**1.723**	**2.059**
total water consumption	**2.401**	**2.046**	**2.393**

(*) The volumes for 2017 and 2018 were restated and also include the figures for the Gori Company, which entered the scope in 2019.
(**) The item includes the water brought to the Aprilia plant through tankers (about 465 cubic meters in 2019).
(***) Consumption refers exclusively to the withdrawal from the Paglia river near the Orvieto composting plant.
(****) Civil consumption derives from: aqueduct (99.9%), well, tankers.

131 The DeNOx system is the system for the reduction of nitrogen oxides (NOx) that uses a conversion reaction with ammonia, generating nitrogen.
132 In 2019, the savings of methane thanks to these interventions were more than 700,000 Sm^3.
133 Civil uses for the two-year period 2018-2019 also include the consumption of Acea Ato 2, which uses water in some water service management and purification activities. At the moment it is not possible to estimate purely industrial and civil uses.

EMISSIONS

CONTINUOUS ANALYSIS OF EMISSIONS FROM WASTE-TO-ENERGY PLANTS:
values OF POLLUTING AGENTS **markedly lower than legal limits**

emissions intensity index (SCOPE 2) FROM NETWORK LEAKS OUT OF THE TOTAL DISTRIBUTED ELECTRICAL POWER IMPROVED:
0.0112 t/MWh

AIR EMISSIONS

Atmospheric emissions from Acea plants are constantly monitored. In particular, in the **waste-to-energy plants** it is carried out by means of **fixed and mobile stations** that sample and analyse the fumes coming out of the chimneys, measuring numerous parameters that are periodically checked by internal personnel and certified by qualified external laboratories. Again in 2019, the **values of the main pollutants** were also **significantly below the legal limits** (see table no. 62). The **principle of precaution** still applies, as well as seeking out technological solutions with increasing performance from the emission quality viewpoint. The waste-to-energy plants, managed according to the UNI EN ISO 14001 and OHSAS 1800:2007 standards, are registered according to the European EMAS III scheme, extended until 2021. In particular, at the **San Vittore del Lazio plant** persistent pollutant monitoring (POP) was conducted in 2019 to verify the current state of soil contamination levels. Other actions carried out include surveys of odorous emissions, the monitoring of diffuse and fugitive emissions, an assessment of external noise impacts and an **epidemiological study on the population concerned** aimed at detecting possible effects on public health. No critical issues were identified.

TABLE NO. 62 – AIR EMISSIONS FROM THE SAN VITTORE DEL LAZIO AND TERNI WASTE-TO-ENERGY PLANTS (2017-2019)

		San Vittore del Lazio plant(*)				Terni plant(*)			
pollutant	**m.u.**	**benchmark(**)**	**2017**	**2018**	**2019**	**benchmark(**)**	**2017**	**2018**	**2019**
HCl	mg/Nm^3	8	0.053	0.184	0.151	8	4.002	4.499	3.580
NO_x	mg/Nm^3	70	18.089	28.273	29.652	180	134.274	140.157	128.650
SO_2	mg/Nm^3	40	0.014	0.006	0.003	25	0.490	0.194	0.430
HF	mg/Nm^3	1	0.011	0.021	0.023	1	0.122	0.084	0.080
CO	mg/Nm^3	40	1.447	1.320	0.803	25	1.018	1.084	1.140
total particles (particulate matter)	mg/Nm^3	3	0.006	0.006	0.007	25	0.678	0.705	0.790
PAH (polycyclic aromatic hydrocarbons)	mg/Nm^3	0.01	0.00001	0.00002	0.00001	0.01	0.0001	0.0001	0.0000
dioxins and furans (PCDD +PCDF)	ng/Nm^3	0.1	0.0047	0.0065	0.0074	0.1	0.0173	< 0.001	0.0087
heavy metals (Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V)	mg/Nm^3	0.5	0.0262	0.0253	0.0387	0.3	0.109	0.204	0.033

(*) 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 AIA, 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.

GREENHOUSE GAS EMISSIONS

The international document Greenhouse Gas Protocol (or GHG Protocol) classifies greenhouse gas emissions into three types:

- **Scope 1 emissions**: direct greenhouse gas emissions;
- **Scope 2 emissions**: indirect greenhouse gas emissions;
- **Scope 3 emissions**: other indirect greenhouse gas emissions.

Acea quantifies its CO_2 emissions by **assessing the carbon footprint of individual macro production processes** according to the guidelines of the GHG Protocol[134]. Indeed, as mentioned above, it participates in the annual completion of the international questionnaire on carbon dioxide emissions, the so-called "CDP".
Direct Scope 1 emissions **mainly come from the Group's energy**

134 See www.ghgprotocol.org for more information.

plants and thermoelectric power plants. They also include emissions from the heating process, dryers, certain processes in composting plants, vehicles in the fleet (with reference to petrol and diesel engines) and lastly from sulphur hexafluoride (SF_6) losses that can occur at Areti plants and from freon gases in air conditioners.
The figure for CO_2 emitted by the waste-to-energy plants in 2019 decreased, mainly due to lower production at San Vittore del Lazio related to maintenance delays.
Scope 2 greenhouse gas emissions are **indirect**, deriving from the consumption of electricity and also kept under control. In 2019 the increases mainly depended on Gori's acquisition of the plants previously managed by the Campania Region.
Finally, **Scope 3** greenhouse gas emissions are **other indirect emissions** deriving from the sale of gas, the purchase of goods, services and works, from employee travel for work and commuting by employees are reported (see table no. 65 below).
With regard to Scope 3 emissions, Acea has been monitoring its **suppliers** for some years now, so that they are aware of the environmental impact and estimates the data relating to the **movements of employees**. In particular, Acea distributes a questionnaire to know **emissions along the supply chain**. In 2019 the questionnaire **was administered to 117 suppliers**[135] divided between suppliers of "goods", "services and works". Quantitative **environmental information** requested refers to: fuels consumed for any ordinary processes and uses, energy consumed in offices, fuels consumed for transport and any consumption of refrigerant gases (see the sections on *Energy consumption outside the Group* and *Greenhouse gas emissions* and also the chapter on *Suppliers*). This year, 40 suppliers responded with environmental data, including 12 for "goods" and 28 for "services and works".

Three Group plants, specifically the waste-to-energy plant in Terni and the thermoelectric plants in Montemartini and Tor di Valle, are subject to the Emission Trading Scheme (ETS). The allowances assigned under the NAP (National Allocation Plan) framework, in compared to the actual emissions registered in the three-year period 2017-2019, are shown in table no. 63.

TABLE NO. 63 – CO_2 EMISSION ALLOWANCES AS PER THE NATIONAL ALLOCATION PLAN (NAP) AND ACTUAL EMISSIONS BY PLANT (2017-2019)

	2017		2018		2019	
system	(t)					
	assigned by NAP	actual	assigned by NAP	actual	assigned by NAP	actual
Tor di Valle(*)	6,869	33,507	5,805	42,281	4,775	46,617(**)
Montemartini	0	2,278	0	607	0	1,514
Terni waste-to-energy plant	0	118,653	0	114,093	0	109,369 (**)

(*) As with previous years, in 2019 the applicable legislative framework allowed the Tor di Valle plant to benefit from free of charge emission allowances (4,775 t) as it serves a remote heating network. The 2018 figure for actual emissions has been adjusted with the certified figure.
(**) Estimated emissions, pending certification by the responsible body.

INTENSITY INDICES FOR GREENHOUSE GAS EMISSIONS

One of the monitored intensity indices for greenhouse gas emissions (see table no. 65) concerns **Scope 2 carbon dioxide emissions, deriving from leaks** in the electricity distribution network, in **respect to the total electricity distributed**. This index has **improved further**, changing from 0.0113 t/MWh in 2018 to **0.0112 t/MWh** in 2019, in line with the continuous decrease in relative leaks in the network (technical leaks/distributed electricity).

With regard to other atmospheric emissions, and in particular to the most significant macro-pollutants due to the main production processes of Acea Ambiente and Acea Produzione plants, see the summary data in table no. 64. They show a substantial decrease after 2017 in NO_x (nitrogen oxide) thanks to the transformation of the Tor Di Valle plant from a combined cycle to a high-efficiency plant (CAR). The other data is in line with the previous values and continues to be monitored.

TABLE NO. 64 – ENVIRONMENTAL INDICATORS: CO_2 EMISSIONS, GREENHOUSE GAS INTENSITY INDICES AND VEHICLE EMISSIONS (2017-2019)

	2017	2018	2019
EMISSIONS	(t)		
CO	6.81	6.38	7.02
NO_x	198.20	189.40	188.19
SO_x	0.42	0.16	0.33
particles (particulate matter)	0.55	0.50	0.60

NOTE The emissions refer to the following companies.

Monitoring carried out on installations at risk[136] has shown **the absence of emissions** in significant quantities **of substances responsible for reducing the ozone layer** (for consumption see the *Environmental accounts*, *Resources used*).

[135] The suppliers to whom the form was sent requesting data concerning the consumption of electricity and CO_2 emissions (in order to quantify the Group's Scope 3 type emissions) were identified, as was already done in the past three years, among the most relevant in terms of turnover.
[136] This is primarily air conditioning equipment using refrigerant gases subject to the 1987 Montreal protocol, particularly chlorofluorocarbons.

TABLE NO. 65 – ENVIRONMENTAL INDICATORS: CO_2 EMISSIONS, GREENHOUSE GAS INTENSITY INDICES AND VEHICLE EMISSIONS (2017-2019)

CO_2 EMISSIONS				
SCOPE 1 EMISSIONS				
FROM ENERGY PRODUCTION PLANTS				
	m.u.	**2017**	**2018**	**2019**
CO_2 emissions from Acea Produzione thermoelectric plants	t	33,507	42,888	48,131
CO_2 emissions from Acea Ambiente waste-to-energy plants(*)	t	375,159	307,395	290,591
FROM WASTE MANAGEMENT, ENERGY DISTRIBUTION, HEATING PLANTS AND VEHICLE FLEET				
CO_2 emissions from waste management plants(**)	t	932	1,076	1,282
CO_2 emissions from water plant dryers(***)	t	2,901	3,958	5,620
CO_2 emissions from heating(***)	t	1,008	764	840
CO_2 emissions from vehicle fleet	t	9,753	9,407	8,314
CO_2 emissions from Areti plants (from SF_6)(****)	t	14,100	11,233	9,682
CO_2 emissions from refrigerants (HCFCs)(*****)	t	-	46	0
TOTAL SCOPE 1 EMISSIONS(******)	**t**	**437,360**	**376,767**	**364,460**
SCOPE 2 EMISSIONS				
CO_2 emissions from location based consumption of electricity consumption (market based)(*******)	t	363,678 (214,869)	337,858 (203,841)	354,811 (228,590)
SCOPE 3 EMISSIONS				
CO_2 emissions deriving from the purchase of goods/services and works(********)	t	24,134	22,805	22,303
CO_2 emissions from commuting	t	3,286	4,088	7,060
CO_2 emissions from business travel	t	152	160	288
CO_2 emissions from volumes of gas sold	t	203,085	252,987	275,580
INTENSITY INDICES FOR GREENHOUSE GAS EMISSIONS				
intensity indices of the GHG emissions	**m.u.**	**2017**	**2018**	**2019**
CO_2 emissions (Scope 1 + Scope 2)/Acea Group added value	(t/k€)	0.809	0.666	0.598
Scope 1 CO_2 emissions/gross production(*********)	(g/kWh)	487.7	361.7	374.6
Scope 2 CO_2 emissions deriving from losses on the electrical energy distribution network/distributed GWh(**********)	(t/MWh)	0.0115	0.0113	0.0112

(*) The 2018 figure for Terni was corrected after the ETS certification, while the 2019 figure is estimated pending certification by a third-party body.
(**) The figure includes the emissions of the ancillary services of the waste-to-energy plants, not strictly related to the production of electricity, and since 2018 non-biogenic emissions from the combustion of locally produced biogas.
(***) The figures for 2017 and 2018 have been restated to include Gori and to align the figures with the items in the Environmental Accounts.
(****) These are the tonnes of equivalent CO_2 corresponding to the emissions of insulating SF_6 present in Areti's HV equipment (1 t di SF_6 equates to 23,500 t of CO_2, GHG Protocol-5th Assessment Report- AR5).
(*****) In 2019 the replenishment of HCFC fluids in the Group's plants was so small that it did not lead to significant CO_2 emissions.
(******) Considering the entire Group, the total scope 1 emissions for the three-year period are as follows: 439,353 t, 378,671 t and 366,371 t.
(*******) The indirect emissions (scope 2) include all the Companies within the NFS scope. The figures for 2017 and 2018 have been restated to include Gori. As an emission factor per unit of electricity consumed (t CO_2/MWh), for the location-based calculation the value of 0.36 was used, as per Terna's "International comparisons" document (2018 data). For the calculation of Scope 2 emissions using the Market-Based method, the Residual Mix coefficients are respectively for 2017, 2018 and 2019: 0.465 t/MWh, 0.476 t/MWh and 0.487 (Source: AIB document "European Residual Mixes 2018"). Considering the whole Group, including the companies Umbra Acque, AdF, Publiacqua e Acque (outside the NFS scope), for the sole proprietary quota part of Acea, for the three-year period 2017-2019, di Location based CO_2 emissions are equal to 415,853 t, 390,552 t and 407,086 t respectively, whereas for the Market-based emissions they are equal to 282,262 t, 272,502 t and 298,856 t.
(********) This value, estimated, refers to suppliers of goods, services and works. The figure for 2018 was corrected. The 2019 figure is broken down as follows: 19,050 tonnes of CO_2 for suppliers of services and works and 3,253 tonnes of CO_2 for suppliers of goods.
(*********) Since 2018, the emissions of scope 1 included in this index have been emissions from power generation plants.
(**********) Network losses considered for Score 2 emissions and for calculating the indicator regarding the three-year period 2017-2019, are as follows: 124,479 t, 120,450 t and 118,824 t (due to the technical leakage of electricity from the network). The trend has decreased, albeit minimally, thanks to the reduction of network losses, the result of interventions, measures and efficiency improvements.

NOTE Emission factors for Scope 1 emissions are taken from the standard parameters – ISPRA data 2018, DEFRA 2018 and GHG Protocol-5th Assessment Report- AR5.

WATER COMPANIES DATA SHEETS AND OVERSEAS ACTIVITIES

This chapter illustrates activities and provides information and environmental accounts data for the main companies of the Group outside the scope of the *consolidated non-financial statement* (see *Disclosing Sustainability: methodological note*). The first part concerns the Companies operating in the water sector in Umbria and Tuscany[137], consolidated using the equity method in the statutory financial statements, and the second part refers to companies that are active abroad.

WATER ACTIVITIES IN UMBRIA AND TUSCANY

For the preparation of water balances, the Companies followed the criteria specified by ARERA with Resolution 917/17 R/IDR.

UMBRA ACQUE

Umbra Acque SpA is a company with predominantly public capital, 40% owned by Acea SpA, which since 2003 has managed 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 over 500,000 inhabitants.

HUMAN RESOURCES IN FIGURES

UMBRA ACQUE EMPLOYEES: BREAKDOWN OF HUMAN RESOURCES (2018-2019)

(no.)	2018				2019			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	4	0	**4**	1.1	4	0	**4**	1.1
managers	9	2	**11**	2.9	6	2	**8**	2.1
clerical workers	72	75	**147**	39.1	70	81	**151**	40.4
workers	214	0	**214**	56.9	211	0	**211**	56.4
total	**299**	**77**	**376**	**100.0**	**291**	**83**	**374**	**100.0**

UMBRA ACQUE EMPLOYEES: CONTRACT TYPE (2018-2019)

(no.)	2018			2019		
	men	women	**total**	men	women	**total**
staff with permanent contract	255	51	**306**	251	63	**314**
(of which) part-time staff	*2*	*6*	***8***	*2*	*6*	***8***
permanent staff	36	24	**60**	29	17	**46**
staff under apprenticeship contracts	8	2	**10**	11	3	**14**
total	**299**	**77**	**376**	**291**	**83**	**374**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2018-2019)(*)

	2018	2019
accidents (no.)	19	9
total days of absence	818	554
hours worked	615,479	689,112
frequency index (FI) (number of accidents per 1,000,000/working hours)	**30.87**	**13.06**
severity index (SI) (days of absence per 1,000/working hours)	**1.33**	**0.80**

(*) The data have been estimated.

COURSES AND TRAINING COSTS IN UMBRA ACQUE (2018-2019)

course type	courses (no.)		editions (no.)		training (hours)		costs (€)	
	2018	2019	2018	2019	2018	2019	2018	2019
advanced training	1	2	1	2	4	25	2,600	0
technical-specialized	62	72	87	92	3,561	4,011	71,714	46,438
legal	6	5	6	5	92	71	8,384	1,396
managerial	10	7	15	7	1,016	202	27,307	4,593
safety	16	24	39	71	1,366	4,331	13,240	46,600
total	**95**	**110**	**148**	**177**	**6,039**	**8,640**	**123,245**	**99,027**

[137] AdF, which joined the scope of consolidation on a line-by-line basis in October, has not been included in the 2019 NFS but is considered to be the same as the other investee Water Companies.

TRAINED EMPLOYEES (2018-2019)

(no.)	2018			2019		
	men	women	**total**	men	women	**total**
	182	64	**283**	282	66	**348**

NETWORK AND PLANT CONSISTENCY

WATER SYSTEM MANAGED BY UMBRA ACQUE (2017-2019)

	2017	2018	2019
water network (km)	6,071	6,124	6,315
aqueducts and transport networks (km)	*1,363*	*1,388*	*1,372*
distribution network (km)	*4,708*	*4,736*	*4,943*
well intake structures (no.)	222	219	219
spring intake structures (no.)	289	285	283
river intake structures (no.)	2	2	2
pumping stations (no.)	250	261	262
piezometers (no.)	1	1	1
reservoirs (no.)	587	587	592
disinfection/treatment plants (no.)	250	250	270

PURIFICATION AND SEWERAGE PLANTS MANAGED BY UMBRA ACQUE (2017-2019)

	2017	2018	2019
purification plants (no.)	117	114	149
sewerage pumping stations (no.)	216	223	244
sewerage network (km)(*)	3,543	1,620	1,685

(*) The significant change starting from 2018 is attributable to the different way in which data are recorded using the GIS geographical information system.

CERTIFICATIONS

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 BS OHSAS 18001:2007** standards , **SOA certification** for the OG6 (in class II) and OS22 (in class III) categories and **qualification for design and construction** (up to the 8th classification).

In 2019 the Company successfully passed the audit for the renewal of the certification of its Environment and Safety Management Systems. Furthermore, the Laboratory for analyses extended its accreditation, compliant with the **UNI ISO/IEC 17025:2005** standard, to both chemical tests and those for aqueous substances, reaching a total of 96 accredited tests.

ENVIRONMENTAL ACCOUNTS

PRODUCTS AND ANALYTICAL TESTS	m.u.	2017	2018	2019(*)	Δ% 2019/2018
WATER BALANCE					
drinking water from the environment	**Mm³**	**59.84**	**60.06**	**58.13**	**-3.2**
from the surface	*Mm³*	*0*	*0*	*0*	-
from wells	*Mm³*	*46.85*	*46.05*	*44.30*	*-3.8*
from springs	*Mm³*	*11.78*	*12.64*	*11.22*	*-11.2*
of which water from other aqueduct systems	*Mm³*	*1.21*	*1.37*	*2.61*	*90.5*
total drinking water leaving the aqueduct system (c) = (a+b)	**Mm³**	**29.36**	**29.71**	**30.51**	**2.7**
total drinking water dispensed and billed in the network (a)	**Mm³**	**28.20**	**28.72**	**29.50**	**2.7**
measured volume of water delivered to users	*Mm³*	*28.20*	*28.72*	*29.50*	*2.7*
volume consumed by users and not measured	*Mm³*	*0*	*0*	*0*	-
total drinking water authorized and not billed in the network (b)	**Mm³**	**1.16**	**0.99**	**1.01**	**2.0**
measured unbilled authorized consumption	*Mm³*	*0.88*	*0.85*	*0.85*	-
unmeasured unbilled authorized consumption	*Mm³*	*0.28*	*0.14*	*0.16*	*14.3*
LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR					
water leaks	Mm³	30.66	30.40	28.13	-7.5
water loss percentages	%	51.2	50.6	48.4	-4.3
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm³**	**56.0**	**61.3**	**56.5**	**-7.8**

PRODUCTS AND ANALYTICAL TESTS (cont.)	m.u.	2017	2018	2019(*)	Δ% 2019/2018
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**no.**	**79,750**	**136,881**	**135,500**	**-1.0**
of which no. analytical tests on surface water	*no.*	*8,500*	*7,500*	*6,500*	*-13.3*
no. analytical tests on wastewater(**)	**no.**	**38,128**	**39,693**	**38,481**	**-3.1**

(*) The 2019 data for the water balance are estimated because they were only partially available at the time of publication.
(**) The figure includes analyses carried out at purification plants and industrial waste.

RESOURCES USED(*)	m.u.	2017	2018	2019	Δ% 2019/2018
COLLECTION, SUPPLY AND DISTRIBUTION DRINKING AND NON-DRINKING WATER					
materials					
sodium hypochlorite	t	60.0	60.0	60.0	-
sodium chloride	t	200.0	200.0	200.0	-
hydrochloric acid	t	200.0	200.0	200.0	-
aluminium polychloride	t	12.0	12.0	12.0	-
phosphoric acid (10%)	t	9.0	9.0	9.0	-
acetic acid	t	100.0	0.0	0.0	-
WASTEWATER TREATMENT					
materials					
polyelectrolyte emulsion	t	80.0	90.9	90.9	-
ferric chloride (40%)	t	40.0	28.0	28.0	-
mineral oil and fats	t	1.40	1.40	1.40	-
OTHER CONSUMPTION					
drinking water	**m^3**	**28,889**	**28,889**	**28,889**	**-**
drinking water consumed for non-industrial water uses (offices, outside showers, etc.)	*m^3*	*2,282*	*2,282*	*2,282*	-
drinking water consumed for process water uses (washing machinery and bays, etc.)	*m^3*	*26,607*	*26,607*	*26,607*	-

(*) Data are estimated.

ENERGY CONSUMPTION	m.u.	2017	2018	2019	Δ% 2019/2018
FUELS					
vehicle fuels					
diesel	l	475,491	436,371	422,430	-3.2
petrol	l	10,928	8,645	7,497	-13.3
electricity					
total electricity for drinking water	**GWh**	**71.86**	**71.46**	**72.82**	**1.9**
electricity for water pumping stations	*GWh*	*71.49*	*71.08*	*72.45*	*1.9*
electricity for offices	*GWh*	*0.37*	*0.38*	*0.37*	*-2.6*
total electricity for wastewater	**GWh**	**20.93**	**21.02**	**22.56**	**7.3**
electricity for treatment	*GWh*	*16.97*	*16.29*	*17.70*	*8.7*
electricity for pumping stations	*GWh*	*3.84*	*4.62*	*4.74*	*2.6*
electricity for offices	*GWh*	*0.12*	*0.11*	*0.11*	-

WASTE	m.u.	2017	2018	2019	Δ% 2019/2018
SPECIFIC WASTE FROM TREATMENT OF WASTEWATER					
treatment sludge(*)	t	19,573	13,185	16,436	24.7
sand and sediment from treatment	t	1,238	841	1,332	58.3
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND					
hazardous waste	t	8.9	6.0	7.2	20.0
non-hazardous waste(*)	t	9,605	6,693	5,931	-11.4

(*) The figure includes liquid sludge transported to other plants for the dewatering process, for a value of 8,100 t in 2017 and 4,913 t in 2018.

TOTAL COD IN INPUT AND OUTPUT (2017-2019)

(t/year)	2017	2018	2019
COD_{in}	24,015.5	33,394.8	18,481.6
COD_{out}	3,079.5	2,777.0	2,365.5

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY UMBRA ACQUE (2017-2019)

parameter	average values (mg/l) 2017	average values (mg/l) 2018	average values (mg/l) 2019
BOD_5	24.4	21.6	20.1
COD	55.0	45.3	41.9
SST	25.1	24.6	25.5
NH_4^+	7.3	8.0	6.5
phosphorus	2.3	2.0	2.0

TREATMENT EFFICIENCY OF THE MAIN TREATMENT PLANTS MANAGED BY UMBRA ACQUE (2017-2019)

parameter	average values (%) 2017	average values (%) 2018	average values (%) 2019
$100x(COD_{in} - COD_{out})/COD_{in}$	87.2	91.7	87.2
$100x(SST_{in} - SST_{out})/SST_{in}$	94.5	90.3	89.1
$100x(NH_{4\ in}^+ - NH_{4\ out}^+)/NH_{4\ in}^+$	83.3	80.7	83.5
$100x(PO_{4\ in}^{-3} - PO_{4\ out}^{-3})/PO_{4\ in}^{-3}$	35.9	31.4	n.a.

PUBLIACQUA

Publiacqua SpA is a mixed-ownership Company with a majority public interest, owned by Acea through Acque Blu Fiorentine SpA, which since 2002 has managed the integrated water service in the area of Optimal Territorial Conference no. 3 – Medio Valdarno, with over 1.2 million inhabitants, equal to approximately 397,000 user accounts served, including cities of great artistic and environmental value such as Florence, Prato and Pistoia.

The water and sewerage networks are respectively 6,800 km and 3,700 km long.

HUMAN RESOURCES IN FIGURES

PUBLIACQUA EMPLOYEES: STAFF BREAKDOWN (2018-2019)

(no.)	2018				2019			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	3	1	**4**	0.7	3	1	**4**	0.7
managers	9	8	**17**	3.0	11	8	**19**	3.2
clerical workers	172	127	**299**	52.3	176	133	**309**	52.2
workers	245	6	**251**	44.0	254	6	**260**	43.9
total	**429**	**142**	**571**	**100.0**	**444**	**148**	**592**	**100.0**

PUBLIACQUA EMPLOYEES: CONTRACT TYPE (2018-2019)

(no.)	2018			2019		
	men	women	**total**	men	women	**total**
staff with permanent contract	425	142	**567**	425	148	**573**
(of which) part-time staff	*3*	*12*	***15***	*3*	*11*	***14***
permanent staff	4	0	**4**	7	0	**7**
staff under apprenticeship contracts	0	0	**0**	12	0	**12**
total	**429**	**142**	**571**	**444**	**148**	**592**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2018-2019)

	2018(*)	2019
accidents (no.)	25	24
total days of absence(**)	594	592
hours worked	930,282	957,478
frequency index (FI) (number of accidents per 1,000,000/working hours)	**26.87**	**25.07**
severity index (SI) (days of absence per 1,000/working hours)	**0.64**	**0.62**

(*) The figure related to the hours worked was consolidated in 2019 and differs from what was published in 2018. The frequency and severity indices were therefore recalculated on the basis of the consolidated data.
(**) The value also excludes days of absent related to persistent or reopened injuries from previous years.

