2017
SUSTAINABILITY REPORT
ACEA GROUP

(Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared according to GRI Standard)

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acea

INDEX

RELATIONS WITH THE ENVIRONMENT

LETTER TO STAKEHOLDERS

The *Sustainability Report*, referring to financial year 2017, with the entry into force of Legislative Decree 254/2016, has taken on the legal importance of compulsory company documentation, substantially equivalent to the Financial Statements, having the same publication time, statutory audit obligation, responsibility of directors and sanctions regime as the latter. We are fully aware that our Company has this year made a distinction between the voluntary and obligatory nature of the social and environmental reporting, based on more than solid foundations. In fact, it has been exactly twenty years since Acea has published a Sustainability Report on an annual basis, providing for its preparation according to the highest level of compliance with the internationally accredited guidelines.

We have selected the option, provided for by law, to present non-financial information in an independent document and with reference to a specific reporting standard. This is due to the complexity of the managed business, the related extent of qualitative and quantitative information provided, the comparability with previous years, guaranteed by the adopted performance indicators and, last, but not least, due to the vast number of stakeholders for which it is intended. Therefore, this document, in accordance with the law, has been named *Sustainability Report 2017 of the Acea Group (Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared according to GRI Standard)*. We have also confirmed Acea's participation in the Global Compact Network Italia, in accordance with the principles of the "Global Pact" and we have identified, in the *Sustainability Report*, the elements corresponding to the advanced level of the *Communication on Progress*.

Twenty years is a lot, even for a Company like Acea, which boasts over a century of business. The long period of time between the first publication of the social and environmental reporting and today, has not only contributed to building a solid foundation, as mentioned above, but has also marked an evolutionary path.

If we look back from the current perspective and imagine the impulse that drove the directors of the time – it was 1999, the year of listing on the stock market – to take the first step, we cannot fail to grasp the sense of challenge.

Furthermore, we cannot but understand that the voluntary choice to enhance the non-financial aspects of the management, monitoring and publicising of social and environmental performance and so-called "intangible" factors, such as intellectual or relational capital, was the result of a forward-looking view and fortunate intuition regarding the importance of corporate social responsibility and sustainable development concepts, which were then strongly supported by Europe.

An intuition capable of grasping the theoretical value of these concepts, as guiding principles and, above all, their profound consonance with the operational reality of a multiutility and the potential repercussions on the governance of the company and its strategic direction.

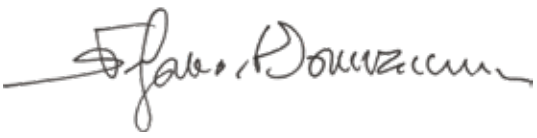
Acea was, as is, called to manage public utility services, in the water and energy sectors, which are essential to the well-being of the host environment and to the creation of local development opportunities and is, therefore, required to govern its impact on the natural environment and to enter into a relationship with the region, institutions and people. Over the years, the environment sector has been added to the areas of activity. Currently, said sector also bears the growth prospects inherent to the new paradigm of the circular economy, which drives us towards the future.

The challenge then was seized by all those who, within the last twenty years, have succeeded in responsibility for corporate governance - continuing along the path taken - and the issues of sustainability, increasingly more internally widespread and increasingly urged by the national and international external context, were also a spur for the progressive evolution of the business model, based on the most advanced principles of integrated management.

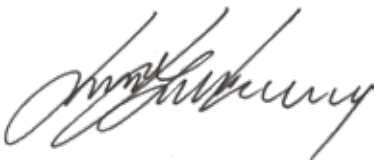
For our part, this year, we have intended to significantly accelerate this evolutionary path, undertaking, for this purpose, initiatives aimed at integrating sustainability into strategy and operational processes. We have organised multistakeholder focus groups to redefine, by listening to the parties concerned, the most relevant, or "material", topics, on which we can share and focus our attention. At the same time as preparing the new 2018-2022 Business Plan, we asked the operating departments to update the 2018-2022 Sustainability Plan, taking into account the international developments, in terms of sustainability, specified by the *Sustainable Development Goals* (SDG) approved by the UN.

The feedback received was remarkable and the Plan, approved by the Board of Directors and presented in this edition of the *Sustainability Report*, identified 135 targets to 2022, with objectives closely related to the business strategy, for a total estimated value of approximately €1.3 billion. The feedback introduces issues such as increasing the resilience of infrastructure in relation to climate change, with adaptation and mitigation actions, the contribution towards the circular economy, the experimentation of new technologies, operational processes and infrastructure, including with a view the development of the urban fabric, from a smart city perspective.
In November, we issued the new *Sustainability, Quality, Environment, Security and Energy Policy*, which states the principles, values and commitments made by the Company, framing them within the context of the pursuit of sustainable development and is an integral part of the Certified Management Systems. Through the Risk & Compliance Department, we initiated a specific analysis aimed at accompanying the management towards identifying and assessing the risks generated or incurred, in relation to the managed activities, pertaining to the main sustainability issues and, finally, in December, on a governance level, we renamed the Ethics Committee to the Ethics and Sustainability Committee, attributing this body, *inter alia*, the promotion of the integration of sustainability into the business strategy and culture; the oversight of sustainability issues associated with the exercise of business activities and the dynamics of interaction with stakeholders.
The value created in the path summarised above is therefore returned to stakeholders in the *Sustainability Report*, but implies the continuity of dialogues and coherent action.

The Chief Executive Officer
Stefano Antonio Donnarumma



The Chairman
Luca Alfredo Lanzalone



HIGHLIGHTS
RELATIONS WITH STAKEHOLDERS

CUSTOMERS

24,600
people heard
through Customer Satisfaction surveys

20.5%
green energy sold
to customers on the free market (7% in 2016)

65,000
Acea Energia customers
chose, in 2017, electronic billing:
13.5 t/year of paper saved

COMMUNITY

Over 5,000
young people
participating in *Io mi impegno per l'Ambiente!* Acea for schools 2017

Piazza Navona, Piramide Cestia and Palatino
artistic-monumental lighting for the city

66 Water houses
active in 2017:
17.5 million litres supplied
350 t of plastic/year saved and 620 t of CO_2 atmospheric emissions saved

SHAREHOLDERS AND FINANCIERS

133.9
million euros
of dividends

270
analysts/investors
met by Investor relations

89.3
million euros
allocated to financiers

INSTITUTIONS AND THE COMPANY

Approximately 56 million euros
in innovation
and over 14 projects in progress

532.3 million euros
of investments
in the year

Numerous partnerships
with Universities and Research Institutes and school-work Vocational Projects

STAFF

96.5% employees
with permanent contracts

33% female presence
in Corporate Governance bodies

3,000 workers
involved in Acea Safety Week *Sicuri di Essere Sicuri?*

SUPPLIERS

594 million euros
the 2017 procurement value

Approximately 2,000 contracts signed
with over 1,000 suppliers

8,900 inspections
of construction site safety carried out by the "Safety Team" for "Single Contracts"

HIGHLIGHTS
RELATIONS WITH THE ENVIRONMENT

WATER

384 Mm^3

of drinking water supplied by Acea Ato 2, Acea Ato 5 and Gesesa (Group total: 658 Mm^3)

118,900 t

of sludge produced by Acea Ato 2, Acea Ato 5 and Gesesa, of which 75% recovered

SATELLITE MONITORING

of water source areas; 200 km^2 analysed and 31 anomalous variations identified

MONITORING CAMPAIGN

experimental campaign on Emerging Organic Micropollutants at wastewater treatment plants

ENVIRONMENT

446,000 t

of waste-to-energy waste (input) and 97,000 t of waste produced (output): 22% (output/input)

17,700 t

of high-quality compost produced (+27% compared with 2016)

384 GWh

of energy produced by waste-to-energy (+17.6% compared with 2016)

22 GWh

of energy generated by biogas (Orvieto plant)

ENERGY INFRASTRUCTURE

30,900 km
distribution networks to Rome and Formello with approximately 11,000 GWh of electricity required on our network

224,480 lamps
intended for the city's public and artistic lighting

Increase in territorial protection (underground HV network/HV network total): **44%**

838 GWh
total energy generated (including WtE) (+13.6% compared with 2016)

96 GWh
of thermal energy generated for district heating: over 39,000 inhabitants served

Constructed or expanded
71 Sub-stations
and reconstructed
972 Operating stations

2,600 t CO_2
atmospheric emission saved thanks to efficiency measures

73% of total
energy generated by renewable sources (608 GWh)

DISCLOSING SUSTAINABILITY: METHODOLOGICAL NOTE

SUSTAINABILITY PERFORMANCE: REGULATORY DEVELOPMENT AND GRI STANDARDS

The Acea Group Sustainability Report, having the purpose of supplementing information of an economic financial nature with the social and environmental aspects of the activities, was drawn up voluntarily by the Company, on an annual basis starting from 1999 (with reference to financial year 1998).

Sustainability reporting has always been carried out in conformity with the international reference Guidelines[1], under constant development, and voluntarily submitted for audit and verification by a third party. Moreover, with the intention of providing the financial community and interested parties with a disclosure as complete as possible regarding Group performance, the publication times for the Sustainability Reports have been aligned with those of the statutory Sustainability Report as from 2011.
Continuing with the widespread commitment of observing the principles of Corporate Social Responsibility, Acea publishes its Sustainability Report 2017 – the twentieth edition in the company's history – no longer as a voluntary document but, for the first time, in accordance with Legislative Decree no. 254/2016, which has implemented, into italian legislation, EU directive 95/2014.
The Report was also prepared in accordance with GRI Standards (ed. 2016)[2]: comprehensive option – the latest development in the international Guidelines for reporting sustainability among the most accredited - and therefore entitled *Acea Group Sustainability Report 2017* (*Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared according to GRI Standard*), assuming the form of an independent document, as permitted by the recalled Legislative Decree[3].
The ***Sustainability Report***, enclosing a Summary Note, following its **formal passage** through the **Board of Directors**, is made available to the supervisory body and submitted for **assurance by the statutory auditor**, with which Acea has no joint interests or other connections, appointed with verifying the conformity thereof with Legislative Decree no. 254/2016 and its consistency with the implemented reporting Standards[4] (see *Opinion Letter of the independent auditor*).
The document is made available online at the institutional website **in concomitance with the *Consolidated Financial Statements*** and distributed during the Shareholder's Meeting.

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[1] Starting from the Sustainability Report referring to financial year 2003, the Guidelines implemented by Acea for reporting were the GRI, edition 2002 at the time. Over the following years, the reports prepared by Acea followed developments in the Guidelines, from time to time adopting the most recent editions, up to version G4 (ed. 2013), always with the higher level of accordance required.

[2] The Global Reporting Initiative (GRI), launched in England in 1997 by the Coalition for Environmentally Responsible Economies (CERES), became independent in 2002 as an official centre supporting the Unite Nations Environment Programme (UNEP) and works in collaboration with the United Nations Global Compact. When the previous version of the sustainability report Guidelines GRI-G4 was superseded (ed. 2013), in 2016 the GRI Standards were published - *Consolidated set of GRI Sustainability reporting standards 2016* -, available on the website www.globalreporting.org. For companies intending to continue to describe their sustainability with reference to the GRI, the organisation provides for the obligation to adopt the Standard as from financial year 2018. Acea chose to anticipate the adoption thereof for this edition of the Sustainability Report.

[3] Therefore, the Acea Group Sustainability Report 2017 is to be understood as a Consolidated disclosure of a non-financial nature (Legislative Decree no. 254/2016, art. 4 and art. 5, paragraph 3.b).

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

SUSTAINABILITY REPORTING IN THE ITALIAN NORMATIVE: LEGISLATIVE DECREE NO. 254/2016

For many years the best-performing companies have embraced the many requests coming from the international context, especially from the European Union, declaring its commitment on the matter of "corporate social responsibility" and sustainable development and publishing, on a wholly voluntary basis, their sustainability performance in documents drawn up according to recognised and accredited guidelines.
Today in our country such commitment is no longer assigned solely in the sense of the responsibility of forward-looking managers. Indeed, on 25 January 2017 Legislative Decree no. 254/2016 came into force, "Implementing Directive 2014/95/EU of the *European Parliament (...) as regards disclosure of non-financial information (...)*", which orders enterprises meeting the conditions indicated in art. 2 of the measure, amongst which Acea, to publish information related to sustainability performance, typically non-financial.
Such information must be represented in a formal **statement of a non-financial nature** – individual or consolidated - which, as the Decree states in art. 3, paragraph 1: "(...) *to an extent necessary for ensuring an understanding of the corporate activity [ed.: in art. 4: "the group"], of performance, position and impact of its activity, 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* (...)".
So as to comply with the requirements of the norm, the reporting organisation must describe its business model and its risks, policies and the results concerning the management of the aforesaid aspects, also providing, where relevant, further information about: use of energy and water resources, pollutant emissions and greenhouse gases, impacts associated to risk factors on the environment, health and safety, social aspects and concerning its employees, human rights and anti-corruption matters.
The enterprise has the faculty to follow an accredited reporting standard at national or international level in order to adequately describe the non-financial data and information.
The Decree also requires that the non-Sustainability Report can be contained in the Management Report or can constitute a separate report.

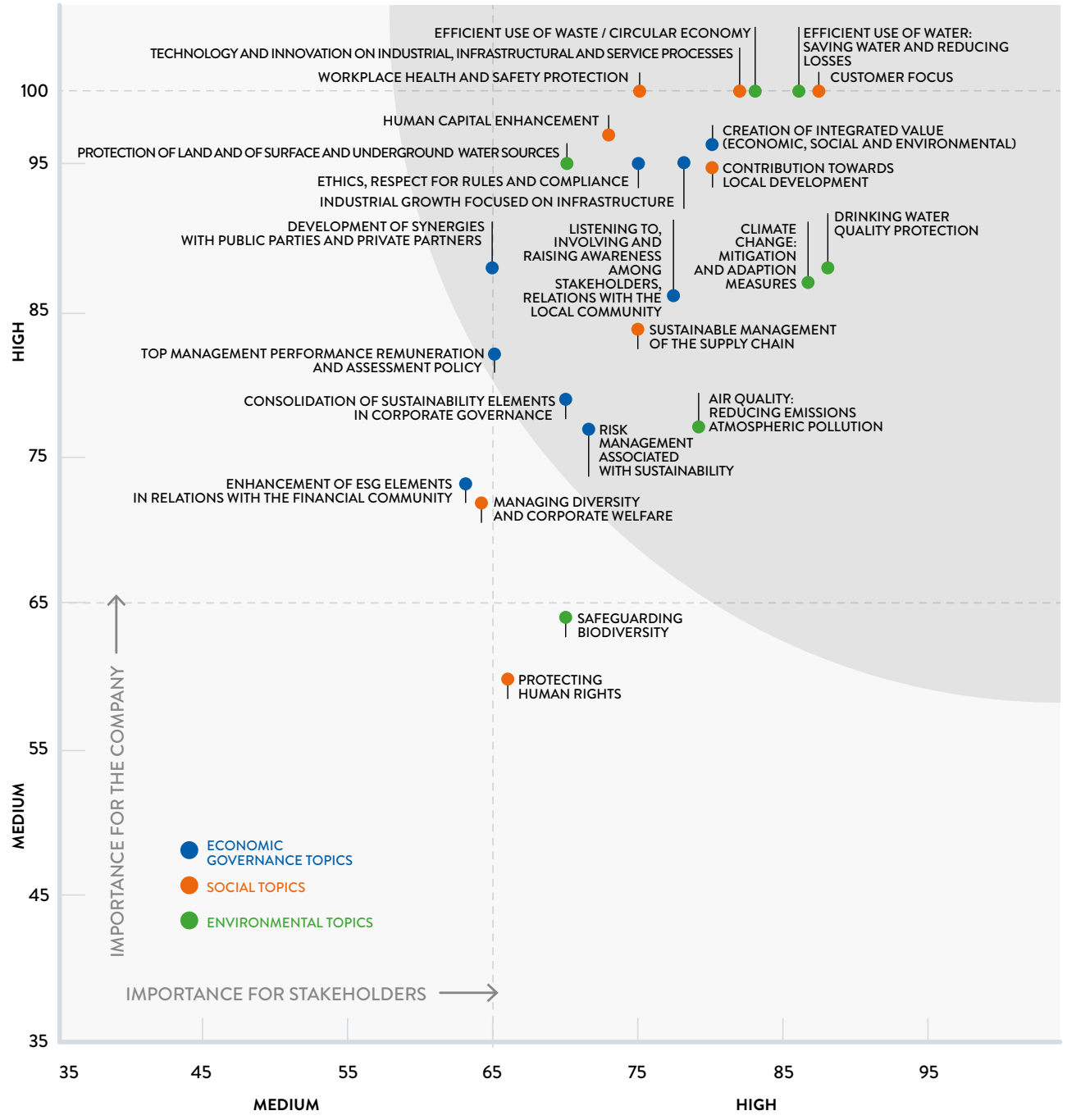
MATERIALITY AND SCOPE OF THE REPORT

In 2017, by virtue of the renewal of the corporate Governing Body, circulation of the Group's strategic orientations and subsequent approval of the Industrial Plan 2018-2022 in November, as well as the contextual preparation of the new Sustainability Plan 2018-2022 (see chapter *Analysis of the context, strategy and sustainability*), Acea decided to proceed with **updating the analysis of materiality**, aimed at identifying matters of economy and governance, social and environmental most relevant or "material" both for the company and the interested parties, in relation to impacts on the company and the stakeholders.

The main updating steps were followed for such purpose: documental and contextual analysis, comparison with interested parties (internal and external) and with the corporate managers.
In particular, as far as the direct comparison with the stakeholders is concerned, Acea organised a **multistakeholder focus group** at the head office in September (with 21 attending organisations representing 13 subcategories of stakeholders, totalling 26 persons), entrusting the performance thereof to an external expert and in October while the strategic, industrial and sustainability planning was being defined, it organised a board meeting with the corporate management.
Topics regarding economy and governance, social and environment, reviewed, specified and updated in the light of documental analysis, were explained during the meetings and submitted for direct assessment by the interested parties.
Downstream of completing the entire process of analysing materiality, the results were processed and the "**materiality matrix" 2017** was drawn up. This identifies **20 highly significant topics** (score 66-100) articulated into a Cartesian coordinate system and **4 of medium significance** (score 36-65) (see chart 1). The highly significant matters proved to be **consistent with the Group's strategic planning**, regarding industry and sustainability.
In respect to the latest disclosure[5], the topic of *"managing corporate diversity and welfare"* moved to the "medium relevance" area, as it was found to be important for the company and of less interest for the other stakeholders whereas the same other three topics were confirmed as of medium relevance; moreover, certain topics already present in the "high relevance" area were repositioned, remarkable, for example, is the very high position assumed by the topic *"efficient use of water: saving water and reducing leaks"* and lastly two newly introduced topics *"contribution to the development of the territory"* and *"industrial growth focused on infrastructures"* were both found to be of high relevance (see chart 1).

[5] See the *Acea Sustainability Report 2016*, available online – www.acea.it, sustainability section – for the materiality matrix 2016.

CHART NO. 1 – RELEVANT TOPICS FOR THE COMPANY AND STAKEHOLDERS: ACEA "MATERIALITY MATRIX" – 2017



ECONOMIC GOVERNANCE TOPICS SOCIAL TOPICS ENVIRONMENTAL TOPICS

1 EFFICIENT USE OF WATER: SAVING WATER AND REDUCING LOSSES
2 CUSTOMER FOCUS
3 EFFICIENT USE OF WASTE / CIRCULAR ECONOMY
4 TECHNOLOGY AND INNOVATION ON INDUSTRIAL, INFRASTRUCTURAL AND SERVICE PROCESSES
5 WORKPLACE HEALTH AND SAFETY PROTECTION
6 HUMAN CAPITAL ENHANCEMENT
7 CREATION OF INTEGRATED VALUE (ECONOMIC, SOCIAL AND ENVIRONMENTAL
8 CONTRIBUTION TOWARDS LOCAL DEVELOPMENT
9 PROTECTION OF LAND AND OF SURFACE AND UNDERGROUND WATER SOURCES
10 ETHICS, RESPECT FOR RULES AND COMPLIANCE
11 INDUSTRIAL GROWTH FOCUSED ON INFRASTRUCTURE
12 DRINKING WATER QUALITY PROTECTION
13 DEVELOPMENT OF SYNERGIES WITH PUBLIC PARTIES AND PRIVATE PARTNERS
14 CLIMATE CHANGE: MITIGATION AND ADAPTION MEASURES
15 LISTENING TO, INVOLVING AND RAISING AWARENESS AMONG STAKEHOLDERS, RELATIONS WITH THE LOCAL COMMUNITY
16 SUSTAINABLE MANAGEMENT OF THE SUPPLY CHAIN
17 TOP MANAGEMENT PERFORMANCE REMUNERATION AND ASSESSMENT POLICY
18 CONSOLIDATION OF SUSTAINABILITY ELEMENTS IN CORPORATE GOVERNANCE
19 AIR QUALITY: REDUCING EMISSIONS ATMOSPHERIC POLLUTION
20 RISK MANAGEMENT ASSOCIATED WITH SUSTAINABILITY
21 ENHANCEMENT OF ESG ELEMENTS IN RELATIONS WITH THE FINANCIAL COMMUNITY
22 MANAGING DIVERSITY AND CORPORATE WELFARE
23 SAFEGUARDING BIODIVERSITY
24 PROTECTING HUMAN RIGHTS

The classification of material topics for Acea into high, medium or low relevance, as well as being important from the strategic viewpoint, **is functional to identifying the aspects to be reported** with a higher or lower detail in the sustainability report and **selecting the indicators provided under the reference Standards**.

The choice of drawing up the Sustainability Report in accordance with **GRI Standards (ed. 2016): comprehensive option**, in fact, implies that the company is bound to reporting its performance according to:

- "Universal Standards", which include the **reporting principles** (GRI 101: Foundation) and **56 general standards** (GRI 102: General Disclosures);
- The **aspects** ("Topic-specific Standards": 200-Economic, 300-Environmental, 400-Social) **deemed as material and related indicators**, to be selected among the 33 aspects comprehensively provided under the Standard;
- The **management approach** (GRI 103: Management Approach) for each aspect deemed as material.

In order to be able to select the "material topics" from among those provided under GRI Standards, consideration[6] was given to both their correlation to Acea's highly significant topics and meaning thereof conferred by the international Standards, in some cases tracing them back to the corporate context and in others establishing their lack of pertinence[7].

Following the assessments described above, **25 Topic-specific standards were identified** out of a total of 33, **as consistent with Acea material topics of high significance** (see Table no. 1), although not always exhaustive in the widest sense of the meaning[8], which is more widely covered in the document where appropriate. Furthermore, **among all the indicators included** in the "topic-specific standards" considered as "material", **only 4 were considered as not pertinent** and excluded from the analysis. **Only one Acea material topic of high relevance is not correlated to the Topic-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 Disclosures).

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 topic-specific standards" and the "general standards" (GRI 102: General Disclosures).

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

GRI 200: ECONOMIC TOPICS 2016	ACEA MATERIAL TOPICS
Economic performance	4, 6, 7, 8, 10, 11, 14, 17, 19, 20
Indirect economic impacts	2, 3, 4, 7, 8, 11, 13, 16
Procurement practices	7, 16
Anti-corruption	10
Anti-competitive conduct	10

GRI 300: ENVIRONMENTAL TOPICS 2016	ACEA MATERIAL TOPICS
Material (301-1)	3, 4, 9
Energy (from 302-1 to 302-4)	4, 9, 14, 19
Water	1, 4, 9
Biodiversity (from 304-1 to 304-3)	9, 14, 19
Emissions	9, 14, 19
Effluents and Waste (from 306-1 to 306-3, 306-5)	3, 9
Environmental conformity (compliance)	9, 10, 14, 19
Assessment of environmental aspects regarding suppliers	16

GRI 400: SOCIAL TOPICS 2016	ACEA MATERIAL TOPICS		ACEA MATERIAL TOPICS		ACEA MATERIAL TOPICS
Employment	6, 7, 17	Diversity and equal opportunities	6	Consumer health and safety	2, 10, 12
Industrial relations	6	Community life and local communities	7, 8, 13, 15	Marketing and labelling of products and services	2, 10
Health and safety at work	5, 16	Assessment of social aspects at supplier premises	16	Respect of privacy	2, 10
Training and education	6	Public politics (political contributions)	10	Social-economic conformity (compliance)	2, 10

NB The economic, environmental and social "material aspects" were identified amongst all those provided for under the GRI standards (Topic-specific Standards). When indicators are placed in brackets next to an aspect this means that only the indicators shown in the table will be considered material, or, where not specified, all the indicators related to the aspect are material (also see the *GRI standard content index*). For Acea material topics as identified in the table by a number, reference should be made to the figure illustrating the materiality matrix (chart 1).