TRAINING COURSES AND COSTS IN PUBLIACQUA (2018-2019)(*)

course type	courses (no.)		editions (no.)		training (hours)		costs (€)	
	2018	2019	2018	2019	2018	2019	2018	2019
advanced training	1	4	8	6	581	372	0	0
IT	4	2	5	2	85	32	11,700	2,200
languages	1	0	15	0	109	0	6,000	0
technical-specialized	37	42	62	78	4,104	4,524	64,500	64,500
managerial	9	15	14	32	371	1,423	19,300	30,000
administrative-managerial	52	32	97	37	1,580	939	28,500	43,000
safety	42	52	135	125	5,554	5,027	68,000	72,300
total	**146**	**147**	**336**	**280**	**12,384**	**12,317**	**198,000**	**212,000**

(*) Figures for 2018 have been restated compared to last year's publication.
(**) The advanced training courses provided to employees are managed by Acea SpA, which bears the costs.

TRAINED EMPLOYEES (2018-2019)

(no.)	2018(*)			2019		
	men	women	**total**	men	women	**total**
	440	148	**588**	433	142	**575**

(*) The number of employees trained in 2018 is higher than the number of employed staff since the figure also includes trained employees no longer present in the workforce as at 31.12.2018.

NETWORK AND PLANT CONSISTENCY

WATER SYSTEM MANAGED BY PUBLIACQUA (2017-2019)(*)

	2017	2018(**)	2019
water network (km)	6,715	6,785	6,805
aqueducts and transport networks (km)	*1,347*	*1,372*	*1,375*
distribution network (km)	*5,368*	*5,413*	*5,430*
well intake structures (no.)	595	576	579
spring intake structures (no.)	846	842	842
river intake structures (no.)	60	61	61
lake intake structures (no.)	22	22	22
pumping stations (no.)	423	426	427
reservoirs (no.)	910	913	913
disinfection/treatment plants (no.)	106	99	99

(*) The data are consistent with the communication to ARERA concerning the managed infrastructures.
(**) The figures for 2018 have been restated compared to what was previously published.

PURIFICATION AND SEWERAGE PLANTS MANAGED BY PUBLIACQUA (2017-2019)(*)

	2017	2018(**)	2019
purification plants (no.)	126	127	126
sewerage pumping stations (no.)	209	210	235
sewerage network (km)	3,622	3,688	3,711

(*) The data are consistent with the communication to ARERA concerning the managed infrastructures.
(**) The figures for 2018 have been restated compared to last year's publication.

CERTIFICATIONS

Publiacqua has an **Integrated Quality, Environment and Safety Management System** (QAS) in compliance with the **UNI ISO 9001:2015**, **UNI ISO 14001:2015** and **BS OHSAS 18001:2007** standards for its main operations. In 2019 the Company successfully passed the audit for the renewal of the three certifications.
The analysis laboratory is accredited according to the **UNI ISO/IEC 17025:2005** standard.

ENVIRONMENTAL ACCOUNTS

PRODUCTS AND ANALYTICAL TESTS	m.u.	2017	2018	2019	Δ% 2019/2018
WATER BALANCE					
drinking water from the environment	**Mm^3**	**166.3**	**163.6**	**158.6**	**-3.1**
from the surface	*Mm^3*	*106.5*	*105.2*	*101.2*	*-3.8*
from wells	*Mm^3*	*48.0*	*46.5*	*44.3*	*-4.7*

PRODUCTS AND ANALYTICAL TESTS (cont.)	m.u.	2017	2018	2019	Δ% 2019/2018
from springs	*Mm^3*	*11.3*	*11.4*	*12.6*	*11.0*
of which water from other aqueduct systems	*Mm^3*	*0.5*	*0.5*	*0.5*	-
total drinking water leaving the aqueduct system (e) = (a+b+c+d)	**Mm^3**	***86.4***	**87.6**	**88.5**	**1.0**
total drinking water dispensed and billed in the network (a)	**Mm^3**	**80.9**	**79.3**	**79.6**	**0.4**
measured volume of water delivered to users	*Mm^3*	*80.9*	*79.3*	*79.6*	*0.4*
volume consumed by users and not measured	*Mm^3*	*0*	*0*	*0*	-
total drinking water authorized and not billed in the network (b)	**Mm^3**	**0.4**	**0.4**	**0.4**	**-**
measured unbilled authorized consumption	*Mm^3*	*0*	*0*	*0*	-
unmeasured unbilled authorized consumption	*Mm^3*	*0.4*	*0.4*	*0.4*	-
drinking water exported (sub-distributors) (c)	**Mm^3**	**0.6**	**0.6**	**0.5**	**-16.7**
measured process losses (d)	**Mm^3**	**4.5**	**7.3**	**8.0**	**9.6**
LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR					
water leaks(*)	Mm^3	79.9	75.9	70.1	-7.7
water loss percentages	%	48.0	46.4	44.2	-4.8
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm^3**	**102.0**	**112.9(**)**	**105.0**	**-7.0**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**no.**	**225,261**	**249,948(**)**	**261,251**	**4.5**
of which no. analytical tests on surface water(***)	*no.*	*22,743*	*23,309*	*24,497*	5.1
no. analytical tests on wastewater	**no.**	**39,535**	**35,668(**)**	**40,127**	**12.5**

(*) 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.
(**) The figures for 2018 have been restated compared to what was previously published.
(***) Analysis of crude surface water (untreated).

RESOURCES USED	m.u.	2017(*)	2018	2019	Δ% 2019/2018
COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
materials					
sodium hypochlorite	t	1,509	1,354	1,384	2.2
sodium chloride	t	278	276	351	27.2
hydrochloric acid	t	302	312	378	21.2
flocculant	t	4,219	4,611	5,818	26.2
purate	t	431	407	353	-13.3
sulphuric acid	t	709	682	565	-17.2
oxygen	t	31	70	37	-47.1
acetic acid	t	76	104	126	21.2
carbon dioxide excluding drinking fountains	t	791	682	804	17.9
ferrous chloride	t	40	37	30	-18.9
phosphoric acid	t	13	18	16	-11.1
WASTEWATER TREATMENT					
materials					
polyelectrolyte emulsion	t	317	288	378	31.3
sodium hypochlorite	t	18	30	70	133.3
peracetic acid, caustic soda, polyamine/anti-foaming agent	t	7	11	15	36.4
polyaluminium chloride (PAC)	t	4,445	4,080	4,354	6.7
lime	t	338	387	530	37.0
acetic acid 80%	t	304	214	524	144.9
OTHER CONSUMPTION					
drinking water	**m^3**	**n.a.**	**n.a.**	**n.a.**	**-**

(*) The data for wastewater purification materials for the year 2017 have been restated compared to what was previously published.

ENERGY CONSUMPTION	m.u.	2017	2018	2019	Δ% 2019/2018
FUELS					
process fuels – wastewater					
methane	Sm^3	70,234	60,307	63,941	6.0
biogas produced	m^3	472,643	661,663	668,720	1.1
heating fuels					
methane	Sm^3	36,589	30,710	51,059	66.3
diesel fuel	l	5,933	4,000	4,600	13.0
lpg	l	1,400	2,800	1,960	-30.0
vehicle fuels					
diesel	l	370,755	365,047	361,469	-1.0
petrol	l	31,168	23,817	16,404	-31.1
ELECTRICITY					
total electricity for drinking water	**GWh**	**79.3**	**78.2**	**76.9**	**-1.8**
electricity for water pumping stations	*GWh*	*77.8*	*76.8*	*75.4*	*-1.8*
electricity for offices	*GWh*	*1.5*	*1.4*	*1.5*	*2.6*
total electricity for wastewater(*)	**GWh**	**35.5**	**37.4**	**36.3**	**-2.9**
electricity for treatment	*GWh*	*31.3*	*32.7*	*32.5*	*-0.6*
electricity for pumping stations	*GWh*	*4.1*	*4.6*	*3.8*	*-17.4*
electricity for offices	*GWh*	*0.1*	*0.1*	*0.1*	-

(*) Figures for 2018 have been restated compared to last year's publication.

In 2019, relamping and energy efficiency interventions were carried out at the Osmannoro plant.

ENERGY EFFICIENCY PUBLIACQUA (2017-2019)

	energy savings achieved (kWh)		
action	**2017**	**2018**	**2019**
Anconella drinking water conversion plant – check valve	-	130,000	-
Prato acquifer – new pumps	100,000	-	-
San Giovanni V water treatment system – revamping of pump delivery pipes	-	30,000	-
network efficiency improvement	-	300,000	-
Osmannoro plant – new process blower	-		60,000
Villamagna 90 office – LED relamping			6,100

WASTE	m.u.	2017	2018	2019	Δ% 2019/2018
SPECIFIC WASTE FROM TREATMENT OF WASTEWATER					
treatment sludge	t	28,792	29,340	30,145	2.7
sand and sediment from treatment	t	767	793	1,286	62.2
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND					
hazardous waste	t	39	42	41	-2.4
non-hazardous waste	t	9,606	11,136	8,356	-25.0

TOTAL COD IN INPUT AND OUTPUT (2017-2019)

(t/year)	2017(*)	2018	2019
COD_{in}	18,605	17,031	17,463
COD_{out}	1,756	2,011	1,403

(*) The data have been restated compared to last year's publication.

OUTPUT PARAMETERS OF THE SAN COLOMBANO TREATMENT PLANT (2017-2019)(*)

parameter	average values (mg/l) 2017	average values (mg/l) 2018	average values (mg/l) 2019
BOD_5	2.1	2.4	1.5
COD	16.0	16.8	12.8
SST	6.0	8.4	4.1
NH_4^+	0.7	0.8	0.6
phosphorus	0.9	0.8	0.8

(*) It should be noted that the San Colombano wastewater treatment plant (600,000 population equivalent) treats about half of Publiacqua's global wastewater.

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY PUBLIACQUA (2017-2019)(*)

parameter	average values (mg/l) 2017	average values (mg/l) 2018	average values (mg/l) 2019
BOD_5	4.1	3.0	2.6
COD	24.7	21.0	18.2
SST	7.1	11.0	6.3
NH_4^+	3.2	2.5	2.9
phosphorus	2.0	1.6	1.6

(*) The figures include 38 treatment plants, including San Colombano, which treat a total of 98% of wastewater and 96% of the organic load (COD) of Publiacqua.

PURIFICATION EFFICIENCY OF THE MAIN PURIFICATION PLANTS MANAGED BY PUBLIACQUA (2017-2019)

parameter	average values (%) 2017	average values (%) 2018	average values (%) 2019
$100x(COD_{in} - COD_{out})/COD_{in}$	89.4	86.1	91.2
$100x(SST_{in}-SST_{out})/SST_{in}$	92.1	88.4	94.8
$100x(NH_{4\ in}^{+} - NH_{4\ out}^{+})/NH_{4\ in}^{+}$	97.1	96.1	98.0
$100x(PO_{4\ in}^{-3} - PO_{4\ out}^{-3})/PO_{4\ in}^{-3}$	70.9	68.3	74.8

PURIFICATION EFFICIENCY OF THE MAIN PURIFICATION PLANTS MANAGED BY PUBLIACQUA (2017-2019)(*)

parameter	average values (%) 2017	average values (%) 2018	average values (%) 2019
$100x(COD_{in} - COD_{out})/COD_{in}$	90.6	93.3	92.0
$100x(SST_{in}-SST_{out})/SST_{in}$	93.2	91.8	95.6
$100x(NH_{4\ in}^{+} - NH_{4\ out}^{+})/NH_{4\ in}^{+}$	95.5	91.9	96.7
$100x(PO_{4\ in}^{-3} - PO_{4\ out}^{-3})/PO_{4\ in}^{-3}$	67.4	60.6	72.0

(*) The figures include 38 treatment plants, including San Colombano, which treat a total of 98% of wastewater and 96% of the organic load (COD) of Publiacqua.

ADF

AdF SpA manages the integrated water service in the area of Optimal Territorial Conference 6 Ombrone (formerly OTA 6), consisting of 55 municipalities in the province of Grosseto and 27 municipalities in the province of Siena, with a total population of approximately 402,000 inhabitants and a surface area of over 7,600 km^2.

The water and sewerage networks are respectively 8,233 km and 1,614 km long.

HUMAN RESOURCES IN FIGURES

ADF EMPLOYEES: STAFF BREAKDOWN (2018-2019)

(no.)	2018				2019			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	1	0	**1**	0.2	1	1	**2**	0.5
managers	11	5	**16**	3.9	11	4	**15**	3.8
clerical workers	122	101	**223**	54.5	121	100	**221**	56.4
workers	168	1	**169**	41.3	153	1	**154**	39.3
total	**302**	**107**	**409**	**100.0**	**286**	**106**	**392**	**100.0**

ADF EMPLOYEES: CONTRACT TYPE (2018-2019)

(no.)	2018			2019		
	men	women	**total**	men	women	**total**
staff with permanent contract	298	102	**400**	283	103	**386**
(of which) part-time staff	*4*	*15*	***19***	5	*16*	***21***
permanent staff	4	4	**8**	1	1	**2**
staff under apprenticeship contracts	1	0	**1**	2	2	**4**
total	**303**	**106**	**409**	**286**	**106**	**392**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2018-2019)

	2018	2019
accidents (no.)	11	9
total days of absence(*)	264	284
hours worked	670,106	669,472
frequency index (FI) (number of accidents per 1,000,000/working hours)	**16.42**	**13.44**
severity index (SI) (days of absence per 1,000/working hours)	**0.58**	**0.42**

(*) The value also excludes days of absent related to persistent or reopened injuries from previous years.

TRAINING COURSES AND COSTS IN ADF (2018-2019)

course type	courses (no.)		editions (no.)		training (hours)		costs (€)	
	2018	2019	2018	2019	2018	2019	2018	2019
IT	8	6	22	9	750	958	10,632	0
new hires	1	1	4	3	84	52	0	0
technical-specialized	18	11	39	22	926	453	27,140	26,182
managerial	3	5	3	7	976	296	0	9,280
administrative-managerial	16	16	20	18	844	890	14,505	4,450
safety	28	19	75	40	3,879	3,053	13,449	3,990
total	**74**	**58**	**163**	**99**	**7,459**	**5,702**	**65,726**	**43,902**

TRAINED EMPLOYEES (2018-2019)

(no.)	2018			2019		
	men	women	**total**	men	women	**total**
	236	80	**316**	268	84	**352**

In 2019, the Company carried out professional refresher courses for employees on technical and commercial quality. Moreover, in the field of occupational safety, in addition to the required training it held further training sessions in the field of risk management related to operations.

NETWORK AND PLANT CONSISTENCY

WATER SYSTEM MANAGED BY ADF (active plants) (2017-2019)

	2017	2018	2019
water network (km)	9,315	8,168(*)	8,233
aqueducts and transport networks (km)	*1,967*	*1,966*	*1,984*
distribution network (km)(**)	*7,348*	*6,194*	*6,249*
well intake structures (no.)	184	188	159
spring intake structures (no.)	248	248	250
river intake structures (no.)	1	1	1
lake intake structures (no.)	3	3	3
pumping stations (no.)	284	291	292
piezometers (no.)	13	13	13
reservoirs (no.)	796	800	800
disinfection/treatment plants (no.)	31	32	32
seawater desalination plant (n.)	3	3	3

(*) The figure for 2018 has been restated compared to what was previously published.
(**) Note that from 2018 the total length of the water network does not include the connections, as resolved by ARERA 917/2017.

PURIFICATION AND SEWERAGE PLANTS MANAGED BY ADF (2017-2019)

	2017	2018	2019
treatment plants (no.)(*)	144	145	146
sewerage pumping stations (no.)	271	273	285
sewerage network (km)(**)	3,215	1,594	1,644

(*) The data do not include the Imhoff pits.
(**) The figure for 2018 was adjusted following the survey carried out with the GIS geographic information system.

CERTIFICATIONS

In 2019 AdF maintained its **Integrated Quality and Safety Certification** according to the **UNI ISO 9001:2018 standard** and the **BS OHSAS 18001:2007 standard**.

ENVIRONMENTAL ACCOUNTS

PRODUCTS AND ANALYTICAL TESTS	m.u.	2017	2018	2019(*)	Δ% 2019/2018
WATER BALANCE					
drinking water from the environment	**Mm³**	**63.73**	**61.23**	**60.19**	**-1.7**
from the surface	*Mm³*	*1.27*	*1.29*	*1.06*	*-17.8*
from wells	*Mm³*	*23.71*	*22.80*	*20.22*	*-11.3*
from springs	*Mm³*	*37.81*	*36.55*	*38.16*	*4.4*
of which water from other aqueduct systems	*Mm³*	*0.94*	*0.59*	*0.75*	*27.1*
drinking water transferred to other aqueduct systems	**Mm³**	n.a.	**1.57**	**1.27**	**-19.1**
total drinking water leaving the aqueduct system (c) = (a+b)	**Mm³**	n.a.	**28.41**	**29.15**	**2.6**
total drinking water dispensed and billed in the network (a)	**Mm³**	n.a.	**28.27**	**29.00**	**2.6**
measured volume of water delivered to users	*Mm³*	*n.a.*	*28.27*	*29.00*	*0.4*
volume consumed by users and not measured	*Mm³*	*n.a.*	*0*	*0*	-
total drinking water authorized and not billed in the network (b)	**Mm³**	n.a.	**0.14**	**0.15**	**2.8**
measured unbilled authorized consumption	*Mm³*	*n.a.*	*0*	*0*	-
unmeasured unbilled authorized consumption	*Mm³*	*n.a.*	*0.14*	*0.15*	*2.8*
LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR					
water leaks	Mm³	n.a.	29.3	27.84	-5.0
water loss percentages	%	n.a.	47.9	46.3	-3.3
TREATED WASTEWATER(**)					
water treated in the main treatment plants	**Mm³**	**15.70**	**16.92**	**19.97**	**18.0**
water treated in plants with a capacity of more than 2,000 population equivalent	**Mm³**	**23.20**	**25.43**	**27.62**	**8.6**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**no.**	**77,137**	**80,292**	**83,228**	**3.7**
of which no. analytical tests on surface water	*no.*	*678*	*430*	*408*	*-5.1*
no. analytical tests on wastewater	**no.**	**44,304**	**49,415**	**50,065**	**1.3**

(*) The 2019 data for the water balance are estimated because they were only partially available at the time of publication.
(**) The figures for 2018 have been restated compared to last year's publication.

RESOURCES USED	m.u.	2017(*)	2018	2019	Δ% 2019/2018
COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER(*)					
materials					
carbon dioxide	t	26.40	12.84	1.28	-90.0
sodium hypochlorite 15%	t	226.72	220.28	200.12	-9.2
descaling	t	17.27	13.90	8.00	-42.4
hydrochloric acid 30%	t	2.90	3.1	9.65	211.3
sodium chloride 25%	t	4.96	4.4	3.00	-31.8
highly basic aluminium polychloride 10%	t	8.60	7.50	6.93	-7.6
sodium hydroxide 30%	t	3.54	6.17	22.21	260.0
magnesium sulphate heptahydrate	t	14.00	10.00	17.00	70
semicalcium dolomite	t	10.00	9.00	6.00	-33.3
calcium carbonate	t	11.00	9.00	6.00	-33.3
food polyphosphates	t	2.25	0.70	0.75	-7.1
potassium permanganate	t	-	-	0.60	-
ferric chloride	t	-	-	3.96	-
sodium hydroxide 50%	t	-	-	16.92	-
sulphuric acid 50%	t	-	-	0.12	-
calcium nitrate 50%	t	-	-	21.00	-
polyamines	t	-	-	0.15	-

RESOURCES USED (cont.)	m.u.	2017(*)	2018	2019	Δ% 2019/2018
WASTEWATER TREATMENT(**)					
materials					
polyelectrolyte	t	155.25	76.65	112.20	46.4
sodium hypochlorite 15%	t	316.05	307.07	278.97	-9.2
peracetic acid 15%	t	26.46	61.12	75.04	22.8
highly basic aluminium polychloride 10%	t	12.65	-	-	-
OTHER CONSUMPTION					
drinking water	**m^3**	**n.a.**	**n.a.**	**n.a.**	**-**

(*) Deviations from previous years result from changes in the quantity and quality of the resource treated and from plant efficiency.
(**) The changes depend on the entry into operation of the disinfection treatment with peracetic acid and on the lower need for aluminium polychloride in the sedimentation phase at the plants that may need it.

In some purification plants of Ponte a Tressa in the municipality of Siena there is an industrial water network supplied by treated wastewater used for washing machinery and for the bathrooms in the offices, and an irrigation network, for example at the purification plant in Punta Ala in the municipality of Castiglione della Pescaia. In particular, during the year, the volume of water reused was around 47,500 m^3 (approximately 50,700 m^3 in 2018 and 74,900 m^3 in 2017).

ENERGY CONSUMPTION	m.u.	2017	2018	2019	Δ% 2019/2018
FUELS					
wastewater process fuels					
methane	Sm^3	204,757	169,382	178,292	5.3
heating fuels					
methane	Sm^3	37,907	33,129	34,048	2.8
diesel fuel	l	0	2,800	1,900	-32.1
vehicle fuels					
diesel(*)	l	365,950	381,477	375,554	-1.6
petrol(**)	l	174	808	759	-6.1
ELECTRICAL AND THERMAL ENERGY					
total electricity for drinking water(***)	**GWh**	**36.95**	**35.27**	**33.77**	**-4.3**
electricity for water pumping stations	*GWh*	*36.42*	*34.42*	*32.99*	*-4.2*
electricity for offices	*GWh*	*0.38*	*0.66*	*0.67*	*1.5*
total electricity for wastewater(***)	**GWh**	**24.09**	**24.96**	**23.21**	**-7.0**
electricity for treatment	*GWh*	*21.77*	*22.35*	*20.53*	*-8.1*
electricity for pumping stations	*GWh*	*2.32*	*2.62*	*2.68*	*2.3*
thermal energy from district heating	**MWh_t**	**39.13**	**40.62**	**43.18**	**6.3**

(*) The figure for 2017 refers to the consumption of diesel for vehicles and other uses (motor pump, small transportable generators, etc.).
(**) The figure for 2017 refers only to the consumption of petrol for motor vehicles and, unlike in 2018 and 2019, does not show the contribution of consumption for other uses (motor pump, small transportable generators, etc.).
(***) The data have been restated compared to last year's publication.

In 2019, as part of its extraordinary maintenance, the Company replaced machines and equipment (e.g. pumps, compressors, lighting fixtures, etc.) with highly efficient machinery that will generate energy savings in the coming years.

ADF ENERGY EFFICIENCY (2017-2019)

	energy savings achieved (kWh)		
action	**2017**	**2018**	**2019**
efficiency improvement of drinking water pumping systems	225,000	-	-
efficiency improvement of treatment processes	-	38,000	-
replacement of lighting fixtures with LED fixtures	2,100	-	-

WASTE(*)	m.u.	2017	2018	2019	Δ% 2019/2018
SPECIFIC WASTE FROM TREATMENT OF WASTEWATER					
treatment sludge	t	11,289.34	8,507.88	8,975.39	5.5
sand and sediment from treatment	t	484.40	524.46	920.89	75.6
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND					
hazardous waste	t	48.42	10.71	18.27	70.6
non-hazardous waste	t	732.51	379.93	421.21	10.9

(*) It should be noted that the waste produced was delivered for disposal or recovery to Italian destinations. About 10% of the sludge produced was transferred abroad by the same national recipients.

TOTAL COD IN INPUT AND OUTPUT (2017-2019)

(t/year)	2017	2018	2019
COD_{in}	6,428	8,765	8,211
COD_{out}	720	594	606

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ADF (2017-2019)(*)

parameter	average values (mg/l) 2017	average values (mg/l) 2018	average values (mg/l) 2019
BOD_5	7.9	8.3	7.6
COD	41.0	35.0	35.8
SST	10.0	9.1	8.5
NH_4^+	6.4	10.4	8.5
phosphorus	2.6	2.8	3.02

(*) Installations with a treatment capacity greater than 20,000 population equivalent are considered.

TREATMENT EFFICIENCY OF THE MAIN TREATMENT PLANTS MANAGED BY ADF (2017-2019)(*)

parameter	average values (%) 2017	average values (%) 2018	average values (%) 2019
$100x(BOD_{in} - BOD_{out})/BOD_{in}$	94.9	96.4	96.9
$100x(COD_{in} - COD_{out})/COD_{in}$	88.8	93.2	92.6
$100x(SST_{in}-SST_{out})/SST_{in}$	92.9	95.7	94.6
$100x(NH_{4\,in}^{+} - NH_{4\,out}^{+})/NH_{4\,in}^{+}$	81.8	76.9	81.2
$100x(PO_{4\,in}^{-3}-PO_{4\,out}^{-3})/PO_{4\,in}^{-3}$	46.0	57.8	57.5

(*) Installations with a treatment capacity greater than 20,000 population equivalent are considered.

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 53 municipalities in the provinces of Pisa, Lucca, Florence, Pistoia and Siena, with a total population of 740,000 inhabitants equal to approximately 328,000 user accounts.
The water and sewerage networks cover about 5,950 km and 3,000 km, respectively.

HUMAN RESOURCES IN FIGURES

ACQUE EMPLOYEES: STAFF BREAKDOWN (2018-2019)

(no.)	2018				2019			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	3	2	**5**	1.2	3	2	**5**	1.2
managers	5	4	**9**	2.2	6	4	**10**	2.4
clerical workers	91	151	**242**	60.0	93	153	**246**	59.9
workers	147	0	**147**	36.5	150	0	**150**	36.5
total	**246**	**157**	**403**	**100.0**	**252**	**159**	**411**	**100.0**

ACQUE EMPLOYEES: CONTRACT TYPE (2018-2019)

(no.)	2018			2019		
	men	women	total	men	women	**total**
staff with permanent contract	239	146	**385**	240	157	**397**
(of which) part-time staff	*4*	*29*	***33***	*3*	*30*	***33***
permanent staff	7	11	**18**	12	2	**14**
staff under apprenticeship contracts	0	0	**0**	0	0	**0**
total	**246**	**157**	**403**	**252**	**159**	**411**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2018-2019)

	2018	2019
accidents (no.)	6	5
total days of absence(*)	99	108
hours worked	646,149	670,705
frequency index (FI) (number of accidents per 1,000,000/working hours)	**9.29**	**7.45**
severity index (SI) (days of absence per 1,000/working hours)	**0.15**	**0.16**

(*) The value also excludes days of absence related to persistent or reopened injuries from previous years.

TRAINING COURSES AND COSTS IN ACQUE (2018-2019)(*)

course type	courses (no.)		sessions (no.)		training (hours)		costs (€)(**)	
	2018	2019	2018	2019	2018	2019	2018	2019
IT	7	7	14	8	489	261	n.a.	n.a.
new hires	1	1	3	1	326	87	n.a.	n.a.
technical-specialized	51	42	61	67	1,029	1,861	n.a.	n.a.
managerial	4	0	11	0	504	0	n.a.	n.a.
safety	27	32	86	71	4,663	2,477	n.a.	n.a.
environment	2	3	9	17	164	351	n.a.	n.a.
cross-cutting	5	9	20	25	896	933	n.a.	n.a.
training pursuant to Legislative Decree 231/01	1	2	1	6	7	298	n.a.	n.a.
e-learning training	2	1	2	1	40	100	n.a.	n.a.
total	**100**	**97**	**207**	**196**	**8,118**	**6,368**	**50,844**	**42,085**

(*) The figures for 2018 have been restated compared to last year's publication, adding the final figures as at 31.12.
(**) No cost data are available broken down by type of training.

TRAINED EMPLOYEES (2018-2019)(*)

(no.)	2018(**)			2019		
	men	women	**total**	men	women	**total**
	260	140	**400**	262	170	**432**

(*) 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.
(**) The figures for 2018 have been restated compared to last year's publication, adding the final figures as at 31.12.

In 2019 **training** was provided to all Company personnel for a **total of 6,368 hours**. New for this year are courses on the **UNI ISO 37001:2016 management system** for the prevention of corruption and others on updates to the 231 Model, courses on the proper management of waste and on ADR regulations and those on the new European privacy regulation. Occupational safety training remains at the top for hours of training.

NETWORK AND PLANT CONSISTENCY

WATER SYSTEM MANAGED BY ACQUE (active plants) (2017-2019)

	2017	2018	2019
water network (km)	5,921	5,943	5,954
aqueducts and transport networks (km)	*834*	*835*	*835*
distribution network (km)	*5,087*	*5,107*	*5,119*
well intake structures (no.)	531	525	518
spring intake structures (no.)	299	297	298

WATER SYSTEM MANAGED BY ACQUE (active plants) (2017-2019) (cont.)

	2017	2018	2019
river and lake intake structures (no.)	21	20	20
reservoirs (no.)	568	561	558
disinfection/treatment plants (no.)(*)	240	234	175
pumping stations (no.)	415	409	406

(*) In 2019 the significant reduction in the number of plants compared to the previous two years is due to a downgrading of some facilities identified as chlorination from a single source and no longer as plants.

PURIFICATION AND SEWERAGE PLANTS MANAGED BY ACQUE (2017-2019)

	2017	2018	2019
purification plants (no.)	139	138	137
sewerage pumping stations (no.)	531	544	536
sewerage network (km)	3,066	3,048	3,062

CERTIFICATIONS

Acque has implemented an Integrated Management System certified according to a scheme based on quality, environment, safety, energy and social responsibility, road safety and the prevention of corruption. These are complemented by the accreditation of the test laboratories according to the **UNI CEI EN ISO/IEC 17025:2005** standard, for which transition to the new 2018 edition of the standard was completed during the year, and the **EMAS registration** of the Pagnana purification plant in Empoli (Florence).

ENVIRONMENTAL ACCOUNTS

PRODUCTS AND ANALYTICAL TESTS	m.u.	2017	2018(*)	2019(**)	Δ% 2019/2018
WATER BALANCE					
drinking water from the environment	**Mm^3**	**80.06**	**78.43**	**76.73**	**-2.0%**
from the surface	*Mm^3*	*3.48*	*3.78*	*3.70*	*-2.0%*
from wells	*Mm^3*	*63.38*	*59.39*	*58.21*	-2.0%
from springs	*Mm^3*	*6.43*	*7.04*	*6.90*	-2.0%
of which water from other aqueduct systems	*Mm^3*	*6.77*	*8.22*	*7.92*	*-3.6%*
drinking water transferred to other aqueduct systems	**Mm^3**	**1.08**	**0.86**	**1.06**	**23.2%**
total drinking water leaving the aqueduct system (c) = (a+b)	**Mm^3**	**44.60**	**44.20**	**44.20**	-
total drinking water dispensed and billed in the network (a)	**Mm^3**	**44.33**	**43.98**	**43.98**	-
measured volume of water delivered to users	*Mm^3*	*44.33*	*43.98*	*43.98*	-
volume consumed by users and not measured	*Mm^3*	*0*	*0*	*0*	-
total drinking water authorized and not billed in the network (b)	**Mm^3**	**0.27**	**0.22**	**0.22**	**-**
measured unbilled authorized consumption	*Mm^3*	*0.05*	*0.06*	*0.06*	-
unmeasured unbilled authorized consumption	*Mm^3*	*0.22*	*0.16*	*0.16*	-
LOSS ASSESSMENT ACCORDING TO ARERA RESOLUTION 917/17 R/IDR					
water leaks	Mm^3	15.85	15.03	14.4	-4.2
water loss percentages	%	42.94	41.66	40.55	-2.7
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm^3**	**45.31**	**47.35**	**46.74**	**-1.3**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER(**)					
no. of analyses of drinking water *(including surface water tests)*	**no.**	**266,850**	**285,174**	**329,582**	**15.6**
no. of analytical tests on wastewater	**no.**	**119,742**	**116,636**	**128,450**	**10.1**

(*) The figures for 2018 have been corrected by entering the final figures as at 31.12.
(**) The 2019 figures are estimated.

RESOURCES USED	m.u.	2017	2018	2019	Δ% 2019/2018
COLLECTION, SUPPLY AND DISTRIBUTION DRINKING AND NON-DRINKING WATER					
materials					
laboratory reagents (chemical section and microbiological section)	t	2.37	2.51	2.03	-19.1
sodium hypochlorite	t	220.30	187.92	208.82	11.1
hydrochloric acid	t	394.51	383.53	351.09	-8.5
potassium permanganate	t	3.85	2.12	2.75	29.7
aluminium polychloride	t	9.41	30.60	181.73	493.9
DREWO 8155 PG powder	t	0	1.20	5.00	316.7
DREFLO 908 PG powder	t	0	0.12	3.98	-
salt in bags	t	7.05	0	7.20	-
sodium chloride	t	377.47	384.68	354.34	-7.9
caustic soda	t	1.12	0	0.55	-
sodium metabisulphite	t	2.17	0	0	-
citric acid	t	1.98	0.45	1.23	173.3
alifons L	t	0.02	0.10	0	-
aluminium polychlorosulphate	t	170.22	154.83	11.55	-92.5
WASTEWATER TREATMENT					
materials					
polyelectrolyte emulsion	t	140.98	137.93	169.08	22.6
aluminium polychloride	t	9.00	15.70	12.00	-23.6
ferric chloride for sludge dehydration	t	437.83	471.76	496.03	5.1
sodium hypochlorite for final disinfection	t	14.42	64.90	11.55	-82.2
peracetic acid for disinfection	t	12.00	4.00	0	-
acetic acid	t	0	0	0.10	-
sulphuric acid	t	2.30	0	1.25	-
ferrous chloride	t	10.22	5.37	0	-
caustic soda (sodium hydroxide) – Solvay	t	1.57	0.38	1.15	202.6
citric acid	t	0.10	0	0	-
biotek base L – biological reactivator	t	0.12	0	0.04	-
biotek clar – biological reactivator	t	1.12	0.25	0.25	-
desmell Bio L – odorogenic emissions treatment	t	0.05	0.10	0.08	-25.0
nutrients	t	479.40	514.85	545.50	6.0
other	t	0.26	0.01	0	-
OTHER CONSUMPTION					
drinking water(*)	**m^3**	**277,104**	**199,821**	**210,021**	**-26.0**
drinking water consumed for non-industrial water uses (offices, outside showers, etc.)	m^3	*55,459*	*72,423*	*82,623*	14.1
drinking water consumed for process water uses (washing machinery and bays, etc.)	m^3	*221,645*	*127,398*	*127,398*	0

(*) The 2019 data are estimated for December and the figure for 2018 has been adjusted with the final value.

The company reuses about 464,000 m^3 of water recovered from industrial processes for the washing the sheets of sludge dehydration equipment (belt presses) and for the backwashing of the Pollino water plant filters in Porcari (Lucca).

ENERGY CONSUMPTION	m.u.	2017	2018	2019	Δ% 2019/2018
FUELS					
process fuels – drinking/non-drinking					
diesel fuel	l	2,000	1,200	1,300	8.3
process fuels – wastewater					
diesel fuel	l	1,560	0	1100	-
heating fuels					
methane	Sm^3	51,846	56,357	56,244	-0.2
diesel fuel	l	4,000	-	-	-
lpg	l	8,682	16,803	17,781	5.8

ENERGY CONSUMPTION (cont.)	m.u.	2017	2018	2019	Δ% 2019/2018
vehicle fuels					
diesel	l	147,649	176,154	202,128	14.7
petrol	l	21,559	17,730	33,962	91.3
methane	kg	108,150	81,450	52,084	-36.1
ELECTRICITY					
total electricity for drinking water(*)	**GWh**	**55.41**	**53.36**	**53.80**	**0.8**
electricity for water pumping stations	*GWh*	*55.09*	*52.81*	53.34	1.0
electricity for offices	*GWh*	*0.32*	*0.55*	0.46	-16.4
total electricity for wastewater(*)	**GWh**	**31.83**	**33.41**	**32.83**	**-1.7**
electricity for treatment	*GWh*	*26.12*	*26.00*	*25.70*	-1.2
electricity for pumping stations	*GWh*	*5.53*	*7.07*	*6.85*	-3.1
electricity for offices	*GWh*	*0.18*	*0.34*	*0.28*	-17.6

(*) The 2019 data are estimated for December, and the figure for 2018 has been adjusted compared to what was published last year.

Acque has completed energy efficiency projects that have led to the energy savings shown in the table below.

ENERGY EFFICIENCY OF ACQUE (2017-2019)

	energy savings achieved (kWh)		
action	**2017**	**2018**	**2019**
Pagnana plant – logical changes in operation	22,061	-	-
Le Lame plant – replacement of the aeration system	50,767	97,585	85,429
S. Jacopo system – replacement of the aeration system	-	328,184	257,383
smaller plants – efficiency improvements of pumps	55,986	-	-

WASTE(*)	m.u.	2017	2018	2019	Δ% 2019/2018
SPECIFIC WASTE FROM TREATMENT OF WASTEWATER					
treatment sludge	t	21,577.26	17,634.77	21,953.18	19.7
sand and sediment from treatment	t	2,308.86	3,500.43	1,279.04	-63.5
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND					
hazardous waste	t	30.15	31.82	42.93	34.9
non-hazardous waste	t	49,410.19	63,179.64	61,408.12	-2.80

TOTAL COD IN INPUT AND OUTPUT (2017-2019)

(t/year)	2017	2018	2019
COD_{in}	22,789	21,708	22,017
COD_{out}	1,603	1,521	1,382

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ACQUE (2017-2019)(*)

parameter	average values (mg/l) 2017	average values (mg/l) 2018	average values (mg/l) 2019
BOD_5	5.3	6.2	6.3
COD	34.3	30.6	27.9
SST	7.6	7.4	7.0
NH_4^+	4.7	5.0	3.5
phosphorus	2.4	2.1	2.3

(*) 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 (2017-2019)(*)

parameter	average values (%) 2017	average values (%) 2018	average values (%) 2019
$100x(COD_{in} - COD_{out})/COD_{in}$	93.5	93.5	93.7
$100x(SST_{in} - SST_{out})/SST_{in}$	97.2	97.5	95.7
$100x(NH_{4\,in}^{+} - NH_{4\,out}^{+})/NH_{4\,in}^{+}$	87.4	87.2	90.6
$100x(PO_{4\,in}^{-3} - PO_{4\,out}^{-3})/PO_{4\,in}^{-3}$	74.6	73.0	68.8

(*) Installations with a treatment capacity greater than or equal to 10,000 population equivalent are considered.

OVERSEAS ACTIVITIES

Acea works abroad in the water sector[138] to improve the service, especially as regards **technical and management aspects**, including through **staff training** and the **transfer of know-how** to local businesses.
In particular, it is present in Peru, Honduras and the Dominican Republic through companies created **in partnership with local and international stakeholders**, and serves a total of about 4.2 million people.

CONSORCIO AGUA AZUL SA

The Agua Azul Consortium manages the supply of drinking water to the local publicly owned water company SEDAPAL (Lima Drinking Water and Sewerage Service). To this end, using the surface and underground waters of the Chillón river it built infrastructure capable of satisfying part of the drinking water needs of the **northern areas of Lima** (Peru), for which it will be responsible for management until 2027, when it will be transferred to the State.

CONSORCIO AGUA AZUL SA – MAIN CORPORATE AND OPERATIONAL DATA

country (area)	Peru (north Lima – Cono Norte)
inhabitants served	834,000
customer	Sedapal (Drinking water and sewerage service in Lima, state owned)
sources of financing	equity capital and bonds issued on the Peruvian market
duration of the contract	07.04.2000 – 18.06.2027
purpose of the project	BOT (Build-Operate-Transfer) project for the construction and management of a drinking water supply system that draws on the water of the Chillón river and the underlying aquifer
shareholders	Acea SpA (25.5%), Impregilo International Infrastructures N.V. (25.5%), Marubeni Co. (29%), Inversiones Liquidas S.A.C (20%)
no. of employees	32
turnover (in € thousand)	13,369

The Consorcio has adopted an **Integrated Quality and Environment System** according to **UNI ISO 9001:2008** and **UNI ISO 14001:2004** aimed at optimising production processes and reducing the environmental impact through energy efficiency and the limited use of materials.
The year saw the continuation of the **training programme on safety at work and first aid**, carried out at university departments, specialisation centres and local companies of primary importance, providing **2,939 hours of training** for internal staff and contractors, including **safety drills**, coordinated by the Carabayllo fire brigade. Continuous training on the issue made it possible to **reach the goal of zero accidents at work** in 2019.
The Company has also held theoretical and hands-on courses organized with the Asociación de Productores Ecológicos of the Chillón valley on the **use of fertilizers, crop treatment and the maintenance of organic certification of agricultural products** for a total of **1,066 hours**. With regard to corporate welfare, in addition to administering the **annual assessment questionnaire on company climate**, which again this year registered a level of satisfaction equal to 100%, the Consorcio promoted an **influenza vaccination and pneumococcal vaccination campaign** for employees and their families.
The relationship with the education world has been the subject of great attention. In partnership with the Faculty of Engineering of the National University of Peru training courses were organized on the **design and management of treatment plants with rapid filtration** for graduates of Latin American countries, and continued the **internship** programme for students and recent graduates in the area. Also in 2019, the company hosted **555 visitors at its facilities**, including students, delegations of companies operating in the sector and representatives of foreign institutions (Costa Rica and Japan).
With the aim of developing a link with local communities, the Consorcio Agua Azul confirmed its **support to state entities** (such as the State Police, schools, the Ministry of Agriculture and the Ministry of Health), **non-profit organizations** (such as associations for the rehabilitation of drug addicts) **and consumer associations**. Indeed, to promote school attendance **1,725 educational kits** were distributed to nursery, primary and secondary schools made of **recycled plastic materials** and decorated with phrases on the **proper use of water resources**. Finally, for the Christmas holidays **1,965 toys and lunch vouchers were donated to the children of the area and to the children of employees** for lunch at the restaurant with their families.

CONSORCIO SERVICIO SUR

Consorcio Servicio Sur is a special purpose vehicle led by Acea International in partnership with Peruvian partners, which manages the preventive and corrective maintenance contract for the water and sewerage system in the **area south of Lima** (Peru), for the publicly owned Peruvian water company SEDAPAL.

CONSORCIO SERVICIO SUR – MAIN CORPORATE AND OPERATING DATA

country (area)	Peru (south Lima)
inhabitants served	1,121,886
customer	Sedapal (drinking water and sewerage service in Lima, state owned)
sources of financing	equity
duration of the contract	24.08.2018 – 24.08.2021
purpose of the project	preventive and corrective maintenance of the water and sewerage system in the area south of Lima
shareholders	Acea International (50%), Acea Ato 2 (1%), Conhydra (29%), Valjo (14%), India (6%)
no. of employees	176
turnover (in € thousand)	5,580

[138] 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.

From the standpoint of the the **sharing economy**, the company allows employees to use **company cars** for **commuting** and to share **them** with other employees.

CONSORCIO SERVICIO NORTE

A special purpose vehicle led by Acea International, in December 2019 the tender was awarded by the Peruvian state water company SEDAPAL following the emergency situation for the management of preventive and corrective maintenance of the water and sewerage systems in the area north of Lima (Peru) for a period of six months.

CONSORCIO SERVICIO NORTE – MAIN CORPORATE AND OPERATING DATA

country (area)	Peru (north Lima)
inhabitants served	3,028,000
customer	Sedapal (drinking water and sewerage service in Lima, state owned)
sources of financing	equity
duration of the contract	6 months from the award of the tender
purpose of the project	preventive and corrective maintenance of the water and sewerage system in the area north of Lima
shareholders	Acea International SA , Acea Peru SAC
no. of employees	454
turnover (in € thousand)	430

AGUAS DE SAN PEDRO

Aguas de San Pedro ASP is the holder of a 30-year contract for the management of the integrated water service in the city of San Pedro Sula in Honduras, and during the year it continued with the projects for the **expansion, treatment and improvement of the water service and sewerage network** in the city. 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.**

AGUAS DE SAN PEDRO SA – MAIN COMPANY AND OPERATING DATA

country (area)	Honduras (San Pedro Sula)
inhabitants served	755,000
customer	municipal administration
sources of financing	equity capital and loans from commercial banks
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	411
turnover (in € thousand)	36,787

In line with previous years, in 2019 the company offered **technical assistance to rural communities**, and promoted **initiatives to protect the environment**, continuing the **programme for the conservation of the El Merendón nature reserve**, declared a protected area for the production of water in San Pedro Sula.
The initiatives include:

- the "Un millon de Árboles para el Merendón" **reforestation** project, planting 61,656 fruit and wood trees (about 826,000 plants from the start of the project);
- **environmental training**, with 12 courses involving a total of 266 people including farmers benefiting from the reforestation project, members of the firefighting team, students of the Virgen de Suyapa agricultural school and staff of the cocoa producer cooperative;
- the **construction of 4 surveillance towers** to facilitate the detection and control of fires in the basins of the Rio Manchaguala and Rio Frio rivers;
- **fire prevention**, with campaigns for the protection of the local region, and the involvement of the fire team that has intervened in the **extinguishing of 19 fires** in Merendón on about 90 hectares of forests;
- **social and technical assistance** for the rural communities of Merendon.

In particular, the programme for **technical assistance to rural communities** involved 14 workshops for the community leaders who manage **water systems**, to increase their knowledge on the quality of water, the management and maintenance of systems and the basic principles of hydraulics. In addition, **108 bio-filters for drinking water** were installed in the homes of the residents of the Merendón and quarterly checks were carried out on approximately **2,400** devices already supplied.
In order to **teach good hygiene** to children, **4 committees** were formed and the maintenance of water and sanitation equipment was performed in schools.
Implementation of the **workplace health plan** continued, as envisaged in the *EMS-IHSS-ASP Corporate Medical System*, with **targeted campaigns** on nutrition and healthy lifestyles. Finally, **vaccination campaigns** were offered against influenza, medical examinations for patients with chronic diseases and preventive dermatology and cardiology checks.

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 and directing the works for new connections.
The framework of a contractual addendum already signed by Acea Dominicana and Corporacion del Acueducto y Alcantarillado De Santo Domingo (CAASD), which extended the contract duration until 2023, also includes the financing, supply and installation of 30,000 meters for new users and the replacement of 10,000 meters for existing users.

Apart from the foregoing, the company also carries out maintenance on the entire meter park. The Company implemented a Quality Management System certified according to the **UNI ISO 9001:2015** standard.

ACEA DOMINICANA SA – MAIN CORPORATE AND OPERATING DATA

country (area)	Dominican Republic (north and east Santo Domingo)
inhabitants served	1,500,000
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	161
turnover (in € thousand)	4,143

With regard to the social dimension, in collaboration with CAASD, **educational campaigns for 800 students from schools in the capital** were organized to **raise awareness among them about the proper use of water**, distributing gadgets and kits containing school supplies and launching a campaign dedicated to primary schools in Boca Chica.
In the environmental field, the Company supported the **project for the reforestation of the basin of the Brujuelas river – CORAABO** involving entrepreneurs, students and citizens of Boca Chica and neighbouring areas in the planting of about 10,000 trees to preserve the wetlands, lagoon and spring essential for the water supply of Boca Chica and neighbouring countries.
In the **poorest areas of Santo Domingo** and **Boca Chica**, the promotional campaign **"Plan Deuda Cero" (Zero Debt Plan)** continued, aimed at users who are in arrears, to cancel their debt with personalized payment plans.

INDEX OF GRI CONTENTS: REPORTING PRINCIPLES, UNIVERSAL STANDARDS AND SPECIFIC MATERIAL STANDARDS

The Sustainability Report was prepared in accordance with **GRI Standards (ed. 2016): Comprehensive option**[139]. The GRI Content Index includes Universal Standards (100 series) and Material Specific Standards (200, 300, 400 series).
In particular, the index contains:

- reference to **Reporting Principles** (GRI 101 – Reporting principles 2016);
- the definition of **56 general information** standards (GRI 102 – General Information 2016) and **26 topics deemed material** among the **specific Standards** (GRI 200-Economic, GRI 300-Environmental, GRI 400-Social series) and **relevant indicators**, with the indication of sections and pages of the document where they can be found – or responses to the indicators – and reporting of any omissions or "non-applicability" of certain indicators included in material topics;
- the scope of each topic (among the specific material Standards), in other words its significance within the organisation (Group or companies traceable to specific business sectors) or outside of it (for example supply chain, community).

Lastly, the right-hand columns of the Content Index give the main compliances with the topics provided under Legislative Decree no. 254/2016.

GRI CONTENT INDEX		
GRI STANDARDS	**definition of GRI standards notes (responses or reporting of omissions or non-applicability) sections and reference pages**	**Compliance with Legislative Decree no. 254/2016**
UNIVERSAL STANDARDS		
GRI 101: FOUNDATION 2016 (REPORTING PRINCIPLES)		
GENERAL DISCLOSURES		
	ORGANIZATIONAL PROFILE	
GRI 102: General Disclosures 2016	**102-1 Name of the organization.** Acea SpA *Corporate identity page 26.*	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-2 Activities, brands, products, and services. *Corporate identity* pages 26, 27, chart no. 2.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-3 Location of headquarters. Piazzale Ostiense 2, 00154 Rome	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-4 Location of operations (number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report). *Corporate identity* page 26.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-5 Ownership and legal form. *Corporate identity* page 33.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-6 Markets served (including: geographic locations, sectors served, types of customers and beneficiaries). *Corporate identity* pages 26f., 34; *Relations with stakeholders* pages 88, 90 table no. 15, 106f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-7 Scale of the organization (including: number of employees; net sales – for private sector organizations – or net revenues – for public sector organizations; total capitalization broken down in terms of debt and equity; quantity of products or services provided). *Corporate identity* pages 27, table no 6, 34 table no. 7; *Relations with stakeholders* pages 143 table no. 36, 160.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-8 Information on employees and other workers (total number of employees by employment type and gender, employment contract by region etc.; whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed). *Relations with stakeholders* pages 141f., 143ff., 145-146 table no. 37	**Art. 3 paragraph 2, letter d)**: social aspects and aspects related to staff management
	102-9 Description of the organization's supply chain. *Corporate identity* pages 28-33; *Relations with stakeholders* pages 137f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model

[139] The definition of the general and specific standard elements have been translated from the English version of the Consolidated set of GRI Sustainability reporting standards 2016, see the original edition.