[6] It is important to consider that both the Topic-specific GRI standards – each of which includes a description of the man¬agement approach (Disclosure Management Approach) 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 2016* - in the website www.globalreporting.org.

[7] This led, for example, to the exclusion of topic-specific standards related to *Presence on the Market and to Human Rights* which, according to the meaning given to them by the GRI, are more pertinent to multinational enterprises and not suited to the representative reality of the most significant operations of the Group.

[8] It is also important to note that some Acea material topics, already correlated to specific aspects of the GRI standards, are also consistent with some of the 56 general standards (GRI 102: General Disclosures).

The **principle of materiality** also applies to the **definition of the "scope of the report"**. This is both in accordance with the standards implemented for reporting and according to Legislative Decree no. 254/2016. The latter, in fact, under art. 4, states: *"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 and covers the topics pursuant to article 3, paragraph 1"*.
Starting, therefore, with the companies included in the full consolidation area of the Parent Company 2017 (see Table no. 2), having heard the opinion of the Legal and Corporate Function Manager of the Parent Company and the CFO and having agreed on the approach with the corporate top management, criteria of **materiality/strategic** significance were identified, functional to identifying companies ensuring **an understanding of the Group activity** and its performance, considering the **main areas of business, the land** in which such activities are mainly carried out and the **main generated impacts**.

TABLE NO. 2 – COMPANIES INCLUDED IN THE PARENT COMPANY'S FULL CONSOLIDATION AREA (2017)

COMPANY	SEAT
Acea Ambiente Srl	Via G. Bruno 7 - Terni
Aquaser Srl	P.le Ostiense 2 - Rome
Iseco SpA	Loc Surpian n. 10 - Saint Marcel (AO)
Acque Industriali Srl	Via Bellatalla - Ospedaletto (PI)
Acea Energia SpA	P.le Ostiense 2 - Rome
Acea8cento Srl	P.le Ostiense 2 - Rome
Cesap Vendita Gas Srl	V. del Teatro 9 - Bastia Umbria (PG)
Acea Liquidation and Litigation Srl	P.le Ostiense 2 - Rome
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
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
Consorcio Acea-Acea Dominicana	Av. Las Americas - Esquina Mazoneria, Ensanche Ozama - Santo Domingo
Acea Ato 2 SpA	P.le Ostiense 2 - Rome
Acea Ato 5 SpA	V.le Roma - Frosinone
Acque Blu Arno Basso SpA	P.le Ostiense 2 - Rome
Acque Blu Fiorentine SpA	P.le Ostiense 2 - Rome
Crea Gestioni Srl	P.le Ostiense 2 - Rome
Crea SpA (in liquidazione)	P.le Ostiense 2 - Rome
Gesesa SpA	Corso Garibaldi 8 - Benevento
Lunigiana SpA (in liquidazione)	Via Nazionale 173 - Massa Carrara
Ombrone SpA	P.le Ostiense 2 - Rome
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 Illuminazione Pubblica SpA	P.le Ostiense 2 - Rome
Acea Produzione SpA	P.le Ostiense 2 - Rome
Ecogena Srl	P.le Ostiense 2 - Rome
Acea Elabori SpA	Via Vitorchiano - Roma
TWS SpA	Via Ticino 9 - Desenzano del Garda (BS)

The applied criteria of assessment[9], the adequacy of which shall be reviewed from year to year in relation to Group development, contemplate **quantitative elements** (such as the weight of turnover on the consolidated revenues, value of energy consumption expressed in TOE, etc.) **and qualitative** (companies having a relevant and current role in the Acea qualifying companies or an essential role respect to the services they provide; companies present in the territorial area in which almost all of the turnover is generated, the majority of the stakeholders is present and a large part of the managed assets is located).
The consistency with the aforementioned criteria gave rise to the identification of companies of strategic significance for the Group, **representative for the purposes of disclosing non-financial information 2017** (according to Legislative Decree no. 254/2016 and GRI standards), and thus **included in the reporting boundary**[10] (see Table no. 3).

TABLE NO. 3 - CORPORATE SCOPE FOR THE ACEA GROUP SUSTAINABILITY REPORT 2017 (CONSOLIDATED NON-FINANCIAL STATEMENT PURSUANT TO LEGISLATIVE DECREE NO. 254/2016, PREPARED ACCORDING TO GRI STANDARD)

COMPANY	SEAT
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	V.le Roma - Frosinone
Gesesa (*)	Corso Garibaldi 8 - Benevento
Areti	P.le Ostiense 2 - Rome
Acea Produzione	P.le Ostiense 2 - Rome
Ecogena	P.le Ostiense 2 - Rome
Acea Elabori	Via Vitorchiano - Rome

(*) With regard to Gesesa, apart from information about the number of Employees already included last year, data concerning the other aspects of sustainability shall be provided on a progressive basis.

The scope of the *Acea Group Sustainability Report 2017* proves to substantially follow on from that defined in the previous reports, guaranteeing coverage of companies **ensuring a full understanding of the activities and most significant sustainability performance for the Group**. Furthermore, such companies represent at least: 92% of the turnover, 83% of the average number of employees and 87% of the costs for materials and services of the full consolidation area of Acea Group (including the Parent Company).
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 Sustainability Report and the Corporate governance report* and which may derive from the latter.

Lastly, in compliance with the principle of completeness required under GRI Standards, we considered it appropriate to provide qualitative and quantitative information regarding corporate and environmental matters also for certain companies, regardless of the method of consolidation, 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, Gori, Acquedotto del Fiora, Publiacqua and Umbra Acque, which were included in some Group data and described in a dedicated chapter, giving clear evidence of their individual contribution.
The scope of the consolidated non-financial Statement 2017 was also presented during the Committee meeting for Ethics and Sustainability.

[9] Every considered quantitative element has defined thresholds of significance and elements of "non consistency" were also identified for qualitative criteria (such as "vehicle" companies, companies under liquidation with non determining positions for the purposes of operativity, companies operating outside of the territory of reference, etc.). 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.

[10] In light of the applied criteria, the following companies are outside of the scope of the consolidated non-financial Statement 2017: Iseco, Acque Industriali, Cesap Vendita Gas, Acea Liquidation and Litigation, Umbria Energy, Acea Energy Management, Parco della Mistica, Acea Dominicana, Aguas de San Pedro, Acea International, Consorcio Acea-Acea Dominicana, Acque Blu Arno Basso, Acque Blu Fiorentine, Crea Gestioni, Crea, Lunigiana, Ombrone, Sarnese Vesuviano, Umbriadue Servizi Idrici, Acea Illuminazione Pubblica, TWS.

STRUCTURE OF THE DOCUMENT AND CIRCULATION

In compliance with the implemented reporting Standards the *Sustainability Report 2017* bears information and data mainly of a non-financial nature, with specific attention to social and environmental aspects of the managed activities.
The document is divided into three sections: ***Corporate identity, Relations with stakeholders*** and ***Relations with the environment***, supplemented by the Environmental Accounts. The latter comprises more than **260 items** which quantify the physical flows generated by the activities: the products, factors used (resources) and outbound outputs (rejects and emissions).
As mentioned, the main economic-financial data and information concerning governance are wholly consistent with those outlined in the *Consolidated Sustainability Report* and the *Corporate governance report*.

Some information concerning foreign activities and the main water companies which are not included within the scope of the consolidated non-financial Statement, are shown in a separate section.

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 once again to the Areas/Companies/Functions responsible for final validation.

Downstream of the audit activities by the appointed statutory auditor, the report distributed by means of **publication in the institutional website** – www.acea.it – **and the company intranet**, as well as the **other formats provided under Legislative Decree no. 254/2016** and the implementary Consob Regulation (implemented by Resolution no. 20267 of 19 January 2018). It is also distributed together with the consolidated Sustainability Report, by means of a dedicated kit: to the shareholders, during the annual Shareholders' Meeting upon closure of the financial year, the directors and middle management of the Group and the interested public during events.

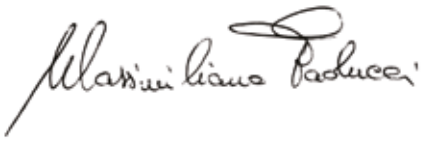
For further information about the Sustainability Report and its contents, it is possible to write to the following email address: RSI@aceaspa.it

Giuseppe Sgaramella

STAKEHOLDER RELATIONS, SUSTAINABILITY, AND INTERNATIONAL AFFAIRS UNIT

Massimiliano Paolucci

EXTERNAL RELATIONS, COMMUNICATION AND INTERNATIONAL AFFAIRS DEPARTMENT



MEMBERSHIP TO THE UNITED NATIONS' GLOBAL COMPACT

Since 2007, Acea has been formally involved in the **United Nations Global Compact** (UNGC) initiative, acknowledging **consistency between the ten principles** supported by the United Nations through the "Global Pact"[11], the UN's objectives of sustainable Development ("Agenda 2030", to which the UNGC expressly refers), **the ethical guidelines established by the Group *Code of Ethics* and the commitment for corporate sustainability**. The **advanced level *Communication on Progress*** (CoP), is included in the Sustainability Report through a combined statement of the GRI indicators and the principles of **United Nations Global Compact**, pursuant to the understanding reached between the two organisations.

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 complicit, even indirectly, in human rights abuses
LABOUR	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 undertake initiatives to promote greater environmental responsibility
	9. Companies are required to encourage the development and diffusion of environmentally friendly technologies
ANTI-CORRUPTION	10. Companies should work against corruption in all its forms, including extortion and bribery

[11] 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 his appeal he invited 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

Since 2014, Acea has undertaken for better principles of the process qualifying the consistency between the "Global pact" and the actions taken, identifying in the Sustainability Report **the elements responding to the advanced level of the Communication on Progress** envisaged by the United Nations Global Compact.

The table below lists and describes, in schematic format, these elements according to 21 criteria defined by the United Nations Global Compact and states their correlation[12] to the GRI Standards (GRI 102: General Disclosures and the "Topic-specific standards" 200-Economic, 300-Environmental, 400-Social identified as "material", applied in the preparation of the sustainability report according to the "comprehensive" level of compliance. See the *GRI standard content index* for 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 GRI STANDARDS (GENERAL DISCLOSURES AND TOPIC-SPECIFIC MATERIAL STANDARDS)
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) of GRI 308 *Supplier environmental assessment* – GRI 302-2 – GRI 305-3 – GRI 308-1 – GRI 308-2 – GRI 103 (1-3) of GRI 414 *Supplier social assessment* – 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, non-discrimination, health and safety at the workplace, training and education and supplier social assessment), they are included in other GRI "topic-specific" standards, deemed "material", as well as in the "material topics" identified by Acea and are therefore covered in the report.

[12] It was Acea's intention to update the proposed format autonomously, placing elements of the Communication on Progress and GRI Standards in the report, starting from the last available document, the result of a collaboration between GRI and UNGC which referred to the previous version of the FRI-GR4 Guidelines. See Making the Connection: Using the GRI G4 Guidelines to Communicate Progress on the UN Global Compact Principles, available online in the website www.unglobalcompact.org and not yet officially renewed.