GRI 102: General Disclosures 2016	**102-10 Significant changes to the organization's size, structure, ownership, or supply chain (including: changes in the location of, or changes in operations, including facility openings, closings, and expansions; changes in the share capital structure and other capital formation, maintenance, and alteration operations; changes in the location of suppliers, the structure of the supply chain, or relationships with suppliers etc.).** *Corporate identity* page 33; *Relations with stakeholders* page 138.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-11 Precautionary Principle or approach (whether and how the organization applies the Precautionary Principle or approach). *Corporate identity* pages 71, 77, 78 table no. 12; *Relations with stakeholders* pages 152f., 167; *Relations with the environment* page 195.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-12 External initiatives (a list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses.). *Membership in the United Nations Global Compact* pages 21-23; *Corporate identity* pages 36, 38, 78 table no. 8; *Relations with stakeholders* pages 136, 151, 165ff.; *Relations with the environment* pages 172f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-13 Membership of associations (the reporting should include memberships maintained at the organizational level in associations or organizations in which it holds a position on the governance body, participates in projects or committees, provides substantive funding beyond routine membership dues, or views its membership as strategic). *Relations with stakeholders* pages 165f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	STRATEGY	
	102-14 Statement from senior decision-maker (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability. *Letter to stakeholders* pages 6-7; *Corporate identity* pages 35-39; *Relations with stakeholders* pages 132, 165f.	**Art. 3 paragraph 7:** The responsibility for ensuring that the report is... compliant rests with the directors
	102-15 Description of key impacts, risks, and opportunities. *Corporate identity* pages. 28-33, 35-39, 70, 73, 74 table no. 10, 76ff.; *Relations with stakeholders* pages 111, 163f., 167; *Relations with the environment* pages 186f., 190.	**Art. 3 paragraph 1, letter c):** the main risks, generated or incurred; **paragraph 2, letter c):** the impact... on the environment and on health and safety
	ETHICS AND INTEGRITY	
	102-16 Description of the organization's values, principles, standards, and norms of behavior. *Corporate identity* pages 36, 38, 68, 73, 83; *Relations with stakeholders* pages 135f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-17 Mechanisms for advice and concerns about ethics (description of internal and external mechanisms for seeking advice about ethical and lawful behavior, and organizational integrity; reporting concerns about unethical or unlawful behavior, and organizational integrity etc.). *Corporate identity* pages 68 chart no. 10, 73.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **paragraph 2, letter e)**: respect for human rights, the measures adopted to prevent violations, as well as the actions taken to prevent discriminatory attitudes and actions
	GOVERNANCE	
	102-18 Governance structure of the organization, including committees of the highest governance body. Committees responsible for decision-making on economic, environmental, and social topics. *Corporate identity* pages 68 and chart no. 10, 69 and table no. 8.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-19 Process for delegating authority for economic, environmental, and social topics from the highest governance body to senior executives and other employees. The Board of Directors confers management delegations to the Chief Executive Officer, who, in the framework of the corporate macro-structure resolved by the Board itself, confers powers and delegations to the management, in compliance with the missions and responsibilities of the various structures. Normally, the process for any type of delegation (and therefore also for economic, environmental and social aspects) occurs through the analysis of the need/ requirement for a power to be attributed.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model

GRI 102: General Disclosures 2016	**102-20 Executive-level responsibility for economic, environmental, and social topics (whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics; whether post holders report directly to the highest governance body).** In Acea SpA, the Risk & Compliance Function, which reports hierarchically to the Chairman and is functional to the Chief Executive Officer, among other things coordinates and develops issues relating to social and environmental sustainability, supporting Group companies in planning the actions necessary to achieve the objectives, reporting annually on the effects through the Sustainability Report. This function includes the Sustainability Unit, whose manager is the Group CSR manager.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-21 Processes for consultation between stakeholders and the highest governance body on economic, environmental, and social topics. If consultation is delegated, describe to whom it is delegated and how the resulting feedback is provided to the highest governance body. During the year, management was invited to participate in meetings of the Governing Bodies, providing specific information and knowledge during the meetings. Worthy of note is the activity carried out by the Sustainability Advisory Board on the supervision of the progress of the Sustainability Plan, the results of which are communicated to Top Management. *Corporate identity* pages 36, 68, 70; *Relations with stakeholders* pages 160f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-22 Composition of the highest governance body and its committees (executive or non-executive, independence, gender, competencies relating to economic, environmental, and social topics etc.). *Corporate identity* pages 68, 69 table no. 8.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-23 Chair of the highest governance body (the organization shall report whether the Chair is also an executive officer in the organization, his or her function within the organization's management and the reasons for this arrangement). *Corporate identity* pages 68, 69 table no. 8.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-24 Nomination and selection processes for the highest governance body and its committees (criteria used for nominating and selecting highest governance body members, including whether and how diversity, independence, expertise and experience relating to economic, environmental, and social topics are considered, stakeholders, including shareholders, are involved). In the composition of its corporate bodies, Acea ensures a balanced representation of gender, provided under law no. 120/2011, transposed into its Articles of Association in the same way as it guarantees the presence of independent Directors, governed under such Articles of Association and the law in force. Diversity of gender in the Governing Body and Committees constitutes a particularly important element in relation to both mitigation of the "single mode of thought" and the different way in which men and women exercise their leadership. Shareholders are involved in selection processes and in compliance with the recommendations of the Corporate Governance Code, they are steered in the choice of candidates to put forward in the lists of orientation drawn up by the Board of Directors of Acea, subject to the opinion of the Appointments Committee and considering the outcomes of self-assessment and the dimension and composition of the Board of Directors. *Corporate identity* page 68.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-25 Processes for the highest governance body to ensure conflicts of interest are avoided and managed. The risk of conflict of interest in Acea is monitored thanks to internal corporate governance systems and procedures (Management, organisation and control model, Code of Ethics, Related Parties Transactions procedure, independent Directors). These tools are used to intervene in the various frameworks within which a conflict of interest may arise: in relations between controlling and minority stakeholders, between Acea and Related Parties and between Acea and Public Administrations. *Corporate identity* pages 68f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-26 Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics. *Disclosing sustainability: methodological note* page 15; *Corporate identity* pages 36, 38, 68f, 77.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model

GRI 102: General Disclosures 2016	**102-27 Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental, and social topics.** *Disclosing sustainability: methodological note* page 15; *Corporate identity* pages 36, 39, 68 and chart no. 10.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-28 Processes for evaluating the highest governance body's performance with respect to governance of economic, environmental, and social topics. The non-executive directors receive a fixed remuneration, determined by the Shareholders' Meeting, commensurate to the commitment required of them. *Corporate identity* pages 68 and chart no. 10, 69f., 78; *Relations with stakeholders* page 157.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-29 Highest governance body's role in identifying and managing economic, environmental, and social topics and their impacts, risks, and opportunities – including its role in the implementation of due diligence processes. *Disclosing sustainability: methodological note* page 15; *Corporate identity* pages 38ff., 68f., 71, 77.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-30 Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental, and social topics. **environmental and social)**. *Disclosing sustainability: methodological note* page 15; *Corporate identity* pages 40, 68 and chart no.10, 69, 71.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-31 Frequency of the highest governance body's review of economic, environmental, and social topics and their impacts, risks, and opportunities. *Disclosing sustainability: methodological note* page 15; *Corporate identity* pages 38, 40, 68 chart no. 10.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-32 The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material topics are covered. *Disclosing sustainability: methodological note* page 15; *Corporate identity* page 69.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-33 Process for communicating critical concerns to the highest governance body. The Board of Directors (BoD) receives constant information on potentially critical situations, primarily through the work carried out by the Control and Risk Committee, to which the manager of the Audit Function periodically reports, who interacts with the Board of Directors. The activities carried out and the findings of the Supervisory Boards (pursuant to Legislative Decree no. 231/01) which could lead to the emergence of a risk of responsibility for the company are the subject of flows of information to the BoD. The CEO, also in his role as Director in charge of the Internal Control and Risk Management System, constantly provides information to the Board of Directors concerning operating performance and the effective existence of potentially critical situations. *Corporate identity* pages 70, 73f. and table no. 10, 78.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-34 Nature and total number of critical concerns that were communicated to the highest governance body; mechanism(s) used to address and resolve critical concerns. *Corporate identity* pages 73f. and table no. 10, 78.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-35 Remuneration policies for the highest governance body and senior executives (fixed pay and variable pay, sign-on bonuses or recruitment incentive payments, termination payments etc.). How performance criteria in the remuneration policies relate to the highest governance body's and senior executives' objectives for economic, environmental, and social topics. We point out that in Acea, for the Top Management, Managers having strategic responsibility and managerial roles with greater impact on Group business, the clawback clause is applied – a right to ask the return of variable components in remuneration, in the short and long term if such components were paid on the basis of conduct of gross negligence or wilful misconduct. No agreements are in place which provide fixed indemnities or clauses aimed at safeguarding Group Directors if the working relationship is terminating, for this mater reference is made to the institutions under the Collective Labour Agreement for Directors of Service Companies of Public Utility. The current LTIP – Long Term Incentive Plan is linked solely to economic and financial objectives. The short-term incentive system (MBO), on the other hand, is linked to both objectives of an economic/financial nature and to environmental objectives having an impact on sustainability. In 2019, much of the Managing Director's first line was assigned at least one goal with an impact on sustainability to demonstrate how sustainability is increasingly important and relevant in the company culture. *Corporate identity* pages 68 and chart no. 10, 70; *Relations with stakeholders* page 157.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model

	102-36 Process for determining remuneration; whether remuneration consultants are involved in determining remuneration and whether they are independent of management. During 2019, the Appointments and Remuneration Committee contracted a consulting company to issue an independent opinion on remuneration. *Corporate identity* pages 68, 70.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-37 Stakeholders' involvement in remuneration. *Corporate identity* page 70.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-38 Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country. The ratio between remuneration for the highest-paid individual and average employee for 2019 is given by retributive multiple 15.42, which is compared to a mean value of 20.27 of peer companies. See also the 2019 Remuneration Report available on the Acea Group website (www.gruppo.acea.it). *Corporate identity* page 70.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-39 Ratio of the percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country. The company chose to only provide the datum concerning the ratio between the remuneration of the highest-paid individual and the median remuneration of the employees.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	STAKEHOLDER ENGAGEMENT	
GRI 102: General Disclosures 2016	**102-40 List of stakeholder groups engaged by the organization.** *Disclosing sustainability: methodological note* pages 15-17; *Corporate identity* pages 79-83; *Relations with stakeholders* pages 91-97, 99, 107f., 110, 112f., 120-122, 124, 128-134, 136, 140ff., 149ff., 152ff., 156f., 161, 162, 164ff.; *Relations with the environment* page 172.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-41 Percentage of total employees covered by collective bargaining agreements. *Relations with stakeholders* page 150.	**Art. 3 paragraph 2, letter d)**: social aspects and aspects relating to staff management
	102-42 Basis for identifying and selecting stakeholders with whom to engage. *Disclosing sustainability: methodological note* pages 15-17; *Corporate identity* pages 79-83; *Relations with stakeholders* pages 91-97, 112f., 120-122, 124, 128-134, 136, 140ff., 149ff., 152ff., 156f., 159, 161, 162, 165f.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-43 Approach to stakeholder engagement (including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process). *Disclosing sustainability: methodological note* pages 15-17; *Corporate identity* pages 79-83; *Relations with stakeholders* pages 91-97, 99, 107f., 112f., 120-122, 124, 128-134, 136, 140ff., 149ff., 152ff., 154, 156f., 158ff., 161, 162, 164ff.; *Relations with the environment* page 172.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	102-44 Key topics and concerns that have been raised through stakeholder engagement (including how the organization has responded to those key topics and concerns, including through its reporting, and the stakeholder groups etc.). *Disclosing sustainability: methodological note* pages 15-17; *Corporate identity* pages 79-83; *Relations with stakeholders* pages 91-97, 95-97 table no. 16, 112f., 120-122, 124, 132-134, 136, 140ff., 149ff., 152, 156f., 161, 162, 163, 165ff., 167.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model
	REPORTING PRACTICE	
	102-45 List of all entities included in the organization's consolidated financial statements. Specify whether any entity included in the organization's consolidated financial statements is not covered by the report. The indicator is also shown in the report each time the reference boundary of the disclosure changes. Such shift in some cases is simply to be correlated to the various business sectors (and related pertaining companies) accounted for, in others it must be related to the centralised management of some data which, by virtue of the activities managed under service, does not include the whole accounting scope. *Disclosing sustainability: methodological note*, pages 18 and table no. 2, 19 note 16; *Relations with stakeholders* pages 88, 136 note 82, 137; *Relations with the environment* pages 177, 181, 184.	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries

GRI 102: General Disclosures 2016	**102-46 Process for defining the report content and the topic Boundaries (including an explanation of how the organization has implemented the Reporting Principles for defining report content).** *Disclosing sustainability: methodological note* pages 15-17, 18, 20; *Corporate identity* pages 28-33, 35-39; *GRI Content Index* pages 218ff.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model **Art. 4 paragraph 1:** in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	102-47 List of the material topics identified in the process for defining report content. *Disclosing sustainability: methodological note*, pages 15-17 and table no. 1; *GRI Content Index* pages 218ff.	**Art. 4 paragraph 1:** in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	102-48 Effect of any restatements of information given in previous reports, and the reasons for such restatements (mergers or acquisitions, change of base years or periods, nature of business, measurement methods). Any recalculations or aggregations implying changes respect to that published in 2018 are adequately marked and grounded in the report. *Disclosing sustainability: methodological note*, page 18; *Relations with stakeholders* pages 143, 140 table no. 33; *Relations with the environment* pages 196, 197 table no. 65; *Environment accounts* pages 247ff.	**Art. 3 paragraph 3:** the information... is provided with a comparison in relation to those provided in previous years
	102-49 Significant changes from previous reporting periods in the list of material topics and topic Boundaries. *Disclosing sustainability: methodological note* pages 17, table no. 1, 18, 19 table no. 3; *Relations with stakeholders* pages 106f., 123 and chart no. 26; *Environmental accounts* pages 243, 247f.	**Art. 3 paragraph 3:** the information... is provided with a comparison in relation to those provided in previous years
	102-50 Reporting period for the information provided (for example, the fiscal or calendar year). *Disclosing sustainability: methodological note* page 14.	**Art. 2 paragraph 1:** public interest entities draw up a declaration for each financial year **Art. 3 paragraph 3:** the information... is provided with a comparison in relation to those provided in previous years
	102-51 Date of the most recent previous report. *Disclosing sustainability: methodological note* page 14.	**n.a.**
	102-52 Reporting cycle (for example, annual or biennial). *Disclosing sustainability: methodological note* page 14.	**Art. 2 paragraph 1:** public interest entities draw up a declaration for each financial year
	102-53 Contact point for questions regarding the report or its contents. *Disclosing sustainability: methodological note* page 20.	**n.a.**
	102-54 Claims of reporting in accordance with the GRI Standards (either: i. "*This report has been prepared in accordance with the GRI Standards: Core option*", ii. "*This report has been prepared in accordance with the GRI Standards: Comprehensive option*"). *Disclosing sustainability: methodological note* page 14; *GRI Content Index* pages 218ff.	**Art. 3 paragraph 3:** reporting standard used
	102-55 GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report (for each disclosure, the content index shall include: the number of the disclosure, the page number(s) or URL(s) where the information can be found, if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made, etc). *GRI Content Index* pages 218ff.	**Art. 3 paragraph 3:** reporting standard used
	102-56 External assurance (the reporting organization shall report a description of the organization's policy and current practice with regard to seeking external assurance for the report; a reference to the external assurance report; the relationship between the organization and the assurance provider; whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report). *Disclosing sustainability: methodological note* page 15; *Opinion Letter* page 274.	**Art. 3 paragraph 10:** verification... of the non-financial statement

MATERIAL TOPIC-SPECIFIC STANDARDS		
GRI 200: ECONOMIC TOPICS 2016		
TOPIC	ECONOMIC PERFORMANCE	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 33, 35, 36ff., **Topic Boundary: Acea Group**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 33, 35, 36ff.,	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 33, 35, 36ff.,	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
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, economic value retained).** *Corporate identity* pages 34 table no. 7, 79-83, 84; *Relations with stakeholders* pages 148, 162.	**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. *Corporate identity* pages 28-33, 34 38, 75; *Relations with stakeholders* page 160; *Relations with the environment* pages 173, 192f.	**Art. 3 paragraph 1, letter c):** the impact...on the environment
	201-3 Defined benefit plan obligations and other retirement plans. *Relations with stakeholders* pages 148, 149, table no. 40.	**Art. 3 paragraph 1, letter d):** social aspects and aspects relating to staff management
	201-4 Financial assistance received from government. *Corporate identity* page 84 note 24.	**n.a.**
TOPIC	INDIRECT ECONOMIC IMPACTS	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 79-83; *Relations with stakeholders* pages 97-118, 132-134, 136. **Topic Boundary: main Group companies; local community; suppliers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff., 79-83; *Relations with stakeholders* pages 97-118, 132-134, 136.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff., 79-83; *Relations with stakeholders* pages 97-118, 136.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
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.).** *Corporate identity* pages 79-83; *Relations with stakeholders* pages 97-118, 98-99 table no. 17, 107 table no. 24, 132-134, 166 and chart no. 44; *Relations with the environment* page 175.	**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.). *Corporate identity* pages 79-83; *Relations with stakeholders* pages 89, 97-118, 98-99 table no. 17, 130, 132-134, 135f., 137f., 138-139 tables no. 34 and 35; *Relations with the environment* page 179.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment as well as on health and safety

TOPIC	PROCUREMENT PRACTICES	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f. **Topic Boundary: main Group companies; suppliers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 135f.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 204: Procurement Practices 2016	**204-1 Proportion of spending on local suppliers.** No specific preferential strategy is foreseen for local suppliers, even though, particularly for provisioning works, the prevalence of local suppliers comes about naturally. *Relations with stakeholders* pages 138, 139 table no. 35.	**Art. 3 paragraph 1, letter b)**: non-financial key performance indicators
TOPIC	ANTI-CORRUPTION	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 73. **Topic Boundary: Acea Group**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff., 73; *Relations with stakeholders* page 155.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 The management approach and its components. *Corporate identity* pages 36ff., 73f.; *Relations with stakeholders* page 155.	**Art. 3 paragraph 1, letter b):** the policies implemented by the company...and the results achieved through them
GRI 205: Anti-corruption 2016	**205-1 Total number and percentage of operations assessed for risks related to corruption. Significant risks related to corruption identified through the risk assessment.** *Corporate identity* page 73.	**Art. 3 paragraph 1, letter c):** the main risks, generated or incurred **paragraph 2, letter f):** fight against active and passive corruption
	205-2 Communication and training about anti-corruption policies and procedures (total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to, etc.). *Relations with stakeholders* page 155.	**Art. 3 paragraph 1, letter a)**: the corporate management and organisation model: **paragraph 2, letter f):** fight against active and passive corruption
	205-3 Confirmed incidents of corruption and actions taken (total number and nature of confirmed incidents of corruption, etc.). No episodes of corruption were recorded.	**Art. 3 paragraph 2, letter f):** fight against active and passive corruption

TOPIC	ANTI-COMPETITIVE BEHAVIOR	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 71f.; *Relations with stakeholders* pages 135, 162. **Topic Boundary: Acea Group**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff., 71f.; *Relations with stakeholders* pages 135, 155, 162.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff., 71f.; *Relations with stakeholders* pages 135, 155, 162.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
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 including any decisions or judgments).** *Relations with stakeholders* pages 162f.	**Art. 3 paragraph 1, letter b)**: non-financial key performance indicators
GRI 300: ENVIRONMENTAL TOPICS 2016		
TOPIC	MATERIALS	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 76; *Relations with the environment* pages 173f., 191; *Environmental accounts* page 243. **Topic Boundary: main Group companies**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with the environment* pages 173f., 191; *Environmental accounts* page 243.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with the environment* pages 173f., 191; *Environmental accounts* page 243.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
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 191 and table no. 56, 194 and table no. 61; *Environmental accounts* pages 243, 250ff., 254.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	301-2 Percentage of recycled input materials used to manufacture the organization's primary products and services. *Relations with the environment* page 191 and table no. 56.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	301-3 Percentage of reclaimed products and their packaging materials for each product category. Not applicable.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
TOPIC	ENERGY	
GRI 103 Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 35, 36ff., 76; *Relations with the environment* pages 173f., 177, 191f. **Topic Boundary: main Group companies; suppliers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 35, 36ff.; *Relations with stakeholders* page 155; *Relations with the environment* pages 173f., 177, 191f.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 35, 36ff.; *Relations with stakeholders* page 155; *Relations with the environment* pages 173f., 177, 191f.	**Art. 3 paragraph 1, letter b):** the policies applied by the company... and the results achieved through them

GRI 302: Energy 2016	**302-1 Energy consumption within the organization.** *Relations with the environment* pages 191, 192 table nos. 57 and 58.	**Art. 3 paragraph 2, letter a):** the use of energy resources
	302-2 Energy consumption outside of the organization. *Corporate identity* page 26; *Relations with the environment* page 192.	**Art. 3 paragraph 2, letter a):** the use of energy resources
	302-3 Energy intensity. *Relations with the environment* pages 191, 192 table no. 59, 192f.	**Art. 3 paragraph 2, letter a):** the use of energy resources
	302-4 Reduction of energy consumption. *Relations with the environment* pages 192f.	**Art. 3 paragraph 2, letter a):** the use of energy resources
	302-5 Reductions in energy requirements of products and services. **Not applicable:** The Group does not sell products or services for which the indicator could be considered applicable.	**Art. 3 paragraph 2, letter a):** the use of energy resources
TOPIC	WATER	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 35, 36ff., 76; *Relations with stakeholders* pages 109f., 111-113; *Relations with the environment* pages 173f, 174ff., 185, 186f. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 35, 36ff.; *Relations with stakeholders* page 109f., 111-113, 128, 163; *Relations with the environment* pages 173f., 174ff., 185, 186f., 194.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 35, 36ff; *Relations with stakeholders* pages 109f., 111-113; *Relations with the environment* pages 173f, 174ff., 185, 186f., 194.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 303: Water 2016	**303-1 Total volume of water withdrawn, with a breakdown by source.** *Relations with the environment* page 194 table no. 61; *Environmental accounts* page 247.	**Art. 3 paragraph 2, letter a)**: the use of water resources
	303-2 Water sources significantly affected by withdrawal of water. *Relations with the environment* page 194.	**Art. 3 paragraph 2, letter a)**: the use of water resources
	303-3 Percentage and total volume of water recycled and reused. Relations with the environment page 194 and table no. 61.	**Art. 3 paragraph 2, letter a)**: the use of water resources
TOPIC	BIODIVERSITY	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff., 76; *Relations with the environment* pages 173f. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with the environment* pages 173f., 188.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff; *Relations with the environment* pages 173f.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
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.** *Relations with the environment* pages 174-177.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	304-2 Significant impacts of activities, products, and services on biodiversity. *Relations with the environment* pages 174-177, 181.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	304-3 Habitats protected or restored. *Relations with the environment* pages 174-177.	**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. *Relations with the environment* pages 174-177.	**Art. 3 paragraph 2, letter c):** the impact...on the environment

TOPIC	EMISSIONS	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff., 76; *Relations with stakeholders* page 130; *Relations with the environment* pages 173f., 195f. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33 36ff.; *Relations with stakeholders* pages 129f.; *Relations with the environment* pages 173f, 195f.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* page 130; *Relations with the environment* pages 173f, 195f.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 305: Emissions 2016	**305-1 Direct (Scope 1) GHG emissions.** Biogenic CO_2 was calculated for the Environment and Water segments and in 2019 was equal to 364,887 tonnes. *Relations with the environment* pages 195, 197 table no. 65; *Environmental accounts* pages 253f., 255.	**Art. 3 paragraph 2, letter b)**: greenhouse gas emissions
	305-2 Energy indirect (Scope 2) GHG emissions. *Relations with the environment* pages 196, 197 table no. 65; *Environmental accounts* pages 253f.,	**Art. 3 paragraph 2, letter b)**: greenhouse gas emissions
	305-3 Other indirect (Scope 3) GHG emissions. *Relations with the environment* pages 197 table no. 65.	**Art. 3 paragraph 2, letter b)**: greenhouse gas emissions
	305-4 GHG emissions intensity. *Relations with the environment* pages 196, 197 table no. 65.	**Art. 3 paragraph 2, letter b)**: greenhouse gas emissions
	305-5 Reduction of GHG emissions as a direct result of reduction initiatives. *Relations with the environment* pages 181, 192f., 193 table no. 60, 197 table no. 65.	**Art. 3 paragraph 2, letter b)**: greenhouse gas emissions
	305-6 Emissions of ozone-depleting substances (ODS). *Relations with the environment* page 196; *Environmental accounts* pages 250, 252.	**Art. 3 paragraph 2, letter b)**: greenhouse gas emissions
	305-7 Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions. *Relations with the environment* page 196 table no. 64; *Environmental accounts* pages 253f.	**Art. 3 paragraph 2, letter b)**: pollutant emissions into the atmosphere
TOPIC	EFFLUENTS AND WASTE	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 35, 36ff., 76; *Relations with the environment* pages 173f., 181, 188; *Environmental accounts* page 243. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 35, 36ff.; *Relations with the environment* pages 173f., 181, 188; *Environmental accounts* page 243.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 35, 36ff.; *Relations with the environment* pages 173f., 181, 188; *Environmental accounts* page 243.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them

GRI 306: Effluents and Waste 2016	**306-1 Water discharge by quality and destination.** The water used by Acea structures for "civil/hot water" undergoes the same standard purification process to which all town waste water is submitted. The environmental impact produced on the receiving body of water from the discharge of purified water from all the plants is not significant. *Relations with the environment* page 188; *Environmental accounts* page 249.	**Art. 3 paragraph 2, letter a)**: the use of water resources
	306-2 Waste by type and disposal method. The total hazardous waste products is equal to 74,591 t; the total non-hazardous waste products is equal to 207,893 t (of which 137,729 is sludge, sand and gratings). The percentage of hazardous and non-hazardous waste sent for recovery is 36%. Differentiated collection obtained about 916 tonnes of paper in 2019 (+9% compared to 2018) and 622 tonnes of plastic (+28% compared to 2018). There is no detailed information regarding the type of disposal inasmuch as code R13 of the normative in force on waste (most used by disposal operators) does not permit the identification thereof. *Environmental accounts* pages 253f., 255.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	306-3 Total number and total volume of recorded significant spills. In 2019, there were no significant released into the environment of polluting substances such as mineral oil, fuels or chemical products.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	306-4 Transport of hazardous waste. *Relations with the environment* page 183.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
	306-5 Water bodies affected by water discharges and/or runoff, including information on the size of the water body and related habitat; whether the water body and related habitat is designated as a nationally or internationally protected area; the biodiversity value etc. No drain to report that significantly affects the habitats and biodiversity.	**Art. 3 paragraph 2, letter c)**: the impact...on the environment
TOPIC	ENVIRONMENTAL COMPLIANCE	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff; *Relations with the environment* pages 173f. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with stakeholders* page 155; *Relations with the environment* pages 173f.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* page 155; *Relations with the environment* pages 173f.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 307: Environmental Compliance 2016	**307-1 Non-compliance with environmental laws and regulations. Total monetary value of significant fines; total number of non-monetary sanctions, etc.** *Relations with stakeholders* pages 162f.; *Relations with the environment* page 173.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
TOPIC	SUPPLIER ENVIRONMENTAL ASSESSMENT	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f.; *Relations with the environment* pages 192, 196. **Topic Boundary: main Group companies; suppliers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f., 140f.; *Relations with the environment* pages 192, 196.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 135s., 141; *Relations with the environment* pages 192, 196.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them

GRI 308: Supplier Environmental Assessment 2016	**308-1 Percentage of new suppliers that were screened using environmental criteria.** *Relations with stakeholders* pages 136, 140f.; *Relations with the environment* pages 192.	**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, the supply and subcontracting chains
	308-2 Actual and potential negative environmental impacts in the supply chain and actions taken. *Relations with stakeholders* pages 140f.; *Relations with the environment* pages 192, 196.	**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, the supply and subcontracting chains; **paragraph 2, letter c):** impact...on the environment
GRI 400: SOCIAL TOPICS 2016		
TOPIC	EMPLOYMENT	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f., 143, 154-156. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f., 140f., 143, 147f., 153, 154-156, 157, 160.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 135f., 143, 147f., 153, 157, 160.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 401: Employment 2016	**401-1 New employee hires and employee turnover. Total number and rate, by age group, gender and region.** *Relations with stakeholders* pages 143ff., 146-147 table no. 38	**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. *Relations with stakeholders* page 158.	**Art. 3 paragraph 2, letter d)**: aspects relating to staff management
	401-3 Parental leave. Total number of employees that were entitled to parental leave, that took parental leave, that returned to work after parental leave ended, by gender, etc. Acea operates in compliance with the Consolidated Act on the protection and support of maternity and paternity (Italian Legislative Decree no. 151/2001 as subsequently amended and supplemented), which regulates leave, rest, permits and economic support to workers connected with the maternity and paternity of natural, adopted and fostered children. The legislation bans any discrimination for reasons based on gender, with specific regards to any less favourable treatment due to being pregnant, a mother or a father; it establishes compulsory maternity for a period of five months and guarantees that the job will be kept during that period, laying down a ban on dismissal; it also establishes that the resource will be returned to the duties carried out prior to the leave or equivalent duties, envisaging sanctions for any employers breaching this law. Therefore, 100% of employees using this type of leave, maintain their job and return to work. 336 employees in 2019 made use of parental leave, of whom 123 were men and 213 were women. At the end of the leave period, everyone returned to work and are still active.	**Art. 3 paragraph 2, letter d):** aspects relating to staff management; **letter e):** actions taken to prevent attitudes and conduct that are in any case discriminatory

TOPIC	LABOR/MANAGEMENT RELATIONS	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 149ff. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 149ff.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 149ff.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
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).** *Relations with stakeholders* page 150.	**Art. 3 paragraph 2, letter d)**: method by which dialogue is carried out with the corporate parties
TOPIC	OCCUPATIONAL HEALTH AND SAFETY	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 151, 153. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 141f., 151, 153, 155.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 141f., 151, 153, 155.	**Art. 3 paragraph 1, letter b):** the policies implemented by the company...and the results achieved through them
GRI 403: Occupational Health and Safety 2016	**403-1 Workers representation in formal joint management–worker health and safety committees.** In Acea, the provisions are respected of Italian Legislative Decree no. 81/2008 on health and safety at work. 100% of workers are represented in formal health and safety commissions (made up of representatives of management and workers) through appointed figures. *Relations with stakeholders* pages 150f.	**Art. 3 paragraph 2, letter c):** the impact...on health and safety; **letter d):** aspects related to personnel management
	403-2 Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities, by gender and region. In 2019, the absenteeism rate is 3.58% (3.51% male absenteeism rate and 3.78% female absenteeism rate). *Relations with stakeholders* pages 142, 151-152 and chart no. 42, 152-153 table no. 41.	**Art. 3 paragraph 2, letter c):** the impact...on health and safety; **letter d):** aspects related to personnel management
	403-3 Workers with high incidence or high risk of diseases related to their occupation. *Relations with stakeholders* page 153.	**Art. 3 paragraph 2, letter c):** the impact...on health and safety; **letter d):** aspects related to personnel management
	403-4 Health and safety topics covered in formal agreements with trade unions. *Relations with stakeholders* page 151.	**Art. 3 paragraph 2, letter c):** the impact...on health and safety; **letter d):** aspects related to personnel management...the ways in which the dialogue with the social partners is carried out

TOPIC	TRAINING AND EDUCATION	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 153f., 154-156, 158. Topic Boundary: main Group companies.	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 153f., 154-156, 158.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 153f., 158.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 404: Training and Education 2016	**404-1 Average hours of training per year per employee; by gender and employee category.** *Relations with stakeholders* pages 155-156 and table no. 42	**Art. 3 paragraph 2, letter d)**: aspects relating to staff management
	404-2 Programs for upgrading employee skills and transition assistance programs. *Relations with stakeholders* pages 152ff., 154-156, 157.	**Art. 3 paragraph 2, letter d)**: aspects relating to staff management
	404-3 Percentage of employees receiving regular performance and career development reviews. In 2019, under the scope of the current staff management system, all staff of the Group Companies in the reporting period were assessed (100%). *Relations with stakeholders* page 157.	**Art. 3 paragraph 2, letter d)**: aspects relating to staff management
TOPIC	DIVERSITY AND EQUAL OPPORTUNITY	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 148, 159. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 148, 159.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 148, 159.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 405: Diversity and Equal Opportunity 2016	**405-1 Diversity of governance bodies and employees. Percentage of individuals within the organization's governance bodies, by gender, age group and other indicators of diversity. Percentage of employees per employee category, by gender, age group and other indicators of diversity.** Regarding the representation of the age groups of the members of the governing bodies, considering as such the Board of Directors, Board of Statutory Auditors and SB, it should be noted that 1% are up to 30 years old; 47% are in the 30-50 age group; 52% are over 50 years old. *Corporate identity* page 68; *Relations with stakeholders* pages 145-146 and table no. 37, 147 table no. 39, 159.	**Art. 3 paragraph 2, letter d)**: social aspects and aspects relating to staff management
	405-2 Ratio of basic salary and remuneration of women to men for each employee category, by significant locations of operation. The collective national employment contract applied in Acea envisages equal remuneration for men and women of equal classification. *Relations with stakeholders* page 148.	**Art. 3 paragraph 2, letter d)**: social aspects and aspects relating to staff management

TOPIC	NON DISCRIMINATION	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 73; *Relations with stakeholders* page 159. **Topic Boundary: main Group companies.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff., 73; *Relations with stakeholders* page 159.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff., 73; *Relations with stakeholders* page 159.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 406: Non discrimination 2016	**406-1 Incidents of discrimination and corrective actions taken.** *Corporate identity* page 73; *Relations with stakeholders* page 159.	**Art. 3 paragraph 2, letter d):** social aspects relating to staff management; **letter e):** actions taken to prevent attitudes and conduct that are in any case discriminatory
TOPIC	LOCAL COMMUNITIES	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 79-83; *Relations with stakeholders* pages 91-97, 97-118, 128-132, 162, 163f. **Topic Boundary: main Group companies and various stakeholders.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff., 79-83; *Relations with stakeholders* pages 91-97, 97-118, 128-132, 162, 163f.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff., 79-83; *Relations with stakeholders* pages 91-97, 97-118, 128-132, 162, 163f.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 413: Local Communities 2016	**413-1 Operations with local community engagement, impact assessments, and development programs.** 100% of the main Group Companies implement initiatives to involve stakeholders. *Disclosing sustainability: methodological note* pages 15-17; *Corporate identity* pages 76ff. and table no. 12, 79-83; *Relations with stakeholders* pages 91-97, 99, 109f., 113, 124, 128-134, 135f., 140f.; *Relations with the environment* page 172.	**Art. 3 paragraph 2, letter c):** the impact...on the environment and on health and safety
	413-2 Operations with significant actual and potential negative impacts on local communities. *Corporate identity* pages 79-83; *Relations with stakeholders* pages 163f.; *Relations with the environment* page 173.	**Art. 3 paragraph 2, letter c):** the impact...on the environment and on health and safety
TOPIC	SUPPLIER SOCIAL ASSESSMENT	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f. **Topic Boundary: main Group companies; suppliers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 28-33, 36ff.; *Relations with stakeholders* pages 135f., 140ff.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 153f., 141ff.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them

GRI 414: Supplier Social Assessment 2016	**414-1 Percentage of new suppliers that were screened using social criteria.** *Relations with stakeholders* pages 136, 140f.	**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, the supply and subcontracting chains; **paragraph 2, letter c):** impact...on health and safety
	414-2 Negative social impacts in the supply chain and actions taken. *Relations with stakeholders* pages 136, 140ff.	**Art. 3 paragraph 2, letter c)**: the impact...on health and safety
TOPIC	PUBLIC POLICY	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 162ff. **Topic Boundary: Acea Group.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 162ff.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 162ff.	**Art. 3 paragraph 1, letter b):** the policies applied by the company... and the results achieved through them
GRI 415: Public Policy 2016	**415-1 Political contributions. Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country and recipient/beneficiary.** *Relations with stakeholders* page 162.	**Art. 3 paragraph 2, letter f):** fight against active and passive corruption
TOPIC	CUSTOMER HEALTH AND SAFETY	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 113, 163f.; *Relations with the environment* pages 181, 185-187. **Topic Boundary: main Group companies; customers; community.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 111-113, 163f.; *Relations with the environment* pages 181, 185-187.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 113, 163f.; *Relations with the environment* pages 181, 185-187.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 416: Customer Health and Safety 2016	**416-1 Assessment of the health and safety impacts of product and service categories.** *Corporate identity* pages 76ff. and table no. 12; *Relations with stakeholders* pages 108-109 table no. 25, 111-113; *Relations with the environment* pages 181, 185-187.	**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. *Relations with the environment* page 173.	**Art. 3 paragraph 2, letter c)**: the impact...on health and safety

TOPIC	MARKETING AND LABELING	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 91-97, 97-118, 120, 122ff., 142, 162. **Topic Boundary: main Group companies; customers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 91-97, 97-118, 104-105 table no. 21, 105 table no. 22, 120, 122ff., 142, 162.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 91-97, 97-118, 120, 122ff., 142, 162.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 417: Marketing and Labeling 2016	**417-1 Requirements for product and service information and labeling.** The international indicator GRI, by virtue of the reference made to "services" as well as to products, is reported, adjusting it to the national context and the operations of a multiutility, both in respect of the main parameters relating to the quality of water distributed and in respect of the commercial, contractual and technical quality performance of the services managed in the water and energy sectors, subject to regulation by the national sector authority (ARERA). *Relations with stakeholders* pages 97-118, 101 table 20, 104-105 table no. 21, 105 table no. 22, 106 table no. 23, 111 table no. 26, 114-115 table no. 27, 115-116 table no. 28, 116 table no. 29, 118 table no. 30, 119, 122-127; *Relations with the environment* pages 185-187.	**Art. 3 paragraph 1, letter b)**: non-financial key performance indicators
	417-2 Total number of incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labeling. *Relations with stakeholders* pages 97-118, 101 table 20, 104-105 table no. 21, 105 table no. 22, 106 table no. 23, 114-115 table no. 27, 115-116 table no. 28, 116 table no. 29, 118 table no. 30, 120f., 123f., 162f.	**Art. 3 paragraph 1, letter b)**: non-financial key performance indicators
	417-3 Total number of incidents of non-compliance with regulations and/or voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship. *Relations with stakeholders* pages 142, 162f.	**Art. 3 paragraph 1, letter b)**: non-financial key performance indicators
TOPIC	CUSTOMER PRIVACY	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff., 71f.; *Relations with stakeholders* pages 122. **Topic Boundary: main Group companies; customers.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff., 71f.; *Relations with stakeholders* pages 122, 155.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff., 71f.; *Relations with stakeholders* pages 122, 155.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them
GRI 418: Customer Privacy 2016	**418-1 Substantiated complaints (received from outside parties and/or received from regulatory bodies) concerning breaches of customer privacy and losses of customer.** During the year, 118 relevant requests were received for the exercise of the rights referred to in art. 15-22 of Regulation EU 679/2016 – GDPR (requests for updating, cancellation, modification, refusal of consent, etc.). An investigation was performed for all of them and there is no evidence of the initiation of proceedings by the Privacy Authority in this respect.	**Art. 3 paragraph 1, letter b)**: non-financial key performance indicators

TOPIC	SOCIO ECONOMIC COMPLIANCE	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 36ff; *Relations with stakeholders* pages 113-118, 162. **Explanation of the material topic and its Boundary.**	**Art. 4 paragraph 1**: the consolidated statements include the data of the parent company and its fully consolidated subsidiaries. ...in the measure necessary to ensure the understanding of the group business, its performance, results and the impact it produced
	103-2 The management approach and its components. *Corporate identity* pages 36ff.; *Relations with stakeholders* pages 113-118, 120f., 124, 132, 162.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model; **letter b)**: the policies implemented by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 36ff; *Relations with stakeholders* pages 113-118, 124, 162.	**Art. 3 paragraph 1, letter b):** the policies applied by the company... and the results achieved through them
GRI 419: Socio Economic Compliance 2016	**419-1 Non-compliance with laws and regulations in the social and economic area (total monetary value of significant fines; total number of non-monetary sanctions etc.).** *Relations with stakeholders* pages 101 note 38, 121, 162f.; *Relations with the environment* page 173.	**Art. 3 paragraph 1, letter b)**: the policies implemented by the company...and the results achieved through them

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SCOPE

The scope of the ***Environmental Account*** is consistent with the reporting perimeter of the ***Sustainability Report*** (pursuant to Italian Legislative Decree 254/2016), as defined in the ***Methodological Note***.
The water Companies in which Acea has an investment: Acque, AdF, 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 Company data sheets*** and overseas activities (outside the perimeter of the ***Consolidated Non-Financial Statement***). The Company Gori, which joined the scope of consolidation on a line-by-line basis in November 2018, was included within the scope of the consolidated non-financial statement for the first time. In this regard, the data for the three-year period have been updated.

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 **about 400 items and parameters monitored** which quantify the physical flows generated by the activities and some performance indicators.

The substances used by the Group – whether natural, like water, or not natural, like chemicals, the "products" and the emissions, the effluents and waste related to the activities managed, are reported for the three-year period, since they are significant in terms of **producing and distributing energy**, **collecting and distributing drinking water**, **purification** processes and for all the processes connected to **waste management**, including **waste-to-energy**. Every use is reduced to a minimum in terms of quantity and every substance is selected carefully in terms of quality, safety and environmental sustainability.

The resources used, both **renewable and non-renewable**, are explained in the three areas. In particular, among the renewable resources listed we highlight water and the biomasses used for the production of compost. The energy produced from renewable sources (photovoltaic and biogas) is used where possible in the closest factories or installations (see *Relations with the environment*).
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

- WASTE DISPOSED OF
- PRODUCTION OF COMPOST
- ANALYSIS AND MEASUREMENTS

WATER SEGMENT

- DRINKING WATER SUPPLY
- NON-DRINKING WATER SUPPLY
- WATER DISTRIBUTION
- ADDUCTION/PURIFICATION WASTEWATER
- ANALYSIS AND MEASUREMENTS

The data are provided for the 2017-2019 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.

PRODUCTS – ENERGY SEGMENT

The financial statement data for the generation of electricity refer to Acea Produzione and Acea Ambiente – Waste-to-Energy (San Vittore del Lazio and Terni plants) and Biogas Production (Orvieto plant).

ELECTRICITY – GENERATION(*)	m.u.	2017	2018	2019	Δ% 2019/2018
summary data					
total gross electricity produced (1) = (3+11+14+19)	**Gwh**	**837.90**	**968.38**	**904.12**	**-6.6**
total net electricity produced (2) = (10+13+18+21)	**Gwh**	**773.32**	**900.19**	**839.36**	**-6.8**
from fossil fuels (thermoelectric) (5 + 0.49x 15 San Vittore del Lazio +0.53x 16 Terni)	*GWh*	*229.45 27.4% of (1)*	*272.88 28.2% of (1)*	*269.10 29.8% of (1)*	*-1.4*
from renewable sources (hydroelectric, solar, biodegradable waste fraction) (4+0.51x15 San Vittore del Lazio+0.47 x 16 Terni +11+19)	*GWh*	*608.45 72.6% of (1)*	*695.51 71.8% of (1)*	*635.02 70.2% of (1)*	*-8.7*
Acea production – hydroelectric and thermoelectric					
total gross electricity produced (3) = (4+5)	**GWh**	**420.18**	**549.84**	**516.23**	**-6.1**
total gross hydroelectric energy (4)	**GWh**	**380.48**	**476.52**	**425.95**	**-10.6**
A. Volta Castel Madama	*GWh*	*6.92*	*31.64*	*26.17*	*-17.3*
G. Ferraris Mandela	*GWh*	*3.27*	*0.00*	*0.00*	-
G. Marconi Orte	*GWh*	*56.32*	*73.01*	*57.06*	*-21.8*
Sant'Angelo	*GWh*	*128.42*	*188.68*	*162.05*	*-14.1*
Salisano	*GWh*	*182.82*	*180.49*	*178.42*	*-1.1*
Other minor	*GWh*	*2.73*	*2.70*	*2.24*	*-17.0*
total gross thermoelectric energy (5)	**GWh**	**39.70**	**73.32**	**90.29**	**23.1**
from diesel *Montemartini power plant(**)*	GWh	2.15	0.56	1.36	143.1
from natural gas	GWh	37.55	72.76	88.93	22.2
Tor di Valle cogeneration	*GWh*	*8.22*	*0.00*	*0.00*	
Tor di Valle CAR module	*GWh*	*29.33*	*72.76*	*88.93*	*22.2*
total losses of electricity (6) = (7+8+9)	**GWh**	**10.12**	**12.32**	**12.19**	**-1.0**
self consumption hydro plants (7)	*GWh*	*1.98*	*2.00*	*2.40*	*19.8*
self consumption thermo plants (Tor di Valle, Montemartini) (8)	*GWh*	*3.63*	*5.39*	*5.27*	*-2.1*
first processing losses (9)	*GWh*	*4.51*	*4.93*	*4.52*	*-8.3*
total net electricity produced by Acea Produzione (10) = (3-6)	**GWh**	**410.06**	**537.52**	**504.04**	**-6.2**
Acea production – photovoltaic					
gross photovoltaic electrical energy (11)	**GWh**	**11.60**	**10.20**	**10.89(***)**	**6.8**
total electricity losses including own consumption (12)	GWh	1.98	2.18	2.29	5.0
net photovoltaic energy (13) = (11-12)	**GWh**	**9.62**	**8.02**	**8.61**	**7.2**
Acea Ambiente – waste-to-energy					
total gross electricity produced (14) = (15)+(16)	**GWh**	**384.25**	**389.71**	**357.20**	**-8.3**
San Vittore del Lazio plant (15)	*GWh*	*301.15*	*307.30*	*276.27*	*-10.1*
Terni plant (16)	*GWh*	*83.10*	*82.41*	*80.93*	*-1.8*
self consumption + losses from first processing (17)	**GWh**	**51.30**	**52.73**	**49.12**	**-6.8**
San Vittore del Lazio plant	*GWh*	*42.78*	*44.35*	*41.12*	*-7.3*
Terni plant	*GWh*	*8.52*	*8.38*	*8.00*	*-4.6*
total net electricity produced (18) = (14-17)	**GWh**	**332.95**	**336.98**	**308.08**	**-8.6**
Acea Ambiente – Biogas					
total gross electricity produced from biogas (19)	**GWh**	**21.87**	**18.63**	**19.79**	**6.3**
Orvieto plant	*GWh*	*21.87*	*18.63*	*19.79*	*6.3*
self consumption (20)	*GWh*	*1.17*	*0.97*	*1.16*	*19.4*
total electricity transferred in network (21) = (19-20)	**GWh**	**20.69**	**17.66**	**18.63**	**5.5**

(*) Some data of the two-year period preceding the year of publication has been adjusted since they were estimated.
(**) The Montemartini power plant is maintained operational but in reserve mode.
(***) The energy produced by PV does not include the energy produced by the plants acquired in the second half of 2019.

THERMAL ENERGY – GENERATION, DISTRIBUTION AND SALES	m.u.	2017	2018	2019	Δ% 2019/2018
Acea Produzione					
gross thermal energy produced Tor di Valle power plant (22)(*)	**GWht**	**96.19**	**98.38**	**95.92**	**-2.5**
total losses of thermal energy (23)	GWht	20.14	28.93	30.47	5.3
distribution losses	*GWht*	*14.06*	*18.45*	*21.66*	*17.4*
production losses	*GWht*	*6.08*	*10.48*	*8.80*	*-16.0*
net thermal energy sold (24) = (22-23)	**GWht**	**76.04**	**69.45**	**65.45**	**-5.8**

(*) The figures for 2018 have been restated after the final calculations.

ELECTRICITY – TRANSPORT AND SALE	m.u.	2017	2018	2019	Δ% 2019/2018
in Rome and Formello – summary data					
supply from Acea Group (25)	GWh	3.21	2.62	2.65	1.3
electricity from the market (26)	GWh	10,832.86	10,610.06	10,606.69	-
from Single Buyer	*GWh*	*2,620.42*	*2,321.83*	*2,537.45*	*9.3*
from importation	*GWh*	*389.13*	*389.14*	*n.a.*	*-*
from wholesalers + other producers	*GWh*	*7,823.31*	*7,899.09*	*8,069.24*	*2.2*
electricity requested on the grid (27) = (25+26) = (28+29+30+31+32)	**GWh**	**10,836.07**	**10,612.68**	**10,609.35**	**-**
distribution, transport and commercial losses (28)	*GWh*	*747.40 6.90% of (27)*	*763.74 7.20% of (27)*	*741.14 7.0% of (27)*	*-3.0*
uses for own transmission and distribution (29)	*GWh*	*40.39*	*39.63*	*39.47*	*-0.4*
net electricity transferred to third parties (30)	*GWh*	*2.59*	*2.59*	*16.45*	*535.1*
net electricity conveyed from Acea to clients of the open market (31)	**GWh**	**7,393.80**	**7,463.10**	**7,615.16**	**2.0**
net electricity sold by Acea Energia to clients of the open market on distribution company grid (Areti)	GWh	5,847.37	6,041.16	6,119.50	1.3
net electricity sold by other sellers to clients of the open market on distribution company grid (Areti)	GWh	1,546.43	1,421.94	1,495.66	5.2
net electricity sold to managed clients (32)	**GWh**	**2,651.90**	**2,343.60**	**2,197.13**	**-6.2**
sale in Italy – summary data					
net electricity sold by Acea on the open market – including sale on Rome (33)	**GWh**	**4,190.94**	**3,684.54**	**4,234.54**	**14.9**
Acea Energia	*GWh*	*3,852.12*	*3,322.62*	*3,825.82*	*15.1*
other associated companies	*GWh*	*338.82*	*361.92*	*408.72*	*12.9*
net electricity sold by Acea in Italy (open market + managed) (34) = (32+33)	**GWh**	**6,842.84**	**6,028.14**	**6,431.67**	**6.7**

GAS – SALES	m.u.	2017	2018	2019	Δ% 2019/2018
gas sold by Acea Energia in Italy (35)	**MSm³**	**102.98**	**128.29**	**139.75**	**8.9**
Acea Energia	*MSm³*	*77.73*	*98.17*	*108.38*	*10.4*
other associated companies	*MSm³*	*25.25*	*30.12*	*31.37*	*4.1*

PUBLIC LIGHTING	m.u.	2017	2018	2019	Δ% 2019/2018
luminous flux to Rome (36)	**Mlumen**	**1,991**	**2,010**	**2,002**	**-0.4**

CONTROLS AND MEASUREMENTS	m.u.	2017	2018	2019	Δ% 2019/2018
measurement and control activity (37)	**no.**	**371**	**526**	**375**	**-28.7**
electro-magnetic field measurements	*no.*	*25*	*27*	*26*	*-3.7*
noise measurements	*no.*	*27*	*17*	*20*	*17.6*
PCB chemical analyses	*no.*	*43*	*59*	*68*	*15.3*
waste classification	*no.*	*28*	*130*	*40*	*-69.2*
transformer diagnostics	*no.*	*216*	*261*	*200*	*-23.4*
other	*no.*	*32*	*32*	*21*	*-34.4*

PRODUCTS – ENVIRONMENT SEGMENT

The data refers to the three composting plants (located Aprilia, in Monterotondo Marittimo and Sabaudia) and the waste management plant of Orvieto, all of Acea Ambiente. After the revamping work of recent years, the Aprilia and Monterotondo Marittimo plants have both implemented a new **anaerobic digestion section** that from 2020, after the testing phases, will **recover electrical and thermal energy**.
The Sabaudia plant has undergone revamping/maintenance since 2016, and operations were resumed in August 2018. Since 31.10.2019, they have been suspended again to allow other revamping works. **The Aprilia plant**, which suffered from the vicissitudes of a preventive seizure, was able to operate continuously in 2019, achieving conditions close to full operation and always under the control of the judicial custodian as in the previous year. Since November 2019, it no longer has any restrictions on operations[140].

NON-HAZARDOUS WASTE DISPOSED AND RECOVERED – ORVIETO PLANT	u. m.	2017	2018	2019	Δ% 2019/2018
total incoming waste (38) = (39)+(40)	**t**	**88,273**	**91,142**	**99,910**	**9.6**
waste sent for treatment (39)	**t**	**58,297**	**58,343**	**65,674**	**12.6**
waste sent to the anaerobic digester and aerobic treatment	*t*	*42,506*	*43,420*	*43,958*	*1.2*
sent for aerobic treatment or just shredding	*t*	*15,791*	*14,923*	*21,716*	*45.5*
waste sent directly to landfill (40)	**t**	**29,976**	**32,799**	**34,236**	**4.4**
waste sent to landfill after treatment (41)	**t**	**13,625**	**18,469**	**22,438**	**21.5**
waste recovered (42)	**t**	**336**	**45**	**64**	**41.2**
quality compost (43)	**t**	**4,578**	**5,009**	**5,240**	**4.6**
reduction for stabilisation (44) = (38) – (40+41+42+43)	**t**	**39,758**	**34,820**	**37,933**	**8.9**

PRODUCTION OF COMPOST	m.u.	2017	2018	2019	Δ% 2019/2018
total incoming organic waste (45) = (46+47+48)	**t**	**56,474.33**	**28,714.78**	**53,419.28**	**86.0**
incoming sludge (46)	**t**	**10,593.60**	**3,385.40**	**8,809.26**	**160.2**
Aprilia plant	*t*	*5,464.54*	*1,286.60*	*3,644.44*	*183.3*
Monterotondo Marittimo plant	*t*	*5,129.06*	*0.00*	*585.74*	*-*
Sabaudia plant	*t*	*0.00*	*2,098.80*	*4,579.08*	*118.2*
incoming green (47)	**t**	**11,220.33**	**3,679.95**	**10,459.84**	**184.2**
Aprilia plant	*t*	*8,585.21*	*2,626.81*	*5,287.70*	*101.3*
Monterotondo Marittimo plant	*t*	*2,635.12*	*0.00*	*1,839.96*	*-*
Sabaudia plant	*t*	*0.00*	*1,053.14*	*3,332.18*	*216.4*
organic fraction from separate incoming collection and other agrifood waste (48)	**t**	**34,660.40**	**21,649.43**	**34,150.18**	**57.7**
Aprilia plant	*t*	*33,141.62*	*21,649.43*	*32,588.90*	*50.5*
Monterotondo Marittimo plant	*t*	*1,518.78*	*0.00*	*1,561.28*	*-*
quality compost (49)(*)	**t**	**12,538.00**	**6,779.00**	**11,300.00**	**66.7**
Aprilia plant	*t*	*10,238.00*	*5,082.00*	*9,400.00*	*85.0*
Monterotondo Marittimo plant	*t*	*2,300.00*	*767.00*	*0*	*-*
Sabaudia plant	*t*	*0.00*	*930.00*	*1,900.00*	*104.3*
non-compostable material for disposal (50)	**t**	**9,361.97**	**3,565.50**	**6,753.22**	**89.4**
Aprilia plant	*t*	*9,163.36*	*2,799.28*	*6,149.06*	*119.7*
Monterotondo Marittimo and Sabaudia plants	*t*	*198.61*	*766.22*	*604.16*	*-21.2*
reduction through stabilisation (51) = (46+47-49-50)	**t**	**34,574.4**	**18,370.3**	**35,366.1**	**92.5**

(*) The quantities of compost produced in 2018 were adjusted, as they had been estimated for the previous report.