CRITERIA 6-8 robust labour policies and procedures management	**LABOUR** commitments, strategies or policies; management systems; monitoring and evaluation mechanisms	GRI 103 (1-3) and indicators of the following topic-specific standards (series GRI 400 SOCIAL TOPIC 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) *Supplier social assessment* (GRI 414-1, GRI 414-2)
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 topic-specific standards (series GRI 300: ENVIRONMENTAL TOPIC 2016): *Materials* (GRI 301-1) *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 304-3) *Emissions* (from GRI 305-1 to GRI 305-7) *Effluent and waste* (from GRI 306-1 to GRI 306-3, GRI 306-5) *Environmental compliance* (GRI 307-1) *Supplier environment assessment* (GRI 308-1, GRI 308-2)
CRITERIA 12-14 robust anti-corruption policies and procedures management	**ANTI-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 topic-specific standards (series GRI 200: ECONOMIC TOPICS 2016 and series GRI 400: SOCIAL TOPIC 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 (SDG's)	GRI 103 (1-3) of all the material "topic-specific standards" included in series GRI 200: ECONOMIC 2016, GRI 300: ENVIRONMENTAL 2016 and GRI 400: SOCIAL 2016 (except for the topic Respect of 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


acea
acqua

CORPORATE IDENTITY

GROUP PROFILE

ACEA'S HISTORY

Since it was founded in 1909 as Azienda Elettrica Municipale (AEM) in the Municipality of Rome, Acea has represented the company that manages the Capital's essential development infrastructure. Indeed, the availability of an efficient electricity and water service supports the productive and social growth of the city. The definition of corporate public service models that are more efficient and industrially developed, also thanks to the involvement of private partners, has characterised the last decades and phases of development of Acea; from its listing on the Stock Exchange in 1999 to entering into new industrial activities and their consolidation. The most recent years in Acea's history are distinguished as much by the development of **technological innovation and the digitalisation of processes and services**, with the aim of increasing operating efficiency and improving the quality of the services as the renewed vocation for developing **modern network infrastructures that are resilient and integrated**, as well as able to forecast a widespread and sustainable development.

ACTIVITIES AND FUNCTIONS OF THE MAIN GROUP COMPANIES

Acea is one of the **main Italian multi-utilities**, with more than a century of experience in the **management of public services** in the sectors of **energy, integrated water service** and **environment** (waste to energy and added value services).
The company is the reference operator in the Rome area for energy sectors (production, distribution, including public lighting and sale) and water (complete cycle) and in this last context it is present in several regions of Central Italy as an industrial partner for local companies managing vast areas.

TABLE NO. 6 – THE ACEA GROUP IN FIGURES 2017

STAFF (number, by % consolidation)	5,625
net revenues (million of Euros)	2,797
invested capital (million of Euros)	4,244.7
net financial indebtment	*2,421.5*
shareholders' equity	*1,811.2*
total balance sheet assets (million of Euros)	7,387.6
ELECTRICITY	
generation (GWh) (gross)	837.88
from which from renewable sources (GWh) (gross)	608.43
hydroelectric	*380.5*
photovoltaic	*11.6*
waste to energy	*194.5*
biogas	*21.8*

ELECTRICITY	
network demand (GWh)	10,836
sale (GWh) (free and more protected market)	6,843
electricity and gas customers (number)	1,378,932
WASTE TO ENERGY (WtE)	
electricity generation (GWh) (gross)	384.3
waste burnt (t)	445,609
RDF	*345,633*
pulper	*99,970*
PUBLIC LIGHTING	
bulbs managed in Rome (number)	224,480
WATER (INTEGRATED WATER SERVICE)	
drinking water supplied (Group) (Mm^3)	658
of which (Acea Ato 2, Acea Ato 5 and Gesesa)	*383.6*
number of tests on drinking water (Group)	1,144,365
of which (Acea Ato 2, Acea Ato 5 and Gesesa)	*409,375*
wastewater treatment (Group) (Mm^3)	815.4
of which (Acea Ato 2, Acea Ato 5 and Gesesa)	*574.7*
inhabitants served (Group) (million)	8.9
of which (Acea Ato 2, Acea Ato 5 and Gesesa)	*4.6*

The specific business areas and territorial reach of the Group companies are essentially shown in chart 2.

CHART NO. 2 – ACTIVITIES CONDUCTED BY ACEA'S KEY COMPANIES THROUGHOUT THE TERRITORY

WATER

Acea Ato 2 manages the integrated water service in Rome and another 111 municipalities in the Province.
Acea Ato 5 is the operator of the service in 86 Municipalities in the province of Frosinone Gesesa operates in the municipality of Benevento and another 11 municipalities in the Province.
Acea Elabori performs 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 present in Lazio, Tuscany and Umbria, and active in environmental management (treatment and disposal), in the production of energy from waste in composting.
AQUASER is active in the recovery, treatment and disposal stages for sludge resulting from the depuration phase of the integrated water service.

ENERGY INFRASTRUCTURE

Areti plans, designs and executes the actions of modernising and developing electricity infrastructure (lines AT-MV-LV, cabins, remote control systems and metering) and manages its distribution services in the municipalities 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 illumination.
ACEA Produzione works in the production of energy and heat with a central complex composed of hydroelectric and thermoelectric plants.
Ecogena designs and constructs cogeneration and trigeneration plants and operates as ESCo (Energy Service Company) pursuing energy efficiency services for internal customers (obligations of increase efficiency under Min. Decree dated 20 July 2014) and external customers, and ensures the protection 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.

THE PROPRIETARY STRUCTURE AND THE BUSINESS MODEL

Acea SpA is listed on the Electronic Stock Exchange organised and managed by Borsa Italiana. Roma Capitale is Acea SpA's majority shareholder, holding 51% of its share capital. At **31/12/2017**, other significant direct or indirect equity interests were held by Suez SA for over 23% and Caltagirone Francesco Gaetano at approx. 5% (see chart 3).

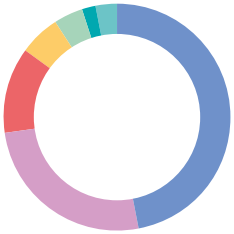
Of the remaining shares, **about 15%** are owned by **primary institutional investors**, the geographic distribution of which highlights a greater presence of Italian shareholders, followed by those from the USA, Norway and England. The share held by retail investors is equal to about 6% (see chart 4).

CHART NO. 3 – PROPRIETARY STRUCTURE AS AT 31/12/2017

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

Source: CONSOB

CHART NO. 4 – GEOGRAPHICAL REPRESENTATION OF THE INSTITUTIONAL INVESTORS IN ACEA

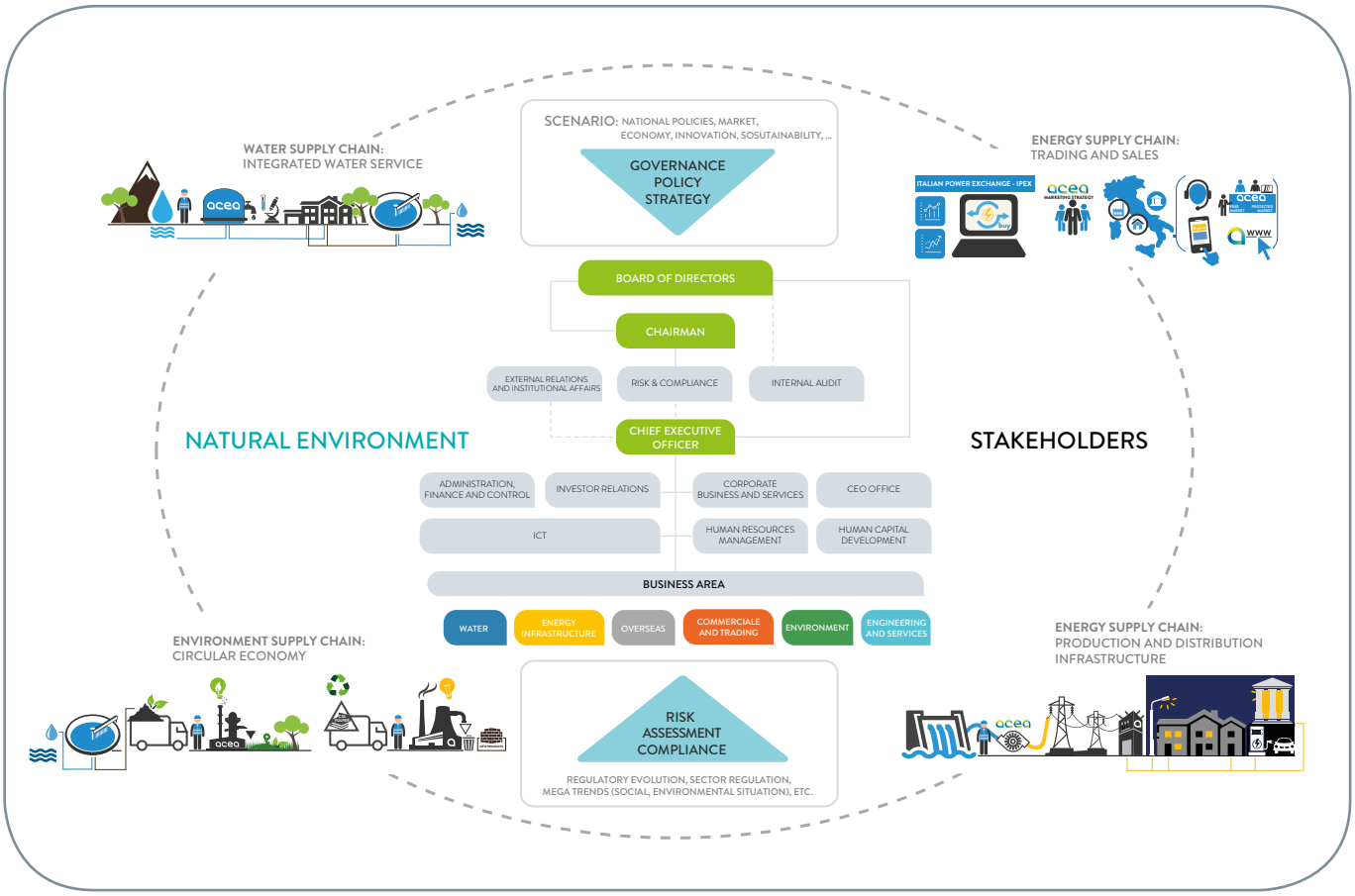


- 47% Italy
- 26% Usa
- 12% Northern Europe
- 6% UK
- 4% France
- 2% Germany
- 3% Others

TOTAL QUOTE HELD **15%**

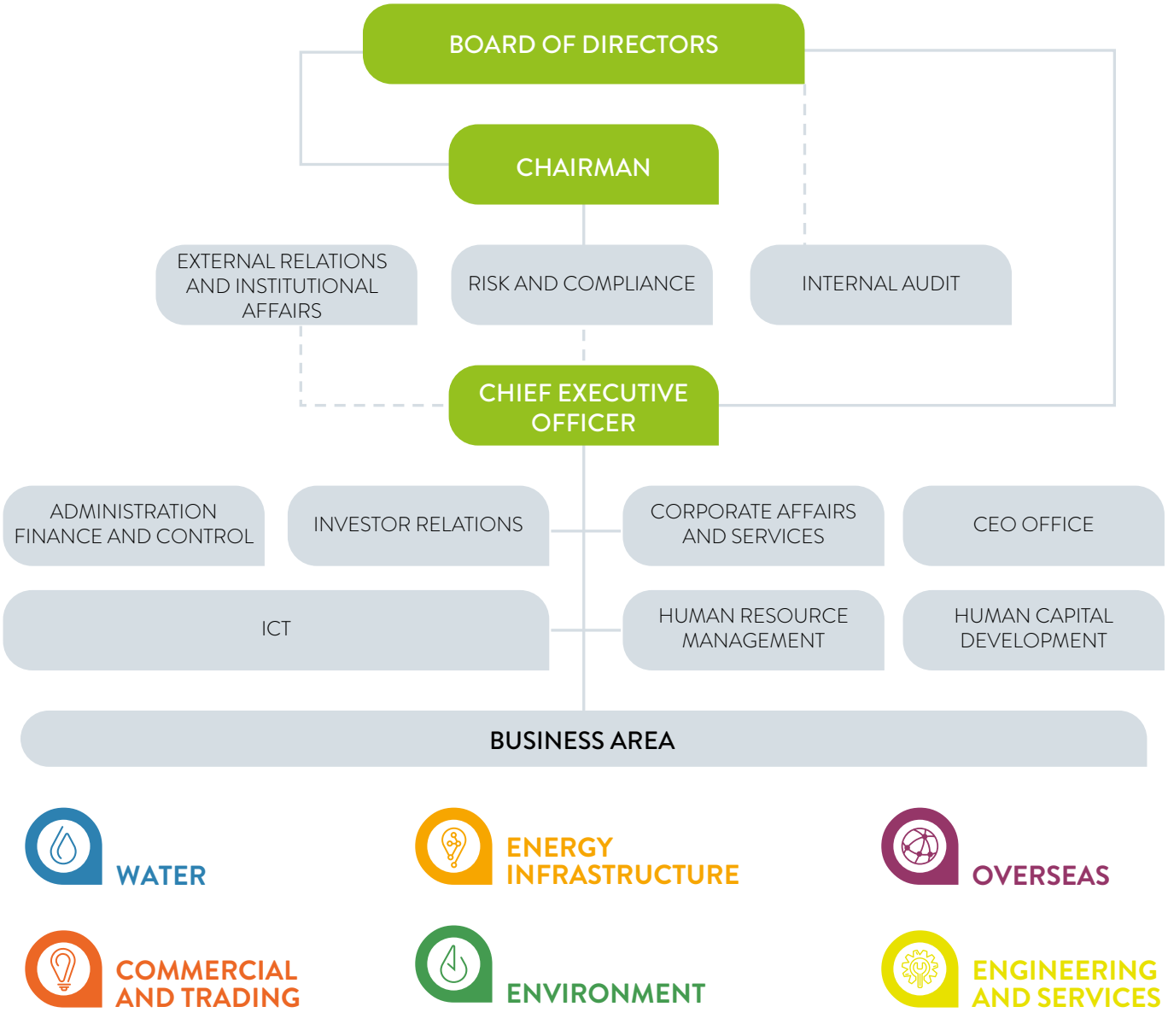
THE BUSINESS MODEL

CHART NO. 5 – ACEA'S BUSINESS MODEL



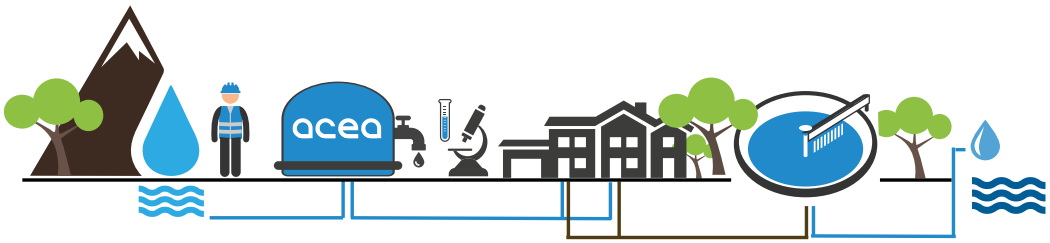
The implemented business model (chart 5) is based on an organisational structure in which the Holding covers the role of governance, steering and control of the portfolio of managed activities. The Parent Company, moreover, offers managerial support to the operating companies by means of management and legal, logistic, technical, financial and administrative services. Acea SpA's **organisational macrostructure** consists in **corporate functions** and **business areas** to which the operating companies report (see chart 6).

CHART NO. 6 - ACEA SPA ORGANISATION CHART AS AT 31/12/2017



The Acea Group is mainly active in 4 chains of activity: the **integrated water service; the production and distribution of electricity** (including public lighting); the **sale of energy and gas; waste to energy**. Acea operates in such segments through industrial companies located in central Italy, particularly on the Tyrrhenian ridge, in which has capital holdings and in which it plays the role of industrial entity of reference.

WATER SUPPLY CHAIN: INTEGRATED WATER SERVICE



The water supply chain begins with the resource capture phase: the integrated water service begins with the resource capture phase: the water required by the network serving the communities is drawn from streams and water tables in the territory. The quality of the water resource is tested and guaranteed by Acea, throughout its journey, so as to observe the normative standards provided for end users. Thereafter the wastewater and treatment phase is activated to recycle 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 supply of electricity: Acea mainly produces electrical energy at hydroelectric stations and residually through combined cycle (gas) thermo-electric stations and photovoltaic plants. Users receive electricity thanks to the supply network 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 case: the purchase of commodities (energy and gas) takes place by means of trading on market platforms (Electronic stock exchange) where resellers such as Acea Energia, provision in order to resupply clients according to their respective commercial policies. The demand market in Italy is separated into two large sectors, that of more protection, which to date still characterises the domestic market and shall cease in 2019 and the free market, where each client can choose their preferred supplier and related service. Sales companies develop relations with the clients, based on their typology, by means of increasingly more innovative and digital contact channels, however retaining traditional tools such as the telephone and public counters. In order to promote their products, the sales companies avail of purposefully selected, and trained sales agencies which are monitored in the implemented commercial practices.

Waste to energy and circular economy: the environment supply chain has the purpose of waste to energy activities by means of conversion into biogas and secondary solid fuel (CSS) for use in the energy production process, or through transformation into compost for agriculture and flower-growing. 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.

The business activities are broken down in the strategic Plan (see paragraph *Strategy and sustainability*), which defines corporate development guidelines based on the assessments of **opportunities offered by the market**, the **institutional framework** and the **context of reference**, the **governance system** and a careful **identification and weighting of the risks** which could be generated or suffered by the Group. When performing the activities and supplying the services, Acea Group pays the greatest attention to its **interactions with the natural environment and relations with the stakeholders**, so as to maximise its contribution to the sustainable development of the lands on which it is present and to the benefit of the communities of reference. The organisational and management Model is implemented within the Group pursuant to Legislative Decree no. 231/01, functional to preventing administrative liability for the entity with regard to committing crimes, indicated by such norm, by subjects in organic relations with Acea (for further details on the policy, governance and management systems, see section *Corporate governance and management systems*).

In order to ensure the **involvement of employees on strategic topics**, Acea has realised several **people engagement** initiatives over the year, adopting a continuous improvement model: the ***Execution Model***. The word "Execution" is intended as the performing realisation of a **project** and underlines the operational spirit of the actions and effectiveness of the results to be reached. The model valorises the **wealth of internal competencies**, putting Acea people in the condition to concretely influence the improvement of the Group, by means of participating in **transversal teams** (Action Teams) that work on initiatives of strategic relevance (**the Actions**) with a punctual cost//benefit calculation and a perspective of the measurable improvements brought by the project.
The initiatives originate from a variety of sources: listening moments with people working in the various companies or independent proposals from employees, put forward using a project form available from the corporate social platform. Since the model was implemented, 5 listening moments were realised and more than 130 ideas for improvement collected 70 colleagues were identified for training in the role of **Execution Trainer** and **Promoter** and in the application of Project Management tools and the first Teams were established.

GENERAL ECONOMIC INDICATORS

In 2017 the Group's activities were focused on consolidation and infrastructural development as well as improving services rendered to users. Acea's programmatic guideline was formalised with the **new industrial Plan 2018-2022**, approved in November and favourably accepted by the market. The economic-financial results for financial year 2017[13] are established at values in line with the communicated objectives: The **gross operating profit** is equal to **840 million Euros** (-6.3% on 2016, +7% on adjusted basis) and the **operating profit** is **360 million Euros** (-32% on 2016, -2% adjusted). The **Group profit** is **181 million Euros** (-31% on 2016, +2% adjusted).

[13] Adjusted economic results do not included non recurrent components, positive and negative, for financial years 2016 and 2017 referred to the effects of the regulatory lag and credit impairment regarding Gala and Atac and the assets of Acea Produzione and Acea Ambiente.

TABLE NO. 7 - ACEA GROUP EQUITY AND FINANCIAL HIGHLIGHTS (2016-2017)

(in million of Euros)	2016	2017
net revenues	**2,832.4**	**2,796.9**
operating costs	1,965.4	1,983.8
staff costs	*199.2*	*215.2*
costs of materials and overheads	*1,766.2*	*1,768.6*
income/(expense) from non-financial investments	29.3	26.8
gross operating profit (EBITDA)	**896.3**	**839.9**
operating profit (EBIT)	**525.9**	**359.8**
financial operation	(111.6)	(72)
investment operations	1.7	0.3
profit/(loss) before tax	**416.1**	**288.2**
income tax	143.5	96
net profit	**272.5**	**192.2**
profit/loss attributable to non-controlling interests	10.2	11.5
net profit/(loss) attributable to the Group	**262.3**	**180.7**

The **consolidated revenues for 2017** amount to **2,796.9 million Euros** (2,832.4 million Euros in 2016), a 3% increase compared to the previous year on an adjusted basis (2,720.9 million Euros 2016). Phenomena with opposing signs affect such revenues with regard to the business activities: positively, among the others, are items concerning the change in the **consolidation area**, revenues from the **integrated water service** and those regarding **waste conferral and landfill management**, comprehensively at 109.4 million; negatively the revenues from **sale and transport of energy**, at 4.4 million.

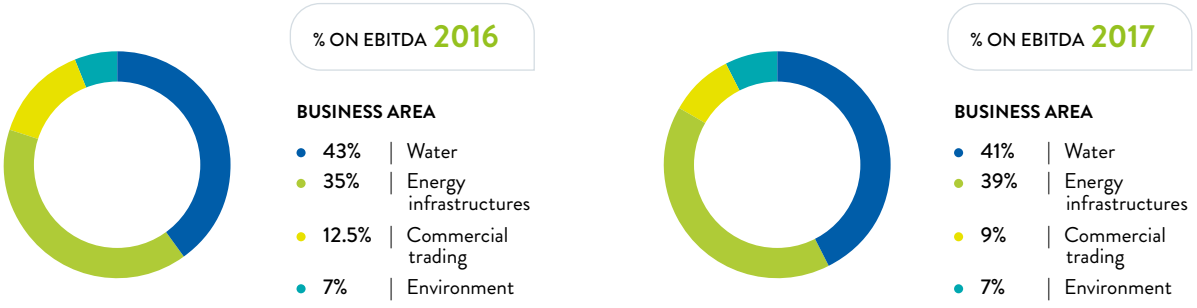
In 2017 **the costs of materials and overheads** were stable compared to 2016 at about **1.76 billion Euros**. Worthy of mention as regards cost dynamics, in particular are: the reduction associated to **energy sector** (-66.2 million) for the free and protected market, with related lowers costs for transport, balanced by the higher costs for acquiring white certificates, fulfilling the regulatory obligation of **energy efficiency** (+30.1 million).

The **gross operating profit** (EBITDA) equal to about **840 million Euros** proves to be higher than the guidance communicated to the market and with reference to the adjusted 2016 value (785 million Euros) a 7% increase.
Contributing to the formation of the comprehensive value are:

- **Water** operating segment at 40%, with 350 million Euros, a 4% increase respect to the adjusted data in 2016 (336 million Euros). This result was affected by implemented tariff updates and especially by the rise in premium granted to Acea Ato 2 for service quality;
- **Energy infrastructure** operating segment at 39%, with about 333 million Euros, an approximate 20% increase compared to the adjusted data for 2016 (276.8 million Euros), where the improvements were brought by all the managed activities: distribution, generation and public lighting;
- **Commercial and trading** operating segment at 9%, with 78 million Euros, an approximate 20% decrease compared to 2016 (98 million Euros), mainly due to the entry of non-recurrent revenues from the previous year and lower margins in the sales activity;
- **Environment** operating segment at 7%, with 64 million Euros, an approximate 13% increase over the previous year (57.2 million Euros), thanks to the improvement in plant performance and higher quantity of sold electricity, especially with regard to the plant in San Vittore del Lazio, as well as the resumed activities of the compost plant in Aprilia.

Also contributing to the Group EBITDA are the **Foreign** area, the **Engineering and service** area and the **Parent Company** at 15 million Euros.

CHART NO. 7 – CONTRIBUTION OF THE BUSINESS AREAS TO OVERALL EBITDA (2016-2017)



The **operating profit (EBIT)** is **406 million Euros** on an adjusted basis, a drop of 8 million on 2016 and it is mainly affected by certain non-recurrent components, such as the reduction in value of receivables due from GALA and ATC (22 million Euros) and the impairment of certain assets of Acea Ambiente and Acea Produzione (12 million Euros). The increase of about 53 million Euros in **amortisation** of investments in information technology is also recognised.