[140] The Aprilia plant, placed under preventive seizure in 2017 by the Latina Public Prosecutor's Office for aspects related to odorous emissions, was able to restart operations in April of the same year, under close in almost full operation, having responded to the notices of compliance prescribed by the relevant Authorities (Arpa, Lazio Region, NOE). On 15 February 2019, the quantitative limitations were completely removed and the plant was able to operate under normal conditions. On 8 July 2019, the deliveries were again reduced under order of the Judicial Custodian and the Public Prosecutor's Office. Finally, the restrictions were removed on 18 November 2019.

ANALYTICAL DETERMINATIONS ON WASTE AND ON QUALITY COMPOST	m.u.	2017	2018	2019	Δ% 2019/2018
total analytical determinations (52)	**no.**	**104**	**60**	**122**	**103.3**
analytical determinations on compost – Orvieto plant	*no.*	*12*	*12*	*13*	*8.3*
analytical determinations on compost – Aprilia, Monterotondo Marittimo and Sabaudia plants	*no.*	*30*	*17*	*30*	*76.5*
analytical determinations on waste – Orvieto plant	*no.*	*62*	*31*	*79*	*154.8*

PRODUCTS – WATER SEGMENT

The water data **summarized at the national level** include the principal water Companies of the Acea Group: 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, Gori and Gesesa. For the first time, Gori's data were also included for the two-year period 2017-2018, making the data comparable. 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. In recent years, **ARERA** has intervened at a regulatory level, introducing progressive changes to the process for calculating the water balance. The Loss Assessment was therefore carried out for the entire three-year period, according to Resolution ARERA 917/17 R/IDR. In contrast, until last year the calculation model was presented according to the model specified in Ministerial Decree 99/97. In particular, the new ARERA procedures establish that water losses are calculated on the entire scope of the aqueduct system (and therefore not only on the distribution network) and include apparent losses.

SUMMARIZED WATER DATA OF THE GROUP IN ITALY(*)	m.u.	2017	2018	2019	Δ% 2019/2018
total drinking water collected from the environment or from other systems and fed into the aqueduct systems (53)	**Mm³**	**1,436.9**	**1,396.6**	**1,371.4**	**-1.8**
total drinking water supplied and billed (54)(*)	**Mm³**	**622.9**	**615.1**	**628.9**	**2.2**

(*) Some 2019 items were estimated and will be consolidated in the months following publication.
(**) Items 2017 and 2018 do not contain the Gesesa data, not available in the new formulation of the water balance according to the ARERA model.

SUMMARY WATER DATA OF THE OPERATING COMPANIES IN THE NFS SCOPE: ACEA ATO 2, ACEA ATO 5, GORI AND GESESA	m.u.	2017	2018	2019	Δ% 2019/2018
total drinking water collected from the environment or from other systems and fed into the aqueduct systems (55)	**Mm³**	**1,067.0**	**1,033.4**	**1,017.8**	**-1.5**
total drinking water supplied (56)(*)	**Mm³**	**440.1**	**434.8**	**446.8**	**2.8**

(*) Items 2017 and 2018 do not contain the data of Gesesa, not available in the new formulation of the water balance according to the ARERA model.

WATER BALANCES OF THE COMPANIES OPERATING IN THE NFS SCOPE(*)	m.u.	2017	2018	2019	Δ% 2019/2018
Acea Ato 2 for Ato 2 – central Lazio (Rome + municipalities acquired as at 31.12.2019)					
drinking water collected from the environment or from other systems and fed into the aqueduct systems (57)	**Mm³**	**737.2**	**697.2**	**689.5**	**-1.1**
surface (lakes and rivers)	*Mm³*	*22.8*	*0.0*	*0.0*	-
from wells	*Mm³*	*115.7*	*89.4*	*86.5*	*-3.3*
from springs	*Mm³*	*593.0*	*601.6*	*596.8*	*-0.8*
from other aqueduct systems	*Mm³*	*5.7*	*6.2*	*6.3*	*1.6*
total drinking water leaving the aqueduct system (58) = (59+60+61+62)	**Mm³**	**370.7**	**371.4**	**384.3**	**3.5**
total drinking water released and invoiced into the Ato 2 network (59)	**Mm³**	**330.9**	**324.1**	**328.4**	**1.3**
measured volume of water delivered to users	*Mm³*	*300.0*	*300.4*	*300.3*	-
volume consumed by users and not measured	*Mm³*	*30.9*	*23.7*	*28.2*	*18.8*
total drinking water authorized and not billed in the network (60)	**Mm³**	**1.5**	**1.5**	**13.2**	-
measured unbilled authorized consumption	*Mm³*	*0.0*	*0.0*	*0.0*	-
unmeasured unbilled authorized consumption	*Mm³*	*1.5*	*1.5*	*13.2*	-
drinking water exported to other systems (61)	**Mm³**	**38.3**	**45.5**	**42.6**	**-6.4**
measured drinking water losses (62)	**Mm³**	**0.0**	**0.3**	**0.1**	**-70.0**
loss assessment according to ARERA Resolution 917/17 R/IDR					
water losses (63)	**Mm³**	**366.5**	**325.8**	**305.3**	**-6.3**

	m.u.	2017	2018	2019	Δ% 2019/2018
water loss percentages (64)	%	**49.7**	**46.7**	**44.3**	-
Acea Ato 5 for Ato 5 – Southern Lazio – Frosinone (85 municipalities)					
drinking water collected from the environment or from other systems and fed into the aqueduct systems (65)	Mm³	**111.9**	**124.7**	**121.8**	**-2.3**
from wells	*Mm³*	*58.2*	*59.5*	*58.7*	*-1.2*
from springs	*Mm³*	*42.4*	*51.3*	*49.5*	*-3.5*
from other aqueduct systems	*Mm³*	*11.2*	*14.0*	*13.7*	*-2.0*
total drinking water leaving the aqueduct system (66) = (67+68+69)	Mm³	**26.1**	**27.8**	**29.0**	**4.3**
total drinking water dispensed and billed in the network (67)	Mm³	**19.7**	**20.8**	**21.6**	**4.1**
measured volume of water delivered to users	*Mm³*	*19.2*	*20.3*	*20.2*	*-0.7*
volume consumed by users and not measured	*Mm³*	*0.5*	*0.5*	*1.5*	*196.0*
total drinking water authorised and not billed in the network (68)	Mm³	**0.10**	**0.10**	**0.61**	-
measured unbilled authorized consumption	*Mm³*	*0.0*	*0.0*	*0.0*	-
unmeasured unbilled authorized consumption	*Mm³*	*0.097*	*0.099*	*0.61*	-
drinking water exported to other systems (69)	Mm³	**6.3**	**6.9**	**6.7**	**-2.3**
loss assessment according to ARERA Resolution 917/17 R/IDR					
water losses (70)	Mm³	**85.8**	**96.9**	**92.8**	**-4.1**
water loss percentages (71)	%	**76.7**	**77.7**	**76.2**	**-1.9**
Gesesa – Ato Calore Irpino – Benevento (21 municipalities)					
drinking water collected from the environment or from other systems and fed into the aqueduct systems (72)	Mm³	**15.4**	**16.2**	**17.6**	**8.9**
from wells	*Mm³*	*6.6*	*7.1*	*6.6*	*-7.1*
from springs	*Mm³*	*1.5*	*1.6*	*2.4*	*46.3*
drinking water collected from other aqueduct systems	*Mm³*	*7.4*	*7.5*	*8.7*	*15.8*
total drinking water leaving the aqueduct system (73) = (74+75+75 B)	Mm³	**n.a.**	**n.a.**	**7.8**	-
total drinking water dispensed and billed in the network (74)	Mm³	**n.a.**	**n.a.**	**7.7**	-
measured volume of water delivered to users	*Mm³*	*n.a.*	*n.a.*	*7.7*	-
volume consumed by users and not measured	*Mm³*	*n.a.*	*n.a.*	*0.0*	-
total drinking water authorized and not billed in the network (75)	Mm³	**n.a.**	**n.a.**	**0.0**	-
drinking water exported to other systems (75 B)	Mm³	**0**	**0**	**0.1**	-
loss assessment according to ARERA Resolution 917/17 R/IDR					
water losses (76)	Mm³	**n.a.**	**n.a.**	**9.9**	-
water loss percentages (77)	%	**n.a.**	**n.a.**	**56.0**	-
Gori – Sarnese-Vesuviano District (76 municipalities)					
drinking water collected from the environment or from other systems and fed into the aqueduct systems (78)	Mm³	**202.5**	**195.4**	**188.8**	**-3.4**
from wells	*Mm³*	*69.1*	*54.1*	*59.4*	*9.6*
from springs	*Mm³*	*1.9*	*1.7*	*2.7*	*52.9*
drinking water collected from other aqueduct systems	*Mm³*	*131.5*	*139.5*	*126.8*	*-9.1*
total drinking water leaving the aqueduct system (79) = (80+81)	Mm³	**89.9**	**90.4**	**89.6**	**-0.9**
total drinking water dispensed and billed in the network (80)	Mm³	**89.5**	**89.9**	**89.1**	**-0.9**
measured volume of water delivered to users	*Mm³*	*84.52*	*84.94*	*84.19*	*-0.9*
volume consumed by users and not measured	*Mm³*	*4.97*	*4.99*	*4.95*	*-0.8*
total drinking water authorized and not billed in the network (81)	Mm³	**0.42**	**0.42**	**0.42**	-
measured unbilled authorized consumption	*Mm³*	*0*	*0*	*0*	-
unmeasured unbilled authorized consumption	*Mm³*	*0.42*	*0.42*	*0.42*	-
loss assessment according to ARERA Resolution 917/17 R/IDR					
water losses (82)	Mm³	**112.60**	**105.03**	**99.26**	**-5.5**
water loss percentages) (83)	%	**55.6**	**53.8**	**52.6**	-

(*) Some figures for 2018 have been updated following consolidation. The 2019 data are estimated and will be consolidated with the subsequent reporting.

TOTAL WASTE WATER TREATED BY THE COMPANIES OF THE GROUP IN ITALY – SUMMARY DATA	m.u.	2017	2018	2019	Δ% 2019/2018
waste water treated in the principal treatment plants of the companies of the Group in Italy (84)(*)	Mm^3	810.2	858.6	855.4	-0.4

(*) Some Group company data for 2018 have been adjusted/consolidated.

TOTAL WASTE WATER TREATED BY THE COMPANIES OPERATING IN THE NFS SCOPE (ACEA ATO 2, ACEA ATO 5, GORI AND GESESA – SUMMARY DATA)	m.u.	2017	2018	2019	Δ% 2019/2018
waste water treated in the principal treatment plants of Acea Ato 2, Acea Ato 5, Gori (85)(*)	Mm^3	583.7	611.6	666.3	4.8

(*) The Company Gesesa does not currently have flow meters at the entrance of the purification plants.

WASTE WATER TREATED BY ACEA ATO 2	m.u.	2017	2018	2019	Δ% 2019/2018
waste water treated in the principal treatment plants (86)	Mm^3	467.1	490.1	514.1	4.8
Rome South	*Mm^3*	*276.9*	*279.1*	*286.4*	*2.6*
Rome North	*Mm^3*	*75.2*	*85.9*	*91.5*	*6.5*
Rome East	*Mm^3*	*83.0*	*83.5*	*90.9*	*8.9*
Rome Ostia	*Mm^3*	*20.9*	*25.7*	*29.8*	*16.1*
CoBIS	*Mm^3*	*7.0*	*7.1*	*6.6*	*-6.4*
Fregene	*Mm^3*	*4.1*	*8.8*	*8.8*	-
other – Municipality of Rome	Mm^3	14.0	11.6	9.7	-16.5
other – outside the Municipality of Rome	Mm^3	72.5	81.0	76.0	-6.2
total waste water treated by Acea Ato 2 (87)	Mm^3	553.6	582.7	599.8	2.9

WASTE WATER TREATED BY ACEA ATO 5	m.u.	2017	2018	2019	Δ% 2019/2018
waste water treated in the principal treatment plants (88)	Mm^3	21.1	21.2	21.3	0.4

WASTEWATER TREATED BY GORI	m.u.	2017	2018	2019	Δ% 2019/2018
waste water treated in the principal treatment plants (89)	Mm^3	9.0	7.7	45.2	-

ANALYTICAL DETERMINATIONS ON DRINKING WATER AND WASTE WATER IN THE GROUP IN ITALY – SUMMARY DATA	m.u.	2017	2018	2019	Δ% 2019/2018
analytical determinations on Group total drinking water (90)	no.	1,170,136	1,328,928	1,416,870	6.6
analytical determinations on Group total waste water (91)	no.	468,538	428,417	495,921	15.8

ANALYTICAL DETERMINATIONS ON DRINKING WATER AND ON WASTE WATER OF THE OPERATING COMPANIES IN THE NFS SCOPE: ACEA ATO 2, ACEA ATO 5, GORI AND GESESA – SUMMARY DATA	m.u.	2018	2019	Δ% 2019/2018
analytical determinations on drinking water of Acea Ato 2, Acea Ato 5, Gori and Gesesa (92)	no.	576,399	607,309	5.4
analytical determinations on waste water of Acea Ato 2, Acea Ato 5, Gori and Gesesa (93)	no.	186,998	238,798	27.7

ANALYTICAL DETERMINATIONS ACEA ATO 2	m.u.	2018	2019	Δ% 2019/2018
analytical determinations on Acea Ato 2 drinking water (94)	no.	359,491	365,728	1.7
analytical determinations on Acea Ato 2 wastewater (95)	no.	127,378	170,641	34.0

ANALYTICAL DETERMINATIONS ACEA ATO 5	m.u.	2017	2018	2019	Δ% 2019/2018
analytical determinations on Acea Ato 5 drinking water (96)	no.	101,460	115,345	123,790	7.3
analytical determinations on Acea Ato 5 wastewater (97)	no.	19,180	35,064	41,616	18.7

GESESA ANALYTICAL DETERMINATIONS	m.u.	2017	2018	2019	Δ% 2019/2018
analytical determinations on Gesesa drinking water (98)	no.	6,289	6,101	8,428	38.1
analytical determinations on Gesesa wastewater (99)	no.	4,268	4,702	5,514	17.3

GORI ANALYTICAL DETERMINATIONS	m.u.	2017	2018	2019	Δ% 2019/2018
analytical determinations on Gori drinking water (100)	no.	101,460	95,462	109,363	14.6
analytical determinations on Gori wastewater (101)	no.	19,180	19,854	21,027	5.9

RESOURCES USED – ENERGY AREA

The data on the resources used refer to Acea Produzione, to the waste-to-energy plants of Acea Ambiente and Areti.

GENERATION, TRANSPORT AND SALE OF ELECTRICITY AND HEAT, PUBLIC LIGHTING	m.u.	2017	2018	2019	Δ% 2019/2018
natural gas					
electricity and heat generation (102) = (103+104)	Nm^3 x 1,000	18,351	23,760	25,846	8.8
thermoelectric and heat production (103)	Nm^3 x 1,000	15,134	20,305	22,468	10.7
Tor di Valle auxiliary boilers – for district heating	*Nm^3 x 1,000*	*4,334*	*0*	*0*	-
Tor di Valle cogeneration	*Nm^3 x 1,000*	*2,942*	*0*	*0*	-
Tor di Valle CAR module	*Nm^3 x 1,000*	*7,857*	*20,305*	*22,468*	*10.7*
waste-to-energy (104)	Nm^3 x 1,000	3,217	3,455	3,378	-2.2
San Vittore del Lazio waste-to-energy plant	*Nm^3 x 1,000*	*2,719*	*3,126*	*3,029*	*-3.1*
Terni waste-to-energy plant	*Nm^3 x 1,000*	*498*	*329*	*349*	*5.9*
diesel for thermoelectric generation					
thermoelectric production	l x 1,000	929	291	630	116.6
Montemartini power plant	*l x 1,000*	*865*	*230*	*574*	*149.4*
Terni and San Vittore del Lazio plants	*l x 1,000*	*64*	*61*	*56*	*-8.0*
RDF (Refuse-Derived Fuel) processed					
San Vittore del Lazio waste-to-energy plant (106)	t x 1,000	345.639	357.174	340.531	-4.7
waste-to-energy paper mill pulper					
Terni waste-to-energy plant (107)	t x 1,000	99.970	99.971	94.092	-5.9
biogas for the production of electricity					
Orvieto plant (108)	Nm^3x 1,000	12,695	10,766	11,491	6.7
water					
derivation from hydroelectric production (109)	Mm^3	3,234.29	4,221.71	3,458.09	-18.1
process water (110)	Mm^3	0.1607	0.2696	0.2521	-6.5
water for civilian/sanitary uses (111)	Mm^3	0.2687	0.2697	0.2693	-0.1
miscellaneous materials					
dielectric mineral oil in operation (112)	t	9,979	9,957	1,004	-89.9
dielectric mineral oil – reintegrations	t	1.56	1.89	0.76	-59.9
SF_6 in operation (113)	t	29.80	21.70	21.94	1.1
SF_6 – reintegrations	t	0.6	0.5	0.4	-20.0
cooling fluids (HCFC type) in operation (114)	t	1.33	1.56	1.49	-4.3
cooling fluids (HCFC type) – reintegrations	t	0.000	0.015	0.000	-
miscellaneous chemicals (115)	kg	10,359,390	10,232,429	9,582,988	-6.3
sodium chloride	*kg*	*79,500*	*8,000*	*13,000*	*62.5*

sodium hydroxide (caustic soda)	*kg*	*190,330*	*164,520*	*256,470*	*55.9*
sodium bicarbonate	*kg*	*8,035,000*	*7,795,510*	*7,181,660*	*-7.9*
hydrochloric acid	*kg*	*198,770*	*165,260*	*253,200*	*53.2*
ammonia solution	*kg*	*793,090*	*636,630*	*560,340*	*-12.0*
activated carbon	*kg*	*398,000*	*404,400*	*511,520*	*26.5*
carbamine	*kg*	*664,700*	*866,810*	*631,040*	*-27.2*
other (for TLR)	*kg*	*n.a.*	*191,299*	*175,758*	*-8.1*
miscellaneous oils and greases/lubricants (116)	**kg**	**3,851**	**46,887**	**34,387**	**-26.7**
electricity					
consumption for electrical distribution (117) = (28)	*GWh*	*747.40*	*763.74*	*741.14*	*-3.0*
consumption for electricity production (118) = (1)-(2)	*GWh*	*64.58*	*68.20*	*64.76*	*-5.0*
consumption for offices (50% of the electricity consumed by the Parent Company) (119)	*GWh*	*5.01*	*4.83*	*4.50*	*-7.0*
other consumption (120)	*GWh*	*1.16*	*1.20*	*1.22*	*1.1*
other personal uses (121)	*GWh*	*40.39*	*39.63*	*39.47*	*-0.4*
total (122) = (117+118+119+120+121)	**GWh**	**858.54**	**877.61**	**851.08**	**-3.0**
public lighting					
consumption for Public Lighting (123)	**GWh**	**115.64**	**83.98**	**70.08**	**-16.6**

RESOURCES USED – ENVIRONMENT AREA

The data on the resources refers to the three composting plants of Acea Ambiente located in Aprilia, Monterotondo Marittimo and Sabaudia, and the waste management plant of Orvieto.

WASTE MANAGEMENT – ORVIETO PLANT	m.u.	2017	2018	2019	Δ% 2019/2018
miscellaneous chemicals (124)	**t**	**0.2**	**20.0**	**15.2**	**-24.1**
electricity (125)	**GWh**	**3.959**	**4.513**	**4.722**	**4.6**
diesel (126)	**l**	**257,953**	**240,022**	**245,735**	**2.4**
process water (127)	**m^3**	**6,251**	**9,663**	**5,574**	**-42.3**
water for civil/sanitary uses (128)	**m^3**	**1,330**	**1,261**	**1,180**	**-6.4**

PRODUCTION OF COMPOST	m.u.	2017	2018	2019	Δ% 2019/2018
miscellaneous chemicals (posting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (129)	**t**	**101.50**	**31.48**	**41.48**	**31.8**
electricity (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (130)	**GWh**	**3.691**	**3.392**	**3.942**	**16.2**
diesel (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (131)	**l x 1,000**	**138.02**	**95.28**	**170.47**	**78.9**
locally produced biogas (composting plants of Aprilia and Monterotondo Marittimo) (132)	**Nm^3**	**n.a.**	**n.a.**	**176,614**	**-**
process water (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (133)(*)	**m^3**	**13,193.0**	**11,882.0**	**19,322.0**	**62.6**
water for civil use (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (134)(*)	**m^3**	**705.00**	**1,929.00**	**1,480.00**	**-23.3**

(*) The figures for 2018 have been restated after checking the 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, Gori and Gesesa.

COLLECTION, SUPPLY AND DISTRIBUTION DRINKING AND NON-DRINKING WATER	m.u.	2017	2018	2019	Δ% 2019/2018
miscellaneous materials and natural resources					
reagents for purification and disinfection (135)	**t**	**3,193.25**	**2,821.34**	**3,207.06**	**13.7**
reagents for chemical analyses (136)	**t**	**1.50**	**1.50**	**1.50**	**-**
gas for chemical analyses (137)	**MNm³**	**5.52**	**5.82**	**6.06**	**4.1**
cooling fluids (HCFC type) in operation (138) = (114)	**t**	**1.33**	**1.56**	**1.49**	**-4.3**
cooling fluids (HCFC type) – reintegrations	t	0.000	0.015	0.000	-
electricity					
total electricity consumed (139)	**GWh**	**352.84**	**327.54**	**381.19**	**16.4**
water pumping plants (140)	*GWh*	*346.76*	*321.51*	*375.40*	*16.8*
offices/personal uses (50% energy consumed by the Parent Company) (141)	*GWh*	*5.01*	*4.83*	*4.50*	*-7.0*
chemical laboratory (142)	*GWh*	*1.12*	*1.19*	*1.29*	*8.3*
drinking water					
total drinking water consumed (143)	**Mm³**	**2.00**	**1.45**	**1.79**	**23.3**
civilian/sanitary uses	**Mm³**	**1.00**	**1.29**	**1.62**	**25.8**
process uses	**Mm³**	**0.83**	**n.a.**	**n.a.**	**-**
offices (50% of the drinking water consumed by the Parent Company)	**Mm³**	**0.16**	**0.16**	**0.17**	**3.5**

WASTEWATER PURIFICATION	m.u.	2017	2018	2019	Δ% 2019/2018
miscellaneous materials and natural resources					
reagents for purification waste water (144)	**t**	**7,754**	**8,121**	**11,566**	**42.4**
polyelectrolyte for sludge dehydration	*t*	*1,932*	*1,393*	*2,193*	*57.5*
sodium hypochlorite for final disinfection	*t*	*2,845*	*2,448*	*2,482*	*1.4*
ferric chloride for sludge dehydration	*t*	*130*	*165*	*497*	*201.2*
peracetic acid	*t*	*2,413*	*2,955*	*3,598*	*21.8*
other (anti-foaming, etc.)	*t*	*431*	*1,153*	*2,263*	*96.4*
reagent kit for on-site controls (144 B)	**no.**	**49,497**	**57,271**	**53,856**	**-6.0**
oil and fat (145)	**t**	**11.7**	**15.5**	**13.4**	**-13.6**
electricity					
sewerage and purification (146)	**GWh**	**197.9**	**208.6**	**227.1**	**8.8**
fuels					
methane for dryers (147)(*)	**Nm³x 1,000**	**982.5**	**1,902.4**	**2,699.7**	**41.9**
biogas produced and consumed on site (148)	**Nm³x 1,000**	**1,006.0**	**1,354.2**	**2,382.5**	**75.9**

FUELS USED BY THE COMPANIES OF THE GROUP FOR TRANSPORT AND HEATING

The figures refer to all the Companies in the NFS reporting scope.

TYPE OF FUEL	m.u.	2017	2018	2019	Δ% 2019/2018
transport (Group car fleet)					
petrol (149)	**l x 1,000**	**95.4**	**110.3**	**122.4**	**11.0**
diesel (150)	**l x 1,000**	**3,602.1**	**3,458.3**	**3,032.2**	**-12.3**
heating					
diesel (151)	**l x 1,000**	**2.7**	**0.0**	**0.0**	**-**
methane (152)	**Nm^3 x 1,000**	**464.9**	**364.5**	**388.6**	**6.6**
LPG (153)	**l x 1,000**	**32.5**	**10.2**	**28.1**	**175.2**

EMISSIONS AND WASTE – ENERGY SEGMENT

The data on the emissions and waste refer to Acea Produzione, to the waste-to-energy plants of Acea Ambiente and Areti.