ANALYSIS OF THE CONTEXT, STRATEGY AND SUSTAINABILITY

ANALYSIS OF THE CONTEXT

Acea monitors the **scenario of reference**, intercepting and analysing the factors assuming relevance for the company and which can affect the pursuit of strategic goals. In particular, the **corporate sustainability, normative, regulatory, technological, competitive and marke**t contexts represent different aspects integrated into an overall framework, which outlines **the context within which management activities and the outlook of the organisation are to be included**.

SUSTAINABILITY CONTEXT

Circular economy, decarbonisation, smart city and technological innovation, climate change and environmental impact are some of the issues which characterise the scenario of reference regarding sustainability for Acea. We point out the institutional commitment by the Italian Government regarding such matters, which, in 2017 approved the **National Energy Strategy** and the **National Strategy for Sustainable Development**. The first defines the development policy to 2030 for networks and infrastructures, renewable sources and energy efficiency: the second breaks down and acknowledges, at national level, the Sustainable Development Goals of the **UN Agenda 2030** undertaken by Italy.

Worthy of mention regarding the year is the entry into force of **Legislative Decree no. 254/2016**, rendering mandatory, for certain types of company, amongst which listed companies, disclosure of a non-financial nature, substantially equating this, by times, controls and publication procedures, to the economic informatory document.

Another Government initiative of relevance for highlighting the social aspects of sustainability concerns the insertion of **12 indicators of Fair and Sustainable Wellbeing** – such as, for example, income inequality, inefficient justice, the hope of life - in the cycle of the State Budget, by means of including them in the Document of Economy and Finance (DEF). Thanks to this act, Italy is the first European country and of G7 to have inserted wellbeing and quality of life indicators into its economic planning for the purpose of assessing the impact of national policies on the population.

The repeated manifestation of extreme environmental events associated to climate change, such as the prolonged drought that caused a serious water crisis in our country during the year, has now stressed the necessity to realise an integrated system of responses. The **National plan of adaptation to climate change** shall fulfil this, by way of definition, as a strategic planning instrument aimed at dealing with the topic of mitigation and capacity of resilience, with regard to global climate change.

The world of finance is also assuming a significant role in the transition towards an economic system sensitive to the commitment in sustainability, with the circulation, increasingly expanding, of instruments such as **Social Bonds and Green bonds**, combining the search for long term financiers to industrial projects connoted by social or environmental characteristics.

In light of the impact on the management of environmental resources, such as water and in consideration of the activity of suppliers of essential services for quality of life and the development of the economic fabric, **Utilities** are constantly more playing a fundamental role for sustainable development.

LEGAL CONTEXT

The legal context of pertinence to Acea is wide-ranging and articulated according to the **specificity of the operating segments** - water, energy and environment - and the variety of the frameworks within which the detailed legal and regulatory disciplines intervene which affect the business operations, from administrative authorisation profiles to those protecting the market and competition. Added to such aspects is the peculiarity of the nature of **listed companies**, with the related legal impacts, for example in terms of regulating communications to the market. The legal scenario is therefore analysed from a **multidisciplinary** viewpoint, applying a 360° overview and continuous interpretative analysis, in order to detect developments of particular significance, identifying and assessing risks and opportunities in terms of strategy and operating management.

Within such scenario the importance of certain particularly significant aspects is confirmed. First and foremost, the new **Procurement Code**, which will lead to a radical transformation over time of the rules and systems for the functioning of public contracts, it was the subject matter of another intervention with the so-called "Corrective", pursuant to **Legislative Decree no. 56/2017**. Among the foreseen novelties emerge: the limit was raised from 50% to 100% of the auction value for the obligatory application of the minimum environmental criteria (CAM); the mandatory nature of **social clauses** aimed at protecting occupational stability; an award systems, in terms of reducing sureties, for companies holding process and product certificates. The legal application aimed at protecting consumer interests becomes increasingly more important, especially with regard to relations with commercial operators and at **privacy level**. As regards such aspect, the year under examination can be considered as fully preparatory to the entry into force, in 2018, of EU Regulation 2016/679 regarding the protection of personal data.

The industrial nature of the services managed bestows significance upon the focus on **legal and administrative** profiles related to both **authorising procedures** for the construction, renewal and management of plants, with obvious effects on the capacity to guarantee the continuous operation of the company managed, and on the **recognition of incentives** for energy plants (energy efficiency certificates, ex green certificates and other incentives recognised by the legal system). Assuming particular importance, in this context, is the **development in the environmental law** where we report **Legislative Decree no. 104/2017 on the new EIA** (Environmental Impact Assessment), implementing Directive 2014/52/EU, the main novelties of which are: faster times and deadlines for the EIA procedure, the incorporation of all environmental opinions into one sole measure and the expansion of works subjected to state-controlled EIA. To be cited, moreover, is the **Annual market and competition law** (Law 124/2017) providing, as from July 2019, for the "more protected" regime to be interrupted in the energy sector. Lastly, given the acquisitions and mergers ongoing in the Utility segment, the theme of compliance with antitrust laws concerning the discipline of concentrations, aimed at preventing market abuse, has also emerged.

REGULATORY CONTEXT

From the regulatory viewpoint, 2017 contributed to outlining a more structured and ample reference framework within the various sectors.

In the Water segment, there was approval of the **Supplementary Text on Water Service Considerations** (TICSI) which sets out the criteria for tariff structuring, mainly for domestic users, with the identification of a preferential band for the so-called "vital minimum quantity" volume of consumption. The main novelty concerns the progressive introduction of a pro-capita criterion at national level, starting from 1st January 2018 and fully operational on 1st January 2022. Associated to such measure are also all the

other interventions in progress, aimed at **extending the same levels and protective instruments already present in the electricity and gas sector to water service users**, such as: the social water bonus, adopting procedures for containing arrears and the dispute settlement protection system. The other important chain of intervention by ARERA (Regulation Authority for Energy Networks and Environment), in the water sector, is represented by the resolution of 27 December 2017 917/2017/R/IDR, which shall introduce an incentivising regulation model based on the classification of three parameters: prerequisites, specific and general standards. Rewards and penalties, specular, shall be quantified on a two-yearly bass as from 2020, according to the performances of the previous two years. By resolution of 27 December 2017 918/2017/R/IDRI ARERA also regulated the processes for updating the tariffs for the second half period of regulation 2018-2019.

In the Electricity segment, ARERA continued to pursue a preferential path out of the more protected regime in view of the end established for 1st July 2019. Having the purpose of accompanying such move, certain important obligations were introduced, amongst which: the preparation of "standard" offers for end users (PLACET offers); the creation of a List of electricity sellers; the activation of a web Portal to collect and publish the offers on the market; the promotion of commercial offers in favour of the purchase groups; the monitoring of wholesale markets. Further elements of investigation concerned the **resilience of the electricity networks**, the **reform of the tariff structure regarding general system charges** for non domestic customers and the redefinition of the **tariff contribution to cover the costs sustained by the distributors** of electricity and natural gas, subject to the obligations in relation to the mechanism of energy efficiency certificate. In the remote heating sector ARERA took the first steps downstream of Legislative Decree no. 102/2014 and the subsequent review with Legislative Decree no. 141/2016. Indeed, the legislator commits the Authority to promoting the development of the remote heating and remote cooling sector, in short, governing the regulation for service quality and the conditions for connection and disconnection to and from the networks and the procedures for publishing prices by the sector operators.

COMPETITION AND MARKET CONTEXT

In the **Environment sector** (treatment and valorisation of waste, including energy recovery), in the light of a national regulatory framework envisaging forms of incentives and consistently with the European directives on the recovery of matter and energy, as well as the implementation of indications from the European Union regarding circular economy (closing the loop), the market context has highlighted a high "potential demand", given the current situation in terms of production, disposal and capacity to treat waste in the areas in which the Acea Group has traditionally operated and in surrounding areas. There are thus clear opportunities for consolidation and development, also taking into account the availability of new technologies (composting for example) and the possibility of realising forms of industrial integration with other operators. As regards the recovery/disposal of the waste produced by the water companies in the Group, in the capacity of the main national player in the integrated water service and thus a major producer of sludge, the need - in the framework of added value environmental services (sludge treatment, compost) - to expand the potential for the disposal/recovery of sludge has been stimulated, with the aim of realising a complete and direct in-house management of the entire production line.

In the **Energy sector**, sales segment, the outlook of most significance is the completion of the liberalisation of retail sales, with the expected abolition in 2019 of the regime of greater protection. An increase in competition between the operators is expected, with a consequent search for distinctive added value elements, to be pursued through investments in technological innovation and digitalisation to the benefit of the customer.

Technological innovation also plays an important role in the development of the Networks-energy distribution sector, in favour of further progress in the automation and increasing the efficiency of the processes and for applications in the smart metering and smart grid framework and from a smart city viewpoint. In the latter framework (smart city), there are also potential synergies with other operators as regards new business opportunities (ultra-broadband for example). The outlook for growth in the Networks-public lighting sector for operators with specific and consolidated know-how lies mainly in a foreseeable increase in the demand for the application of latest generation energy saving lighting techniques (LED) in the areas where there are still none.

In the **Water sector**, the main development driver is the progress being made, as described above, in the regulation by the ARERA, which rewards the efficiency of operators. Similarly to the electrical sector, in fact, in December 2017 the national Authority resolved on the new regulation for the technical quality of the integrated water service using a reward/penalty mechanism linked to the respect of performance standards (service levels) and also an automatic indemnity system for customers which is added to that already defined in relation to commercial 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 organisational models, standardised and repeatable, capable of significantly affecting the improvement of performance levels.

TECHNOLOGICAL AND INNOVATIVE CONTEXT

The technological scenario represents one of the aspects of greater dynamism and impact within the scope of analysis of the reference context for Acea. The intense and constant activity of research and development by the producers of technological services, as well as the persuasive application of such technologies in all the Group's areas of operation has ensured that the year in question has been characterised by a refocusing on matters of Innovation for the Group, identifying the strategic guideline and monitoring structure regarding innovative initiatives for 2018-2022 within the CEO Office Function which reports directly to the CEO and the new activities shall be steered according to three "pillars":

- *Customers:* providing services focusing on customer experience and perceived value;
- *Infrastructures:* focusing on the safety and optimal running of the infrastructures as an essential parameter of service quality and
- *People:* with the objective of improving our peoples' experience to improve Acea.

Innovative initiatives regarding several sectors were initiated during 2017 or continued, having positive effects as expected for customers, the community and the environment. The positive impacts on the quality of supplied services and **customer** relations, for example, are generated by the development of services having high technological content, connected to the Acea 2.0 platform, from development in the Customer Relationship Management, as also the water helpdesk replacement plan using innovative remote reading systems. technological innovation project having positive impacts on the **community and the environment** concern, for example, the modernisation and expansion of the pubic lighting network using LED, the use of satellite technology, geological and multi parametric monitoring through "machine learning" in order to detect any violations by third parties of the areas protecting the sources and preventing and predicting hydrogeological disturbance phenomena, as well as protecting the subservices network managed by Acea in the Capital.

STRATEGY AND SUSTAINABILITY

INTEGRATED READING OF CORPORATE STRATEGY: INDUSTRIAL AND SUSTAINABILITY OBJECTIVES

In 2017 **Acea's, top management** defined, contextually, the **Industrial Plan and the Sustainability Plan** with reference to the timeframe **2018-2022**, highlighting both the respective **peculiarities** and **correlation points** between the two strategic plans whiles drawing them up. Moreover, while such activity was in progress, in order to facilitate the **view of an industrial development that includes aspects of sustainability and the stakeholders' expectations**, Acea proceeded with undertaking **two initiatives dedicated to the top managers:** feedback from a multistakeholder focus group aimed at identifying the most relevant (or "material") topics regarding the interested parties, in relation to the materiality analysis, and a meeting for in-depth examination of the relations between managed companies and sustainability in light of the developments in such context (from the Agenda 2030 to the Clean Energy Package), conducted by an expert on the subject.
The Industrial Plan and Sustainability Plan were finally **approved by the Board of Directors** in separate meetings, so as to allow a wider and more punctual description thereof.