ATMOSPHERIC EMISSIONS	m.u.	2017	2018	2019	Δ% 2019/2018
CO_2 (154) = (155+156+157)(*)	**t**	**369,546**	**361,539**	**348,404**	**-3.6**
Acea Produzione (155)	*t*	*33,507*	*42,888*	*48,131*	*12.2*
Areas – SF6 reintegrations (156)	*t*	*14,100*	*11,233*	*9,682*	*-13.8*
HCFC reintegrations (156B)	*t*	*-*	*23*	*0*	*-*
waste-to-energy (157)	*t*	*375,159*	*307,395*	*290,591*	*-5.5*
NOx (158) = (159+160)	**t**	**198.20**	**189.40**	**188.19**	**-0.6**
Acea Produzione (159)	*t*	*53.53*	*13.69*	*17.44*	*27.4*
waste-to-energy (160)	*t*	*144.67*	*175.71*	*170.75*	*-2.8*
CO (161) = (162+163)	**t**	**6.82**	**6.38**	**7.02**	**9.9**
Acea Produzione (162)	*t*	*2.19*	*2.02*	*4.19*	*107.4*
waste-to-energy (163)	*t*	*4.63*	*4.36*	*2.83*	*-35.2*
SO_2 (164) = (165+166)	**t**	**0.42**	**0.16**	**0.33**	**106.7**
Acea Produzione (165)	*t*	*0.03*	*0.01*	*0.02*	*100.0*
waste-to-energy (166)	*t*	*0.39*	*0.15*	*0.31*	*107.2*
powders (167) = (168+169)	**t**	**0.55**	**0.50**	**0.60**	**19.4**
Acea Produzione (168)	*t*	*0.05*	*0.01*	*0.03*	*200.0*
waste-to-energy (169)	*t*	*0.50*	*0.49*	*0.57*	*15.7*
HCl (170)	**t**	**2.98**	**3.56**	**2.92**	**-18.0**
HF (171)	**t**	**0.12**	**0.12**	**0.12**	**-**
Organic Carbon (172)	**t**	**1.88**	**1.75**	**1.99**	**14.0**

OTHER EMISSIONS AND WASTE	m.u.	2017	2018	2019	Δ% 2019/2018
wastewater treated (173)	Mm^3	0.0010	0.0166	0.0300	81.0
electrical fields at 50 Hz	kV	monitored commitment to maintain the value below the legal limit			
magnetic fields at 50 Hz	μT	monitored commitment to maintain the value below the legal limit			
noise	dB	monitored 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 (LEGISLATIVE DECREE NO. 152/06)	m.u.	2017	2018	2019	Δ% 2019/2018
hazardous waste – excluding waste-to-energy area (174)	t	409.26	673.07	1,268.89	88.5
production energy own area	*t*	*406.42*	*671.61*	*1,268.11*	*88.8*
proportion for the activities performed by the Parent Company(**)	*t*	*2.84*	*1.46*	*0.78*	*-46.7*
hazardous waste from waste-to-energy (175)	t	80,031.71	85,757.73	73,202.02	-14.6
non-hazardous waste – excluding waste-to-energy area (176)	t	1,497.71	800.55	1,166.99	45.8
production energy own area	*t*	*1,354.56*	*739.89*	*1,118.89*	*51.2*
proportion for the activities performed by the Parent Company(**)	*t*	*143.15*	*60.66*	*48.10*	*-20.7*
non-hazardous waste from waste-to-energy (177)	t	16,640.18	14,577.97	24,239.27	66.3

(*) Terni's figures for 2018 have been restated after the final calculations and ETS certificate. The data of the San Vittore del Lazio plant has been measured at the chimney since 2018.
(**) The portion is equal to 50% of the waste produced by the Parent Company.

EMISSIONS AND WASTE – ENVIRONMENT SEGMENT

The data refer to the three composting plants of Acea Ambiente located in Aprilia, Monterotondo Marittimo and Sabaudia, and the waste management plant of Orvieto.

WASTE (LEGISLATIVE DECREE NO. 152/06)	m.u.	2017	2018	2019	Δ% 2019/2018
hazardous waste – composting plants of Aprilia, Monterotondo Marittimo and Sabaudia including leachate (178)	t	33.95	4.73	1.19	-74.9
non-hazardous waste – composting plants of Aprilia, Monterotondo Marittimo and Sabaudia including leachate (179)	t	18,070.23	13,418.72	14,821.18	10.5
hazardous waste Orvieto plant (180)	t	14.9	16.2	12.7	-21.4
non-hazardous waste Orvieto plant including leachate (181)	t	16,500.2	24,355.0	21,635.0	-11.2

ATMOSPHERIC EMISSIONS	m.u.	2017	2018	2019	Δ% 2019/2018
CO_2 – Orvieto plant and composting plants (182)(*)	t	932	1,076	1,282	19.2
particles (183)	t	<0.012	<0.02	0.001	-
total organic compounds (COT) (184)	t	<0.30	<1.04	0.011	-
ammonia (185)	t	<0.10	<0.13	0.001	-
volatile inorganic compounds (SIV) (186)	t	<1.64	<1.98	0.062	-

(*) 2018 figure adjusted.

EMISSIONS AND WASTE – WATER SEGMENT

The data refers to the Acea Ato 2, Acea Ato 5, Gori and Gesesa water Companies.

WASTE PRODUCED	m.u.	2017	2018	2019	Δ% 2019/2018
specific waste from treatment of wastewater					
total purification sludge (187)	**t**	**125,233**	**157,735**	**127,750**	**-19.0**
Acea Ato 2 purification sludge (188)	*t*	*107,205*	*64,716*	*70,432*	*8.8*
Liquid sludge disposed of by third parties (188 B)(*)	*t*	*-*	*71,666*	*34,540*	*-51.8*
Acea Ato 5 purification sludge (189)	*t*	*10,580*	*15,987*	*11,352*	*-29.0*
Gori purification sludge (189 B)	*t*	*6,318*	*4,743*	*10,437*	*120.0*
Gesesa purification sludge (190)	*t*	*1,130*	*623*	*979*	*57.1*
total sand and slabs from purification (191)	**t**	**16,826**	**7,430**	**9,980**	**34.3**
Acea Ato 2 sand and slabs (192)	*t*	*16,733*	*6,340*	*7,788*	*22.8*
Acea Ato 5 sand and slabs (193)	*t*	*81*	*80*	*87*	*9.3*
Gori sand and slabs (193 B)	*t*	*2,187*	*944*	*2,066*	*118.8*
Gesesa sand and slabs (194)	*t*	*12*	*66*	*39*	*-40.5*
waste (pursuant to Italian Legislative Decree no. 152/06)					
total hazardous waste (195) = (196+197+198)	**t**	**86.5**	**53.8**	**106.2**	**97.4**
Acea Ato 2 and Acea Elabori production (196)	*t*	*75.7*	*52.0*	*54.0*	*3.8*
Acea Ato 5 production (197)	*t*	*8.0*	*0.3*	*2.0*	*-*
Gori production (197 B)	*t*	*0.06*	*0.1*	*49.5*	*-*
Proportion for the activities performed by the Parent Company (198)(*)	*t*	*2.8*	*1.5*	*0.8*	*-46.7*
total non-hazardous waste (199) = (200+201+202+203)	**t**	**8,284**	**8,069**	**8,302**	**2.9**
Acea Ato 2 and Acea Elabori production (200)	*t*	*525*	*1,272*	*1,088*	*-14.5*
Acea Ato 5 production (201)	*t*	*7,571*	*6,635*	*5,989*	*-9.7*
Gori production (201 B)	*t*	*10*	*93*	*1,137*	*-*
Gesesa production (202)	*t*	*35*	*8*	*41*	*-*
Proportion for the activities performed by the Parent Company (203)(*)	*t*	*143*	*61*	*48*	*-20.7*
other emissions and waste					
CO_2 from dryers (204)	**t**	**2,901**	**3,960**	**5,620**	**41.9**
CO_2 HCFC reintegrations (204 B)	**t**	**-**	**23**	**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			

(*) The portion is equal to 50% of the waste produced by the Parent Company.

THE EMISSIONS OF CARBON DIOXIDE FROM TRANSPORT AND PACKAGING

COMPANIES OF THE GROUP	m.u.	2017	2018	2019	Δ% 2019/2018
transport					
CO_2 (205)	**t**	**9,753.0**	**9,406.6**	**8,314.4**	**-11.6**
heating					
CO_2 (206)	**t**	**1,008**	**764**	**840**	**9.9**

KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – ENERGY SEGMENT

Environmental Key Performance Indicators.

INDICATOR	m.u.	2017	2018	2019
energy used for the processes				
A consumption in the distribution of electricity	TJoules (GWh)	1,244.9 (345.8)	1,204.6 (334.6)	1,188.4 (330.1)
B consumption in the production of electricity (118)		232.5 (64.6)	245.5 (68.2)	233.1 (64.8)
C heat lost in the district heating network (23)		72.5 (20.1)	104.1 (28.9)	109.7 (30.5)
D consumption for Public Lighting (123)		416.3 (115.6)	302.3 (84.0)	252.3 (70.1)
E environment Segment consumption (125+130)		27.5 (7.7)	28.5 (7.9)	31.2 (8.7)
F water distribution (139-141)		1,252.2 (347.8)	1,161.7 (322.7)	1,356.1 (376.7)
G water purification (146)		712.5 (197.9)	751.0 (208.6)	817.4 (227.1)
H electricity for offices (Item 119+141)		36.1 (10.0)	34.8 (9.7)	32.4 (9.0)
I consumption for heating offices		17.9 (5.0)	13.5 (3.8)	14.9 (4.1)
II water area dryer consumption		52.0 (14.4)	70.7 (19.7)	100.4 (27.9)
L mobility		132.6 (36.8)	127.9 (35.5)	112.9 (31.4)
indirect consumption + consumption through mobility + heating		**4,197.0 (1,165.8)**	**4,044.7 (1,123.5)**	**4,248.8 (1,180.2)**
M loss of energy in the conversion from primary source to electricity		6,358.5 (1,766.3)	7,116.0 (1,976.7)	6,223.8 (1,728.8)
total energy consumption (sum A: M)		**10,555.5 (2,932.1)**	**11,160.7 (3,100.2)**	**10,472.6 (2,909.0)**

EMISSIONS, EFFLUENTS AND WASTE	m.u..	2017	2018	2019
greenhouse gas (CO_2) emissions (154+182+204+204B+205+206)	**t**	**436,485**	**376,768**	**364,461**
emissions of SO_2, NOx and other significant gases by type				
NOx (158)	**t**	**198.20**	**189.40**	**188.19**
CO (161)	**t**	**6.82**	**6.38**	**7.02**
SO_2 (164)	**t**	**0.42**	**0.16**	**0.33**
emission indicators/Acea Produzione (Acea Produzione and Acea Ambiente – Waste-to-energy)				
NOx/thermoelectric production	**g/kWh**	**0.47**	**0.41**	**0.42**
CO_2/thermoelectric production	**g/kWh**	**964**	**757**	**757**
CO_2/gross total production	**g/kWh**	**487.7**	**361.7**	**374.6**
SO_2/thermoelectric production	**g/kWh**	**0.0**	**0.0**	**0.0**

PRODUCTS AND SERVICES: ELECTRICITY	m.u.	2017	2018	2019
performance of the electrical production process of Acea Produzione(*)				
gross average performance thermoelectric production (calculation 1)	%	**37.3**	**41.1**	**40.7**
Tor di Valle power plant (electrical performance cogeneration only)		38.3	41.3	41.2
Montemartini power plant		25.7	24.9	24.3
gross average thermoelectric production out included thermal energy recovered (calculation 2)		**86.6**	**71.9**	**69.6**
gross average performance hydroelectric production (calculation 3)		**82.4**	**78.7**	**79.2**
gross average performance overall production (calculation 4)		**78.1**	**73.6**	**72.5**
gross average total production performance including thermal energy recovered (calculation 5)		**83.2**	**77.5**	**77.5**
performance of the electrical production process – waste-to-energy plants				
San Vittore del Lazio				
RDF produced/gross energy produced	kt/GWh	1.148	1.164	1.233
gross performance RDF conversion into electricity (calculation 6)	**kWh/kg RDF**	**0.87**	**0.86**	**0.81**
electrical performance (calculation 7)	**%**	**19.4**	**19.5**	**18.7**
total waste produced/hours worked	t/h	3.32	3.47	3.36
Terni				
gross performance Pulper conversion into electricity (calculation 8)	**kWh/kg pulp**	**0.83**	**0.82**	**0.86**
electrical output (calculation 9)	**%**	**17.1**	**14.7**	**21.3**
total waste produced/hours worked	t/h	2.0	1.8	1.7
performance of the electrical production process – photovoltaic				
average efficiency photovoltaic modules	**%**	**14.0**	**14.0**	**14.0**
other indicators (territory, Public Lighting, controls, losses)				
protection of the land (Total length HV lines in cable / length HV overhead + cable lines) x 100	**%**	**43.9**	**46.3**	**46.3**
public Lighting illumination efficiency (Item 36 / Item 123)	**Lumen/ kWh**	**17.2**	**23.9**	**28.6**
average performance lamps installed (Item 36 / electrical power)	**Lumen/W**	**101.8** (19,556 kW)	**112.7** (17,830 kW)	**127.9** (15.653 kW)
specific consumption per lamp (item 123/no. lamps)	**kWh/ no. lamps**	**515.15** (224,480)	**372.22** (225.619)	**310.46** (225.730)
percentage of roads illuminated(**)	**% (km of roads illuminated/ total km of roads)**	**88.3** (6,281/7,110)	**88.6** (6.297/7.110)	**88.8 (6.316/7.110)**
no. operating and laboratory checks /GWh net electricity sold (35) / (32)	**no./GWh**	**0.14**	**0.22**	**0.17**
reintegrations of SF6/km electricity distribution network	**kg/km**	**0.0194**	**0.0161**	**0.0128**
total losses of electricity (28) / (27)(***)	**% energy requested**	**6.9**	**7.2**	**7.0**

(*) The 2018 and 2019 global yields are not comparable to 2017 because before the new CAR plant came on stream (September 2017) thermal energy was produced almost exclusively by boilers and not in cogeneration mode.
(**) Estimate.
(***) 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	m.u.	2017	2018	2019
carbon footprint				
WATER SERVICE				
total CO_2/m^3 of water supplied (integrated water service)(*)	$kgCO_2/m^3$	0.45	0.44	0.49
CO_2/m^3 of water supplied (water distribution process)	$kgCO_2/m^3$	0.28	0.27	0.30
CO_2/m^3 of water treated (purification process)	$kgCO_2/m^3$	0.12	0.12	0.12
PRODUCT: DRINKING WATER				
Acea Ato 2 network				
specific electricity consumption per input in the water network (energy consumption of Acea Ato 2's network) / (57)	kWh/m^3	0.269	0.249	0.259
intensity of the checks on drinking water distributed (94) / (57)	$no./Mm^3$	423	516	530
index of drinking water additive (135 – Acea Ato 2 network) / (57)	g/m^3	3.6	3.2	3.9
Acea Ato 5 network				
specific consumption of electricity per input in the water network (Acea Ato 5 network energy consumption) / input (65)	kWh/m^3	0.603	0.476	0.493
intensity of the checks on drinking water distributed (96) / (65)	$no./Mm^3$	907	925	1,016
index of drinking water additive (133 – Acea Ato 5 network) / (65)	g/m^3	2.3	2.5	2.3
Gori network				
specific electricity consumption per input in the water network (energy consumption of Gori's network) / input (78)	kWh/m^3	0.353	0.397	0.667
intensity of the checks on drinking water distributed (100) / (78)	$no./Mm^3$	501	489	579
index of drinking water additive (133 – Gori network) / (78)	g/m^3	1.0	0.8	1.1
Gesesa network				
specific electricity consumption per input in the water network (energy consumption) / (72)	kWh/m^3	0.614	0.639	0.559
intensity of the checks on drinking water distributed (100) / (72)	$no./Mm^3$	407	377	478
drinking water additive index (133 Gesesa network) / (72)	g/m^3	3.9	6.0	3.6
SERVICE: WASTEWATER PURIFICATION				
Acea Ato 2				
sludge disposed of (188)	t	107,205	64,716	70,432
liquid sludge disposed of to third parties	t	-	71,666	34,550
sand and slabs removed (192)	t	16,733	6,340	7,788
COD input	t	203,889	221,357	207,914
COD removed	t	181,639	205,125	188,327
efficiency of COD removal	%	89	93	91
SST input	t	137,117	135,698	134,685
SST removed	t	127,695	126,330	124,417
efficiency of SST removal	%	93	93	92
efficiency of BOD removal	%	89	89	88
total N input (such as NH_4+NO_2+NO_3+ organic matter)	t	18,871	20,276	18,433

INDICATOR (cont.)	m.u.	2017	2018	2019
total N removed	t	13,076	14,133	14,333
efficiency of N removal	%	70	70	78
Acea Ato 2 wastewater additivation index	g/m^3	12.2	12.0	13.8
Acea Ato 2 specific consumption of electricity by purification process	kWh/m^3	0.300	0.299	0.298
Acea Ato 5				
disposed of sludge (189)	t	10,580	15,987	11,352
sand and slabs removed (193)	t	81	80	87
COD input	t	9,772	8,884	13,506
COD removed	t	7,842	7,709	12,407
efficiency of COD removal	%	84	87	92
total N input	t	1,167	779	
total N removed	t	1,003	600	757
efficiency of N removal (NH_4+)	%	91	89	89
SST input	t	7,876	8,365	8,364
SST removed	t	7,096	7,872	7,940
efficiency of SST removal	%	95	96	96
Acea Ato 5 additivation index	g/m^3	27.8	31.4	33.1
Acea Ato 5 specific consumption of electricity by purification process	kWh/m^3	0.787	0.811	0.830
Gori				
sludge disposed of (189 B)	t	6,318	4,743	10,437
sand and slabs removed (193 B)	t	2,187	944	2,066
COD input	t	3,239	1,882	7,579
COD removed	t	3,026	1,730	6,376
efficiency of COD removal	%	93	92	84
total N input	t	n.a.	n.a.	944
total N removed	t	n.a.	n.a.	714
efficiency of N removal (NH_4+)	%	97	96	76
SST input	t	n.a.	n.a.	3,438
SST removed	t	n.a.	n.a.	2,777
efficiency of SST removal	%	84	86	81
Gori additivation index	g/m^3	46.6	58.2	54.6
Gori specific consumption of electricity by purification process	kWh/m^3	1.548	1.871	0.634
Gesesa(**)				
disposed of sludge (190)	t	1,130	623	979
sand and slabs removed (194)	t	12	66	39

(*) Emissions defined as "Scope 2", in other words resulting from the consumption of electricity by the water Companies in question.
(**) Gesesa has not currently installed input flow meters at the purification plants and therefore cannot measure the purification efficiency parameters.

KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – ENVIRONMENT SEGMENT

Environmental Key Performance Indicators.

INDICATOR	m.u.	2017	2018	2019
non-hazardous waste disposed in landfill/total incoming waste (40+41) / (38)	t/t	0.49	0.56	0.57
waste disposed in landfill/energy consumer net of photovoltaic energy (40+41) / (126)	t/MWh	11.01	11.36	12.00
compost produced/incoming waste (43+ 49) / (38 + 45)	t/t	0.12	0.10	0.11
compost produced/electricity consumed (43+49) / (126+130)	kg/kWh	2.24	1.49	1.91

ENVIRONMENTAL COMPLIANCE

INDICATOR	m.u.	2017	2018	2019
GROUP COMPLIANCE				
penalties paid for non-conformities related to rules/agreements of an environmental nature(*)	Euros	326,166	139,938	64,500

(*) Penalties paid in 2019 by Acea Ato 2 and Acea Ato 5.

DESCRIPTION OF THE CALCULATIONS USED TO DETERMINE THE ELECTRICAL GENERATION EFFICIENCY

calculation 1

$$\text{Efficiecy}_{(thermoelectric)} = \frac{\text{Energy}_{thermoelectric}\,(kWh)}{\text{Energy}_{diesel}\,(kWh) + \text{Energy}_{methane}\,(kWh)}$$

Where:

$\text{Energy}_{thermoelectric}$ = gross electrical energy produced by the thermoelectric cycle

$$\text{Energy}_{diesel}\,(kWh) = \frac{\text{diesel (l)} \times 0.835 \times \text{PCI}_g\,(kcal/kg)}{860\,(kcal/kWh)}$$

Energy equivalent to diesel consumed (105)

$$\text{Energy}_{methane}\,(kWh) = \frac{\text{methane (Nm}^3\text{)} \times \text{PCI}_m\,(kcal/Nm^3)}{860\,(kcal/kWh)}$$

Energy equivalent to methane consumed (103)

PCI_g = about 10,000 kcal/kg (lower heating value of diesel fuel)

PCI_m = about 8,500 kcal/Nm^3 (lower heating value of methane)

860 = energy conversion factor from kcal to kWh

0.835 = specific gravity of diesel fuel (kg/l)

NOTE *The calorific values used for Acea Production are the real values derived from measurements made by gas and diesel suppliers.*

calculation 2

$$\text{Efficiecy}_{(thermoelectric)} = \frac{\text{Energy}_{thermoelectric}\,(kWh) + \text{Energy}_{thermal}\,(kWh)}{\text{Energy}_{diesel}\,(kWh) + \text{Energy}_{methane}\,(kWh)}$$

$\text{Energy}_{thermal}$ = Gross thermal energy produced

$\text{Energy}_{thermoelectric}$ = Gross thermoelectric energy produced

$$\text{Energy}_{diesel}\,(kWh) = \frac{\text{diesel (l)} \times 0.835 \times \text{PCI}_g\,(kcal/kg)}{860\,(kcal/kWh)}$$

Energy equivalent to diesel consumed (105)

$$\text{Energy}_{methane}\,(kWh) = \frac{\text{methane (Nm}^3\text{)} \times \text{PCI}_m\,(kcal/Nm^3)}{860\,(kcal/kWh)}$$

Energy equivalent to methane consumed (103)

PCI_g = lower heating value of diesel fuel

PCI_m = lower heating value of methane

860 = energy conversion factor from kcal to kWh

0.835 = specific gravity of diesel fuel (kg/l)

NOTE *The calorific values used for Acea Production are the real values derived from measurements made by gas and diesel suppliers.*

calculation 3

$$\text{efficiency (hydroelectric)} = \frac{\text{Hydroelectric energy (MWh)} \times 3.6 \times 10^9}{[\text{m(kg)} \times 9.8\ (m/s^2) \times \text{h(m)}]\ (\text{Joule})}$$

Where:

3.6×10^9 = conversion factor of hydropower from joules to MWh

m = derived water for hydroelectric production

9.8 = acceleration of gravity at sea level

h = height of water fall (exposed surface - turbine)

$\text{Energy}_{hydroelectric}$ = energy produced by the hydroelectric cycle

calculation 4

$$\text{efficiency (average)} = \frac{E_i}{(E_i + E_t)} \times \eta_i + \frac{E_t}{(E_i + E_t)} \times \eta_t$$

Where:

E_i = total hydroelectric energy produced

E_t = total thermoelectric energy produced

η_i = hydroelectric efficiency

η_t = thermoelectric efficiency

efficiency (average) = average production efficiency

calculation 5

$$\text{efficiency (average)} = \frac{E_i}{(E_i + E_T)} \times \eta_i + \frac{E_T}{(E_i + E_T)} \times \eta_T$$

Where:

E_i = total hydroelectric energy produced

E_T = sum of the total energy produced (thermoelectric and thermal)

η_i = hydroelectric efficiency

η_T = thermoelectric efficiency (thermoelectric + thermal)

efficiency (average) = average production efficiency

calculation 6

$$\text{recovery efficiency (kWh/kg)} = \frac{\text{Gross electricity produced (kWh)}}{\text{CSS (kg)}}$$

Energy gross electricity produced (kWh) = gross electrical energy produced in San Vittore (15)

calculation 7

$$\text{electricity efficiency} = \frac{\text{Electricity produced (kWh)}}{\text{Internal CSS energy (kWh)+Internal methane energy (kWh)}}$$

Where:

Electricity produced = electricity produced in San Vittore = (15)

$$\text{Internal methane energy} = \frac{CH_4\,(Sm^3) \times PCI_m\,(kcal/\,Sm^3)}{860\ (kcal/kWh)}$$

PCI_m = PCI methane

860 = energy conversion factor from kcal to kWh

$$\text{Internal CSS energy (kWh)} = \frac{CSS\ (kg) \times PCI_{css}\,(kcal/kg)}{860\ (kcal/kWh)}$$

PCI_{css} = lower average calorific value of the CSS

860 = energy conversion factor from kcal to kWh

calculation 8

$$\text{recovery efficiency (kWh/kg)} = \frac{\text{Gross electricity produced (kWh)}}{\text{pulper (kg)}}$$

Gross electricity produced (kWh) = electricity produced in Terni = (item 16)

calculation 9

$$\text{efficiency} = \frac{\text{Electricity produced (kWh)}}{\text{Internal pulper energy (kWh)+Internal methane energy (kWh)}}$$

Where:

Electricity produced = Electricity produced in Terni = (16)

$$\text{Internal methane energy (kWh)} = \frac{CH_4\,(Sm^3) \times PCI_m\,(kcal/\,Sm^3)}{860\ (kcal/kWh)}$$

PCI_m = PCI methane

860 = energy conversion factor from kcal to kWh

$$\text{Internal pulper energy (kWh)} = \frac{\text{pulper (kg)} \times PCI_p\,(kcal/kg)}{860\ (kcal/kWh)}$$

PCI_p = PCI pulper = lower average calorific value of the pulper

860 = energy conversion factor from kcal to kWh

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:

- comparison with historical data to highlight and justify possible large deviations;
- at least two repetitions of the acquisition process;
- 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 SEGMENT

item no.	explanation – comment
1	Gross total energy produced by Acea Ambiente and Acea Produzione. The figure is calculated.
2	Electricity produced net of the losses due to just the production phase. The figure is calculated.
3=4+5	Total electricity produced, inclusive of the losses, by the Acea Produzione power plants. Includes thermoelectric and hydroelectric energy. The figure is measured with an uncertainty of less than ± 0.5%.
6=7+8+9	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%.
10	Electricity produced by the Acea Produzione power plants net of the losses. The figure is calculated.
11	Gross energy produced by photovoltaic installations. The FV of Parco della Mistica is not reported because it is outside the scope. The figures include the plants at Orvieto (Acea Ambiente) and Acea Ato 2. It does not include the energy produced by the plants acquired in 2019. The figure is measured with an uncertainty of less than ± 0.5%.
12	Total losses during photovoltaic generating phase, due in particular to joule effect (dissipation during heating) in the equipment. Estimated figure.
13	Net photovoltaic electricity made available by the generating installations. The figure is calculated.
14 = 15+16	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 (RDF – refuse-derived 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 2019, the renewable share for the San Vittore del Lazio plant was equal to 51%, the Terni incinerator share to 47%. With regard to the energy produced at San Vittore del Lazio, some problems on the turbines of line 1 and line 3 affected the quantities of electricity produced, for this reason it was less than 2018.
17	Self-consumption of the two waste-to-energy plants of San Vittore del Lazio and Terni + initial transformation losses. The figure is measured with an uncertainty of less than ± 0.5%.
18	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.
19	Electricity produced from biogas by the waste management plant of Orvieto (Acea Ambiente). The figure is calculated.
20	Self-consumption, including small dissipations. The figure is measured with an uncertainty of less than ± 5%.
21	Net electricity produced from biogas and transferred to the network. The figure is measured with an uncertainty of less than ± 5%.
22	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.
23	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).
24	Net thermal energy supplied to final clients. The figure, calculated, is obtained from the consumption invoiced.
25	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.
26	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. The figure is measured with an uncertainty of ± 0.5%.
27	Energy requested on the electrical distribution network of Rome and Formello by all the client connected (open market + managed service). The figure is estimated.
28	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.
29	Personal use of electricity for the implementation of the distribution activities. The figure is estimated.
30	Electricity transferred to third parties. This is electricity sold to distribution companies. The increase is a consequence of two new closed distribution systems powered by Areti from July 2019. The figure is measured with an uncertainty of ± 0.5%.