On the basis of the scenario trend analysis and its own context of reference, Acea approved the **Industrial Plan 2018-2022**, centred on the following strategic pillars:

- **Industrial growth** focused in infrastructural development and a customer-oriented approach;
- **Land and sustainability**, based on a sustainable development aimed at decarbonisation by means of greater electrification of consumptions and the recovery of material in waste recycling with in a perspective of circular economy;
- **Technology, innovation and quality**, with investments for more than 400 million Euros linked to innovative projects in order to favour greater industrial automation and the resilience of smart grid and smart city networks;
- **Operational efficiency**, by means of the managerial regulation of costs and investments and improvement of performances.

The Industrial Plan **increases comprehensive investments**, compared to the targets set in the previous Plan, envisaging **3.1 billion Euros**.

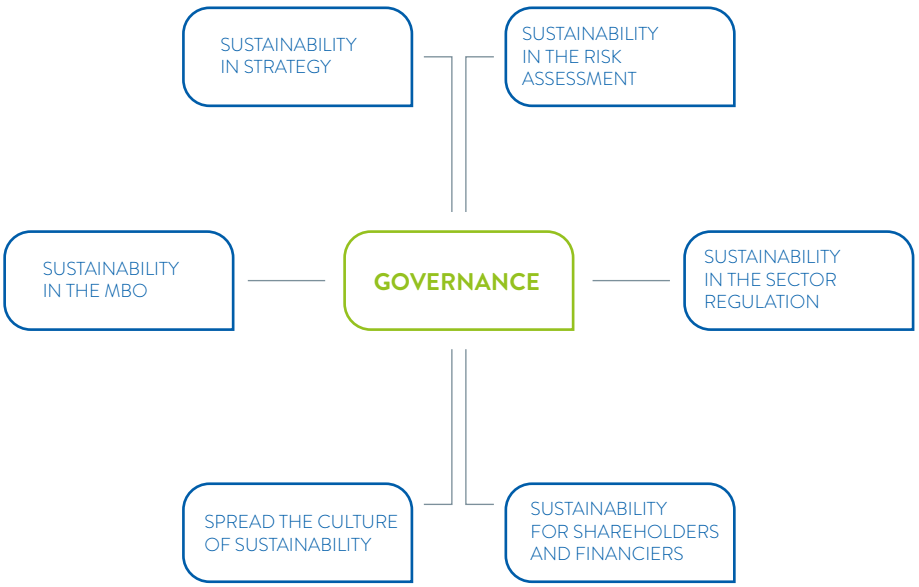
MAIN ACTIONS AND STRATEGIC OBJECTIVES OF THE INDUSTRIAL PLAN 2018-2022 BY BUSINESS AREA

BUSINESS AREA	STRATEGY
ENVIRONMENT	• strengthening of the **waste recycling cycle consistently with the development of a circular economy**, through the acquisition of new compost plants, the expansion of existing ones and the development of new multi-material waste management initiatives (+70% treated waste)
COMMERCIAL AND TRADING	• improvements of the initiatives for pursuing **customer satisfaction and optimising of operational processes** to obtain cost reductions • commercial push on **digital channels and cross selling** given the forthcoming conclusion of more protection on the electricity market and its full liberalisation (+33% customers)
WATER	• extraordinary plan for the **reclamation of over 800 km of water and sewage network**, with significant objectives for leakage reduction and better management in relation to any water emergencies • introduction of **remote reading systems** on metres for a total of over 500 thousand smart meters installed • **efficient use of purification** with a rationalisation plan aimed at decommissioning small plants, accompanied by the efficient use of large plants • strengthened supply to **guarantee the available water resource**: design to enhance the Peschiera [aqueduct]
ENERGY INFRASTRUCTURE	• renovation of the LV network to **increase the network's resilience** and increase the capacity of power available to customers (from 3kW to 6kW) in view of the increase in electricity consumption • **smart metering the Rome network**, by means of installing 1 million new 2G meters to enable the development and use of new services • creation, in partnership, of a fibre optic network for upgrading the ultra-wideband connection of the stakeholders in the Capital and for developing technological innovation in the automation and control of water and electricity networks

The preparation of the **Sustainability Plan 2018-2022** took place with the **considerable and direct involvement of the management** called to update/redefine the sustainability objectives, with **targets for 2022 and related KPI**, in the same period in which it was proceeding with the breakdown of the industrial objectives. This favoured a **comprehensive view of the strategy** and allowed certain sustainability targets to be correlated with the investments provided under the Industrial Plan, estimating the value thereof as about **1.3 billion Euros**.
The **general structure** of the Sustainability Plan 2018-2022 continued to be consistent with the layout of the previous Plan 2016-2020, **confirming the 6 transversal objectives aimed at integrating sustainability within corporate governance (governance level) and the 5 macro-objectives at operational level**.

The **elements of discontinuity and development are highlighted in the 135 targets for 2022**, identified by the Companies and Functions, **in which the operational macro-objectives are structured.** Indeed, combined with the **significant numeric increase** in the targets as a whole (+ 52% compared to 89 targets set in the Plan 2016-2020), is the **introduction of new contents:** 91 targets were defined from scratch and only 44 were confirmed and updated for 2022.
We point out the numerous targets linked to interventions on the water and electrical infrastructures, capable of **raising the quality of the services** offered to customers, **making management more efficient** and **containing environmental impacts**; the targets on the matter of **adaptation to climate change** which integrates interventions aimed at mitigating the effects thereof; experimentation of **new technologies** on the management of processes and infrastructures, also in the perspective of smart city and the topic of **circular economy**.
At the time of approving the Sustainability Plan 2018-2022, the Board of Directors also confirmed the establishment of a *Round table of sustainability*, formed of a nucleus of key Functions of the Parent Company, the Regulation of which is being defined.

CHART NO. 8 - THE GOVERNANCE LEVEL OF THE SUSTAINABILITY PLAN 2018-2022: KEY ELEMENTS FOR INTEGRATION



THE OPERATIONAL LEVEL OF THE SUSTAINABILITY PLAN 2018-2022: PECULIAR TRAITS OF THE 5 MACRO-OBJECTIVES

MACRO OBJECTIVE	STRATEGY
PROMOTING CUSTOMER FOCUS	• reach challenging levels of **commercial and technical quality of the supplied services** and improve the channels of contact to fully satisfy customer requirements
ENHANCING STAFF FOR THE GROUP'S GROWTH	• **training**, valorisation of know-how (**active ageing**) and development plans for young adults, **sharing strategic choices** and introducing sustainability in performance management systems
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, in involving the interested parties
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
INVESTING IN INNOVATION FOR SUSTAINABILITY	• experimentation of **new technologies**, applied research for the **development of infrastructures**, contribution to the development of the urban fabric with a view to **smart city**

The Group's strategic planning brought **aspects of complementarity and connection** to light between the Industrial Plan and Sustainability Plan, the latter correlated to certain UN sustainable development Objectives (chart 9).
Such orientations regarding the **industrial strategy**, made public in July (Strategic guidelines 2018-2022[14]), intended to **highlight sustainability in the perspective of business development**, inserting "**Land**" - sustainable development, dialogue and collaboration - **as one of the 4 pillars of the Industrial Plan**.
Such guidelines were further strengthened by the punctual definition of industrial and sustainability objectives, which proved to be **fully consistent**. The two strategic planning documents, albeit retaining their individuality, describe, de facto, the same elements of development of the company from **two viewpoints**, one valorising the **aspects linked to economic solidity of industrial growth** and the other **the results expected from stakeholders and from the social and environmental viewpoint**.

CLIMATE CHANGE AND THE WATER RESOURCE: ACEA'S POSITION

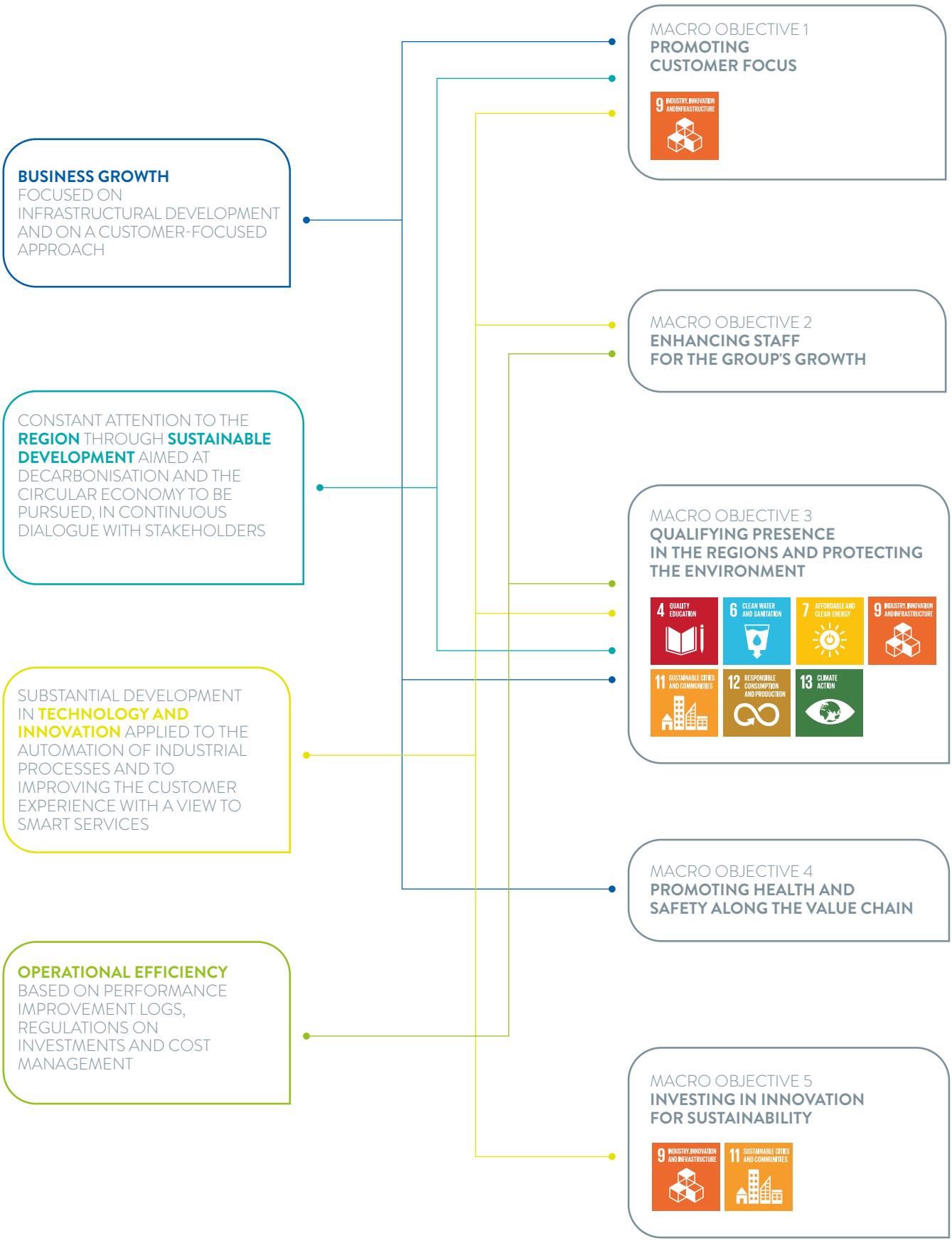
According to the results of the **Global Risks Perception Survey (GRPS) of the World Economic Forum, in 2017 the risks linked to the environment** (extreme atmospheric events, natural disasters, failed mitigation policies and the ability to adapt to climate change, loss of biodiversity and collapse of the ecosystem and lastly environmental disasters caused by man) are in the **foreground both respect to the likelihood of occurrence and the impact. In particular, Climate Change**, due to the intensity and strength of the connections among the various global risks, provides to be among the highest to the development and wellbeing of all populations given the severe, persuasive and irreversible effects on the sustainability of life on Earth, for example the consequences on human health, nutritional safety, the balance of ecosystems, available and use of natural resources at planet level and geo-political dynamics. Among the common assets of humanity most threatened by climate dynamics, water resources are currently experiencing perhaps the "worst crisis". For this reason Acea, in its capacity as Multiutility in the Energy and Environment sectors and first national operator in the Integrated Water Service, which has always been engaged in the development of a sustainable water culture also by means of awareness in young generations, took part in highly important events in 2017 in which the relationship between climate and water resource was covered by national and international persons and institutions, operators, associations, companies and also experts in terms of commitment and collaboration.
In particular, Acea was the main sponsor and organiser, respectively, of the international Summit *Water and climate. Comparing the great Rivers of the world*, as well as the Workshop *In the shadow of Giano. Lack of water: challenges and opportunities.* Events in which Acea, with interventions by the Chairman and the Chief Executive Officer, highlighted the increasing necessity to adopt criteria and instruments for an efficient, sustainable and resilient management of the water cycle staring from the behaviour of single citizens, passing through all the social and institutional components in order to promote an indispensable collaboration, also international, to safeguard the availability and quality of the water resource, also for the generations to come.
In this perspective, Acea shared its experience, competence, good practices implemented on a daily basis regarding the integrated water service and positive solutions with its own model of management, research and repair of hidden leaks, which allowed it to successfully tackle critical occurrences such as the water emergency that hit the country, including the Capital. Acea also underlined its commitment in safeguarding water by means of investments focussed on the resilience of infrastructures and technologies applied to the water networks.