PRODUCTS – ENERGY SEGMENT (cont.)

item no.	explanation – comment
31	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.
32	Net electricity transferred to managed final clients. 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.
33	Net electricity sold by Acea on the open market nationally. The figure is estimated.
34	Net electricity sold by Acea nationally on the open market and the standard service. The figure is calculated.
35	Natural gas sold by Acea on the market nationally. The figure is calculated.
36	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.
37	Total number of measurements/controls performed in favour of the energy area. The figure is calculated as the sum of the individual determinations carried out by the competent laboratories.

PRODUCTS – ENVIRONMENT SEGMENT

item no.	explanation – comment
38	Total incoming waste. They are the quantities arriving at the Orvieto plant which include: unsorted urban solid waste, organic fraction, green, non-hazardous industrial waste. The figure is calculated.
39	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.
40	Waste disposed directly in landfill. The figure is measured with an uncertainty of ± 1%.
41	Waste disposed of in landfill after treatment. The figure is measured with an uncertainty of ± 1%.
42	Waste recovered and not sent to landfill. It is glass, paper and cardboard, iron and plastic. The figure is calculated.
43	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%.
44	Reduction due to stabilization. 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.
45	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 Monterotondo Marittimo plant, which had suspended deliveries in 2018, was restarted in 2019 after work on the construction of a new anaerobic digestion section, while the Aprilia plant, placed under preventive seizure in 2017 by the Latina Public Prosecutor's Office for aspects related to odorous emissions, was able to operate in 2019 at almost full capacity. The figure is calculated.
46	Incoming sludge. It is the quantity of sludge entering the composting plants of Aprilia, Monterotondo Marittimo and Sabaudia. The sharp decrease in 2018 quantities is due to the suspension of contributions to the Monterotondo Marittimo plant. The figure is measured with an uncertainty of ± 1%.
47	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%.
48	Organic fraction of sorted collection (FORSU) entering the composting plant of Aprilia and FORSU and other agrifood waste arriving at the Monterotondo Marittimo plant. The figure is calculated.
49	Quality Compost. It is the quantity of quality compost produced at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The production figure for 2019 is estimated. 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. The compost is zero at Monterotondo Marittimo because at the end of 2019 the incoming material was still being processed.
50	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%.
51	Reduction due to stabilization. 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.
52	Total analytical determinations. They are the total of the analytical determinations performed at the following plants: Orvieto, Aprilia, Monterotondo Marittimo and Sabaudia. The figure is calculated.

PRODUCTS – WATER SEGMENT

item no.	explanation – comment
53	Total drinking water collected from the environment or from other systems. It is the sum of the water collected by the Companies of the Group: Acea Ato 2, Acea Ato 5, Gesesa, Gori, Acque, Publiacqua, AdF, Umbra Acque. The figure is calculated.
54	Total drinking water supplied to the respective clients by the Companies listed in number 52. The figure is estimated.
55	Total drinking water collected from the environment or from other systems. This is the sum of the water taken from the Companies Acea Ato 2, Acea Ato 5, Gori, Gesesa. The figure is calculated.
56	Total drinking water supplied to the respective clients by the Companies listed in number 55. The figure is estimated.
57	Total drinking water collected at the sources, without the high discharges, by the Company Acea Ato 2 and released into the aqueduct system of the Ambito Territoriale Ottimale 2 of Central Lazio. The figure is measured with an uncertainty of ± 3%, except for the smaller sources, for which it is estimated.
58	Total drinking water leaving the aqueduct system. This is the sum of drinking water supplied and billed, drinking water authorized and not billed, water exported to other systems and measured drinking water losses. The figure is calculated.
59	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.
60	Total drinking water authorized and not billed in the Acea Ato 2 network. The figure is estimated.
61	Total drinking water exported to other aqueduct systems. The 2019 figure is estimated and may undergo consolidation after publication.
62	Total drinking water losses measured. The figure is measured with an uncertainty of ± 3%.
63	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.
64	Water losses as a percentage, equal to water losses in absolute value of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
65, 66, 67, 68, 69	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorized and not billed, exported to other aqueduct systems, by Acea Ato 5.
70	Overall distribution losses of Acea Ato 5. 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.
71	Water losses as a percentage, equal to water losses in absolute value of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
72, 73, 74, 75, 75 B	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorized and not billed, exported to other aqueduct systems, by Gesesa.
76	Global losses of distribution of Gesesa. 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.
77	Water losses as a percentage, equal to water losses in absolute value of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
78, 79, 80, 81	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorized and not billed, by Gori (Sarnese Vesuviano)
82	Overall distribution losses of Gori (Sarnese Vesuviano). 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.
83	Water losses as a percentage, equal to water losses in absolute value of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
84	Total waste water treated in the principal treatment plants of the Group's water Companies: Acea Ato 2, Acea Ato 5, Gesesa, Gori, Umbra Acque, Publiacqua, Acque, AdF. The figure is calculated.
85	Total waste water treated in the principal treatment plants of the Group's water Companies: Acea Ato 2, Acea Ato 5 and Gori. At the moment, Gesesa does not have any flow meters at the entrance of the treatment plant.
86	Total waste water sent to the principal treatment plants of Acea Ato 2 and treated. The total figure is calculated.
87	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.
88	Total waste water sent to the treatment plants and treated by Acea Ato 5. The figure is calculated.

PRODUCTS – WATER SEGMENT (cont.)

item no.	explanation – comment
89	Total waste water sent to the principal treatment plants of Gori and treated. The substantial increase in the quantities treated in 2019 is linked to the management transfer of several purification plants from the Campania region. The total figure is calculated.
90	Number of analytical determinations conducted overall on the drinking water by the Acea Group. The figure includes the analyses performed by Acea Elabori and the analyses performed independently by the Companies. The figure is calculated.
91	Number of analytical determinations conducted overall on the waste water by the Acea Group. The figure includes the analyses performed by Acea Elabori and the analyses performed independently by the Companies. The figure is calculated.
92	Number of analytical determinations conducted overall on the drinking water by Acea Ato 2, Acea Ato 5, Gori and Gesesa.
93	Number of analytical determinations conducted overall on the waste water by Acea Ato 2, Acea Ato 5, Gori and Gesesa.
94	Number of analytical determinations conducted overall on the drinking water by Acea Ato 2. The figure from 2018 also includes analyses of recently acquired aqueducts (Civitavecchia and others).
95	Number of analytical determinations conducted overall on the waste water by Acea Ato 2.
96	Number of analytical determinations conducted overall on the drinking water by Acea Ato 5.
97	Number of analytical determinations conducted overall on the waste water by Acea Ato 5.
98	Number of analytical determinations conducted overall on the drinking water by Gesesa.
99	Number of analytical determinations conducted overall on the waste water by Gesesa.
100	Number of analytical determinations conducted overall on the drinking water by Gori.
101	Number of analytical determinations conducted overall on the waste water by Gori.

RESOURCES USED – ENERGY SEGMENT

item no.	explanation – comment
102 = 103 + 104	Total quantity of natural gas used to generate the electricity and heat at the Acea Produzione 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.
103	Total quantity of natural gas used in the Tor di Valle power plant.
104	Total quantity of natural gas used by waste-to-energy plants. The figure is measured with an uncertainty of about 2%.
105	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, in 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 the extraordinary inspection activities. The figure is measured with an uncertainty of ± 2%.
106	Quantity of RDF (Refuse-Derived Fuel) sent for waste-to-energy processing in the San Vittore del Lazio plant. Some problems with the turbines of line 1 and line 3 affected the quantities of electricity produced and the quantity of RDF sent for energy recovery. The figure is measured with an uncertainty of ± 1%.
107	Quantity of pulp sent to waste-to-energy in the Terni plant. The figure is measured with an uncertainty of ± 1%.
108	Quantity of biogas used to produce electricity. The figure is measured with an uncertainty of ± 1%.
109	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.
110	Total quantity of water used in the industrial processes. The various contributions are due to: - reintegration of losses in the district heating network. It is aqueduct water; - various uses in the waste-to-energy plants of San Vittore del Lazio and Terni. This is water from the aqueduct, wells and first and second rain recovery. The figure is calculated.
111	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.
112	It represents the total quantity of dielectric mineral oil present in the primary and secondary cabins. The figure also includes the quantity of oil present in the Petersen coils installed in certain primary cabins is also included: approx. 225 tons in 256 Petersen systems. The data related to the reintegrations is estimated. The total quantity of new dielectric mineral oil released into the production circuit (transformers, capacitors, storage deposits etc.) includes both the Areti and the Acea Produzione data. The figure is estimated.

RESOURCES USED – ENERGY SEGMENT (cont.)

item no.	explanation – comment
113	It represents the total quantity of gaseous insulation (SF_6) in the Areti 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.
114	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 segment and the water segment in equal parts (50%).
115	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.
116	Quantity of lubricating oils and fats used by Acea Produzione. The figure is measured with an uncertainty of ± 0.5%.
117	The figure matches Item 28.
118	Matches the difference between Items 1 and 2.
119	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.
120	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.
121	Other uses of the electricity in the energy area. The figure is calculated.
122	Total electricity consumer by the product systems included in the energy area. The figure is calculated.
123	Total electricity consumed for public lighting in the municipality of Rome. The sharp reduction in consumption in 2019 was due to the completion of the planned transformations with the LED plan. The figure is calculated based on the consistencies of the installations in operation during the year.

RESOURCES USED – ENVIRONMENT SEGMENT

item no.	explanation – comment
ORVIETO PLANT	
124	Total chemical substances used at the Orvieto plant. The figure is calculated.
125	Electricity consumed in the Orvieto plant. The figure is measured with an uncertainty of ± 1%.
126	Total quantity of diesel consumed at the Orvieto plant. The figure is measured with an uncertainty of ± 2%.
127	Quantity of water consumed at the Orvieto plant. It is specified that this resource comes partly from roofs (rainwater) and partly from the riverbed (river water). The figure is estimated.
128	Quantity of water used for civilian purposes in the plant region of Orvieto. It is supplied by tanker trucks since the plant is not connected to the aqueduct. The figure is estimated.
COMPOST PRODUCTION	
129	Total chemical substances used at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
130	Electricity consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is measured with an uncertainty of ± 1%.
131	Total quantity of diesel fuel consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is measured with an uncertainty of ± 2%.
132	Quantity of biogas produced at the new Aprilia and Monterotondo plants. The final objective is to produce electricity. In 2019, the launch year, the gas was burned in a torch. The figure is measured with an uncertainty of ± 1%.
133	Quantity of water consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The quantities of water recycled are included. The figure is estimated.
134	Quantity of water used for civil purposes in the composting plants of Aprilia, Monterotondo Marittimo and Sabaudia. The value is partially estimated.

RESOURCES USED – WATER SEGMENT

item no.	explanation – comment
135	The figure represents the sum of the consumption of reagents for the purification and disinfection of the 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.
136	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.
137	Total volume of pure gases for analysis, used by Acea Elabori. The figure is measured.
138	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 segment and the water segment in equal parts (50%).
139	Total energy consumed in the water area. The figure of the preceding year was modified for adjustments in measurements of the partial data. The figure is calculated.
140	Electricity used for the drinking water and non-potable water pumping stations. The figure is measured with an uncertainty of ± 1%.
141	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.
142	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 estimated.
143	This is the sum of the quantity of drinking water for civil/sanitary and process uses at the offices of Acea S.p.A. (calculated as 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.
144	Total quantity of chemicals used in the purification process of the waste water. It is obtained from the sum of the consumption registered for the following substances: polyelectrolytes, hypochlorite of sodium, iron chloride, lime. The figure is calculated.
144 B	Total number of reagent kits purchased from the Acea Ato 2 wastewater 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 wastewater legal limits.
145	Total quantity of lubricating oil and fat used for the equipment of the water area (pumps, centrifuges, motors, etc.). The figure is calculated.
146	Electricity used to run the waste water purification plants and to operate the sewer network. The figure is measured with an uncertainty of ± 1%.
147	Quantity of methane used in the dryers. The significant increase in 2019 compared to the previous year is due to the activation of two new anaerobic digesters at the Acea Ato 2 East Rome and South Rome treatment plants. The figure is measured with an uncertainty of ± 2%.
148	Quantity of biogas produced and consumed on site. The significant increase in 2019 compared to the previous year is due to the activation of two new anaerobic digesters at the Acea Ato 2 East Rome and South Rome treatment plants. The figure is measured with an uncertainty of ± 2%.

FUELS USED BY THE GROUP (TRANSPORT AND HEATING)

item no.	explanation – comment
149	Total quantity of petrol used for the vehicle fleet of the Acea Group. The data for 2019 come from the calculations of the Group's Energy managers. For the conversions from the unit of volume (litres) to that of mass (kg) a density value of 0.73 kg/l was used (source: Defra, conversion factors 2016).
150	Total quantity of diesel used for the vehicle fleet of the Acea Group. The 2019 data come from the Energy managers of the Group Companies. For the conversions from the unit of volume (litres) to that of mass (kg) a density value of 0.84 kg/l was used (source: Defra, conversion factors 2016). The figure includes the fuel consumed by Aquaser's vehicles.
151	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%.
152	Total quantity of natural gas used for heating the work spaces. The scope includes: Acea, Areti, Acea Produzione, Acea Ato 2, Acea Ato 5, Acea Ambiente, Acea Elabori, Acea Energia. The figure is measured with an uncertainty of ± 0.5%.
153	Total quantity of LPG (Liquefied Petroleum Gas) used to heat the work spaces. For the conversions from the unit of volume (litres) to that of mass (kg) a density value of 0.550 kg/l was used. The increase in the 2019 value was due to the consumption recorded for the heating of Acea Ato 2, not measured in 2018. The figure is measured with an uncertainty of ± 0.5%.

EMISSIONS AND WASTE – ENERGY SEGMENT

item no.	explanation – comment
154	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 RDF and pulper. Includes the equivalent CO_2 estimated on the basis of the reintegrations of SF_6 and HCFC refrigerants. Estimated figure.
155	Quantity of carbon dioxide released into the atmosphere by the Acea Produzione power plants. The figure is calculated in accordance with current legislation.
156	Quantity of equivalent CO_2 estimated based on the reintegrations of SF_6, considering that the 1 t of this gas has a heating power 23,500 times the CO_2.
156 B	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 1,300-2,500 times CO_2. The value depends on the specific type of gas (source: GHG protocol – 5 Assessment Report; for gas mixtures the factor is calculated on the primary source). Half of the emissions are allocated to the energy segment and half to the water segment, as is the case for the quantities of refrigerant fluids (HCFCs). This figure corresponds to item 204 B. For 2019, the figure is close to zero since the refills were not significant.
157	Quantity of carbon dioxide released into the atmosphere by the Acea Ambiente waste-to-energy plants. The decrease since 2018 is due to the use of the new method of determining CO_2 emissions at the San Vittore plant in Lazio, which has changed from performing a calculation to continuous measurement of the chimney. The figure for the Terni plant is measured.
158	Total quantity of nitrogen oxides ($NO + NO_2$) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the RDF and pulper 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.
159	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.
160	Quantity of nitrogen oxides ($NO + NO_2$) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
161	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.
162	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.
163	Quantity of carbon oxide (CO) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
164	Total quantity of sulphur dioxide (SO_2) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the RDF and pulper waste-to-energy processes. The use of methane and diesel with low sulphur content in the power plants enables this type of emission to be contained. The figure is calculated.
165	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.
166	Quantity of sulphur dioxide (SO_2) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
167	Total quantity of powders (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 RDF 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.
168	Quantity of powders released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated.
169	Quantity of powders released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
170	Quantity of hydrochloric acid (HCl) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
171	Quantity of hydrofluoric acid (HF) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
172	Quantity of organic carbon released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
173	Total quantity of waste water, treated, resulting from the thermoelectric energy production activities. The figure is measured with an uncertainty of ± 2%.
174	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the Companies of the Group excluding the waste-to-energy area. The 2019 figure increased considerably due to works to upgrade plants to HV and also due to the reclassification of a type of waste now identified with a hazardous EWC code. The figure is measured with an uncertainty of ± 2%.

EMISSIONS AND WASTE – ENERGY SEGMENT (cont.)

item no.	explanation – comment
175	Hazardous waste (Italian 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%.
176	Total quantity of non-hazardous waste (Italian Legislative Decree no. 152/06) disposed of by the Companies of the Group excluding the waste-to-energy area. The 45% increase in 2019 is partly due to the performance of extraordinary and/or periodic maintenance interventions at thermal power plants, absent in 2018, and partly due to reduced rainfall, which caused an increase in certain types of waste, such as waste from screening. The figure is measured with an uncertainty of ± 2%.
177	Non-hazardous waste (Italian 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. In 2019, the increase was mainly due to increased production of industrial water related to some forced emptying of boilers followed by maintenance at the San Vittore del Lazio plant. The figure is measured with an uncertainty of ± 2%.

EMISSIONS AND WASTE – ENVIRONMENT SEGMENT

item no.	explanation – comment
178	Hazardous waste (Italian Legislative Decree no. 152/06) disposed of by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
179	Non-hazardous waste (Italian Legislative Decree no. 152/06) disposed of by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
180	Hazardous waste (Italian Legislative Decree no. 152/06) disposed of by the Orvieto plant. The figure is measured with an uncertainty of ± 2%.
181	Non-hazardous waste (Italian Legislative Decree no. 152/06) disposed of by the Orvieto plant. The figure is measured with an uncertainty of ± 2%.
182	CO_2 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 locally produced biogas since 2018. The figure is measured with an uncertainty of ± 2%.
183, 184, 185, 186	They are powders, Total Organic Compounds (COT), ammonia and volatile inorganic substances (SIV) issued at the Monterotondo 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 data is calculated starting from the measurement of the concentrations.

EMISSIONS AND WASTE – WATER SEGMENT

item no.	explanation – comment
187	Total quantity of sewerage sludge disposed of by Acea Ato 2, Acea Ato 5, Gori and Gesesa. Non-hazardous waste. The figure is measured with an uncertainty of ± 2%.
188	Total quantity of purification sludge disposed of by Acea Ato 2. The figure is measured with an uncertainty of ± 2%.
189	Total quantity of purification sludge disposed of by Acea Ato 5. The figure is measured with an uncertainty of ± 2%.
189 B	Total quantity of purification sludge disposed of by Gori. The increase in quantities produced in 2019 depends on the transfer to Gori of the management of purification plants previously managed by the Campania Region. The figure is measured with an uncertainty of ± 2%.
190	Total quantity of purification sludge disposed of by Gesesa. The figure is measured with an uncertainty of ± 2%.
191	Total quantity of sand and slabs disposed of by Acea Ato 2, Acea Ato 5, Gori and Gesesa. The figure is measured with an uncertainty of ± 2%.
192	Total quantity of sand and slabs disposed of by Acea Ato 2. The figure is measured with an uncertainty of ± 2%.
193	Total quantity of sand and slabs disposed of by Acea Ato 5. The figure is measured with an uncertainty of ± 2%.
193 B	Total quantity of sand and slabs disposed of by Gori. The increase in quantities produced in 2019 depends on the transfer to Gori of the management of purification plants previously managed by the Campania Region. The figure is measured with an uncertainty of ± 2%.
194	Total quantity of sand and slabs disposed of by Gesesa. The figure is measured with an uncertainty of ± 2%.
195	Total quantity of hazardous waste (Legislative Decree no. 152/06) disposed of by Acea Ato 2, Acea Elabori, Gori, Gesesa (equal to zero) and 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.
196	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 2 and Acea Elabori. The figure is measured with an uncertainty of ± 2%.

EMISSIONS AND WASTE – WATER SEGMENT (cont.)

item no.	explanation – comment
197	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 5. The figure is measured with an uncertainty of ± 2%.
197 B	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Gori. The increase in quantities produced in 2019 depends on the transfer to Gori of the management of purification plants previously managed by the Campania Region. The figure is measured with an uncertainty of ± 2%.
198	Proportion of hazardous waste (pursuant to Italian 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 segment. The 2017-2019 three-year trend is affected by the closure of the Valleranello logistics site in 2017, which resulted in the disposal of materials that were on site (including hazardous waste).
199	Total quantity of non-hazardous waste (Legislative Decree no. 152/06) disposed of by Acea Ato 2, Acea Elabori, Acea Ato 5, Gori and Gesesa, and a portion of waste produced by the Parent Company (attributed in equal parts to the energy and water segments). The figure is calculated.
200	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 2 and Acea Elabori. The increase in quantities in 2018 depends on sewerage cleaning. The figure is calculated.
201	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 5. The figure is estimated.
201 B	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Gori. The increase in quantities produced in 2019 depends on the transfer to Gori of the management of purification plants previously managed by the Campania Region. The figure is estimated.
202	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Gesesa. The figure is estimated.
203	Proportion of non-hazardous waste (pursuant to Italian 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 segment. The 2017-2019 three-year trend is affected by the closure of the Valleranello logistics site in 2017, which resulted in the disposal of materials that were on site (including non-hazardous waste).
204	Total amount of carbon dioxide emitted by Acea Ato 2 and Gori dryers, using methane as fuel. The significant increase in 2019 compared to the previous year is due to the activation of two new anaerobic digesters at the Acea Ato 2 East Rome and South Rome treatment plants. The data for the last two years were calculated using the consumption of fuel and the emission coefficients (MATTM 2018).
204 B	Quantity of CO_2 equivalent estimated on the basis of refrigerant fluid replenishments (HCFCs), considering that 1 t of gas has a heating capacity of about 1,300-2,500 times CO_2. The value depends on the specific type of gas (source: GHG protocol – 5 Assessment Report; for gas mixtures the factor is calculated on the primary source). Half of the emissions are allocated to the energy segment and half to the water segment, as is the case for the quantities of refrigerant fluids (HCFCs). This figure corresponds to item 204 B. For 2019, the figure is close to zero since the refills were not significant.

CO_2 EMISSIONS FROM TRANSPORT AND HEATING

item no.	explanation – comment
205	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 2018). The figure is calculated.
206	Total quantity of carbon dioxide emitted by the systems used to air-condition the work spaces. The figure is calculated.

ACEA SPA

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

YEAR ENDED 31 DECEMBER 2019

pwc

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 performed a limited assurance engagement on the consolidated non-financial statement of Acea SpA and its subsidiaries (hereafter the "Group") for the year ended 31 December 2019 prepared in accordance with article 4 of the Decree and approved by the Board of Directors on 9 March 2020 (hereafter the "NFS").

Responsibility of the Directors and of the Board of Statutory Auditors for the NFS

The Directors are responsible for the preparation of the NFS in accordance with article 3 and 4 of the Decree and with the "GRI-Sustainability Reporting Standards" defined in 2016 (hereafter the "GRI Standards"), identified as the reporting standards.

The Directors are responsible, in the terms prescribed by law, for such internal control as management determines is necessary to enable the preparation of a NFS that is free from material misstatement, whether due to fraud or unintentional errors.

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.

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

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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 Italy 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 with the GRI Standards. We conducted our engagement in accordance with "*International Standard on Assurance Engagements ISAE 3000* (Revised) – *Assurance Engagements Other than Audits or Reviews of Historical Financial Information"* (hereafter "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 ("*reasonable assurance engagement*") 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 with company personnel responsible for the preparation of the information presented in the NFS, analysis of documents, recalculations and other procedures designed to obtain evidence considered useful.

In particular, 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 standards 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 that reported in the Group's Consolidated Financial Statements;
4. understanding of the following matters:
   - business and organisational model of the Group, with reference to the management of the matters specified by article 3 of the Decree;
   - policies adopted by the Group with reference to the matters specified in article 3 of the Decree, actual results and related key performance indicators;
   - main 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 particular, we held meetings and interviews with the management of Acea SpA and with the personnel of Acea Produzione SpA, Acea Ambiente SpA and Acea ATO 2 SpA and we performed limited analysis 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 holding 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 their 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 Acea SpA, Acea Produzione SpA, Acea Ambiente SpA, Acea ATO 2 SpA and the waste-to-energy plant of Terni (Acea Ambiente 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 site 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 as of 31 December 2019 has not been prepared, in all material respects, in compliance with articles 3 and 4 of the Decree and with the GRI Standards.

Milan, 16 April 2020

PricewaterhouseCoopers SpA

Signed by

Massimo Rota
(Partner)

Signed by

Paolo Bersani
(Authorised 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 2019 translation.

2019
SUSTAINABILITY REPORT

ACEA GROUP

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Registered Office
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Share Capital
€1,098,898,884 fully paid-up

Tax Code, VAT No.
and Rome Companies Registry No.
05394801004

Rome Economic and Administrative Index No. 882486

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Press
Marchesi Grafiche Editoriali SpA
on FSC certified paper

Completed in May 2020

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