ALLIANCE BETWEEN ITALIAN COMPANIES FOR WATER AND CLIMATE CHANGE

Acea was the main sponsor of the international Summit *Water and climate. Comparing the great Rivers of the world*, organised in October in Rome by the Ministry of the Environment, Protection of Land and Sea, in collaboration with UNECE (United Nations Economic Commission for Europe), the International Network of Basin Organisations (RIOB), GAWaC (Global Alliance for Water and Climate) and AquaMadre, which concluded with the intervention of the President of the Republic, Sergio Mattarella. **For the first time the people responsible for the biggest river basins and representing the world met in Italy** with the objective of sharing design proposals and funding opportunities, as well as promoting the exchange of experience and competence **regarding sustainable management and climate change**. A special session was dedicated to Africa, the continent most affected by natural disasters, where Italy, among the first nations to ratify the Paris agreement on climate, shall fund projects for water management of 5 million Euros in Congo and Senegal. With regard the Summit **Acea, with another 36 enterprises and Italian category associations, joined the *Alliance of Italian Enterprises for water and climate change***, an initiative promoted by the Ministry of the Environment to create an authentic network between all those who work on water management on a daily basis, according to the following principles and objectives: insert the topic of climate change in strategy and governance of enterprises and associations; assume commitments able to increase resilience; cooperate on a large scale in initiatives for reducing impact support the implementation of policies to fight climate change; makes the use of water sustainable for the various destinations, favouring recycling and reuse; communication and make accessible information about best practices. The Alliance shall also be equipped with instruments for assessing impacts, direct and indirect, of production activities on water and actions taken to reduce waste.

[14] The presentation of the *Strategic Guidelines 2018-2022* is available from the website, www.acea.it, Investor Relations section.

CHART NO. 9 – CORRELATIONS BETWEEN THE INDUSTRIAL PLAN AND THE SUSTAINABILITY PLAN

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THE SUSTAINABILITY PLAN 2018-2022 AND OPERATIONAL OBJECTIVES

As mentioned, the **Sustainability Plan 2018-2022 intervenes at governance level and operational level**, it identifies 6 frameworks of intervention aimed at circulating sustainability in the business governance structures and 5 operational macro

GOVERNANCE LEVEL
THE 6 OBJECTIVES

ACEA IS COMMITTED TO THE ADEQUATE INTEGRATION OF SUSTAINABILITY INTO THE COMPANY'S GOVERNANCE, THROUGH:

- the integration of sustainability objectives into the system for identifying, assessing and monitoring business risks;
- the integrated reading of economic and financial data, as well as sustainability data, in order to highlight the total value generated by the Group;
- the introduction into the performance management systems of objectives aimed at promoting sustainability impacts;
- the dissemination of the "sustainability culture", by means of awareness-raising and the involvement of internal and external stakeholders in the matter;
- the enhancement of ESG (Environmental, Social, Governance) elements in relations with shareholders and investors;
- the reading of evolutionary trends in national and European regulation, in relation to sustainability-related topics in the areas in which the company operates.

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 CUSTOMER FOCUS

Improving communication with customers
- Developing presence on the web and digital channels, in line with the Group's communication and positioning requirements

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 increasing Human Capital skills
- Investing in the development and improvement of the people assessment and selection system

Involving people in the Group's identity
- Promoting the implementation of the new "execution" organisation
- Increasing the level of involvement of the business population
- Defining and promoting an employer branding plan

Organisational inclusion and well-being
- Detecting and improving the organisational well-being of the entire business population
- Enhancing diversity and promoting inclusion

objectives for the Group.
The 5 macro objectives are broken down into **14 frameworks for action**, **26 operational objectives** and **135 targets for 2022 and related KPIs** which allow the **progressive achievement thereof to be monitored**. It is envisaged that the **Plan will be updated periodically**, especially at an operational level, so that consistency with changes to the strategic industrial guidelines of the Group is ensured.
The following is a **brief overview of the Sustainability Plan and a detailed breakdown at an operational level**.
The actions taken for guaranteeing that the targets for 2022 are progressively reached shall be reported starting from 2018.

QUALIFYING PRESENCE IN THE REGIONS AND PROTECTING THE ENVIRONMENT

Reducing the environmental impact
- Planning and implementing measures to combat climate change (mitigation and adaptation)
- Promoting an efficient use of resources, including by supporting the circular economy
- Taking initiatives to protect the land and limit impacts on the natural environment
- Enhancing certified environmental and energy management systems
- Implementing sustainability logic into purchasing procedures

Contributing to the well-being of the community
- Promoting activities with a positive impact on the well-being of the community and on the regions in which the company operates

Consolidating relations with the region
- Contributing to raising awareness on social and environmental topics
- Promoting the involvement of stakeholders in corporate projects to create shared value

PROMOTING HEALTH AND SAFETY ALONG THE VALUE CHAIN

Health and safety in the workplaces for Group workers
- Promoting the culture of health and safety in the workplace

Health and safety in the workplaces for contractors and subcontractors
- Raising awareness among contractors on health and safety in the workplace

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

INVESTING IN INNOVATION FOR SUSTAINABILITY

Organisational innovation
- Promoting "smart" working methods

Technological and process innovation
- Promoting the resilience of the urban territory and innovation from a smart city perspective
- Implementing remote control and remote intervention systems
- Applying new technologies for detecting losses

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.

MACRO-OBJECTIVE NO. 1
Promoting customer focus

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
AREA OF ACTION 1: Improving communication with customers		
Developing web presence and digital channels in compliance with the Group's communication and positioning needs	Adapt the structure of the website to the corporate and marketing communication needs, in terms of efficiency and transparency. ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Media Relations and Digital)	KPI: reviewing the Group's digital identity (0-100%)
	Developing "corporate" social channels and monitoring the current ones. ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Media Relations and Digital)	KPI: 0-100%
	Creating an institutional communication campaign targeting customers regarding the use of the MyAcea app and online payment of bills (reducing the impact of producing paper bills, reducing times, reducing movements, etc.). ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Advertising, Brand Image and Events)	KPI: Yes/No
	Creating two massive communication campaigns for the use of digital channels (webform and online bills) through the call centre and e-mail, aimed at raising awareness on the use of digital channels among customers. ACEA ATO 5, ACEA ENERGIA; Acea8cento, in conjunction with ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: n° of massive communication campaigns created / n° of communication campaigns to be created KPI: n° of customers reached
	Expand commercial operations that can be carried out by the customer independently through digital channels up to 90%. ACEA ATO 2; ACEA ENERGIA, in conjunction with ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: commercial operations that can be carried out online /total commercial processes CRM
	Implement an instrument capable of creating a quality and dynamic segmentation of customers (by integrating data from the company, third parties and other DB) and activate the multichannel and customised engagement methods with respect to end customers (e.g.: comparing consumptions between neighbours, high consumption/leakage alert, reward for virtuous behaviour, etc.). ACEA ATO 2	KPI: Yes/No
	Implementing the online bill for the visually impaired (at least 1,000 customers). ACEA ENERGIA	KPI: n° of visually impaired customers who receive the special digital bill
	Implement a customer care social channel where customers can exchange information on reports regarding failures/leakages in real time, enhancing interventions/investments made, handling users' demands/requests etc. ACEA ATO 2, in conjunction with ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: Yes/No
	Creating awareness among customers as concerns digital channels also through targeted campaigns and "drive to web" initiatives to be activated on the conventional contact channels (counter, call centre), with the aim of reaching 50% of requests coming from the web (Acea Ato 2). ACEA ATO 2, in conjunction with ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: n° of requests received via web channel/ total requests received from customers (Acea Ato 2)
	Unifying and optimising toll-free numbers (NV) serving the "free market", shifting from 4 to 1, and reviewing the callflow to simplify the methods of contact with Acea and improve the customer journey, which can be measured through the Net Promoter Score (NPS >8) ACEA8CENTO	KPI: N° of NVs serving the "free market" KPI: Net Promoter Score
	Increasing the number of active registered members to the My Acea website (reach 30% of the total number of customers who have carried out at least 1 on-line operation per year). ACEA ENERGIA 4,000 users/year increase (20,000 by 2022) registered in the MY Acea website (online counter). ACEA ATO 5	KPI: number of customers registered in the My Acea website/ total n° of customers (Acea Energia) KPI: customers who have carried out at least 1 online operation per year/ total n° of customers (Acea Energia) KPI: n° of new online counter registered members/year(Acea Ato 5)

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
(follows) **Developing web presence and digital channels in compliance with the Group's communication and positioning needs**	Creating a web-counter, exclusively dedicated to digital services, to be located at the sales counter. ACEA ATO 5, in conjunction with Acea SpA - Extenal Relations and Institutional Affairs	KPI: Yes/No
	Planning a communication campaign aimed at customers regarding the plan concerning the replacement of first generation meters with the second generation ones (intermediate target at 2020). Implementing the communication campaign on 30% of the customers affected by the replacement of the installed meters (target 2022). ARETI, in conjunction with ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: (defining communcation campaign) Yes/NoKPI: customers reached by the campaign /customers whose meters have been replaced
AREA OF ACTION 2: Improving the quality of services		
Improving the sales quality of services	Reducing the waiting times at the call centre (≤ 160 seconds). ACEA ENERGIA - Customer Care	KPI: customer's average waiting time at the call centre
	Reduce waiting times at the counter (≤ 20 minutes - Acea Ato 5; < 10 minutes Acea Ato 2). ACEA ATO 2 - Customer Care; ACEA ATO 5 - Customer Care	KPI: customer's average waiting time at the counter
	Reaching 75% of "one call solution" (call centre). ACEA ATO 5; ACEA ATO 2; ACEA ENERGIA; ACEA8CENTO	KPI: same customer recall rate (i.e. the same calling number) for the same problem (≤ 25%)
	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	KPI: turnover on actual consumption/total turnover
	Reaching 95% of "activation of new water units" within 38 working days. ACEA ATO 2	KPI: unit activation time starting from request for quotation (excluding days not attributable to the provider)
	Ensuring installation of meters covering 97% of the active units (2017 data). ACEA ATO 2	KPI = n° of active units with meter/total number of units measurable with meter (2017)
	Replacing 10,000 meters (inoperative, unreadable, faulty), to ensure the quality of the measurement systems. ACEA ATO 5	KPI: n° of meters replaced (inoperative, unreadable, faulty)/10,000 meters
Improving the technical quality of services	Reducing response times by 20% (with respect to 2017) 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. ACEA ELABORI	KPI: % of reduction (response times of the year in question/ response times in 2017) n° of "untargeted" surveys introduced
	Implementing UNI CEI EN ISO/IEC 17020 accreditation for Verifying projects pursuant to article. 26 of the Italian Legislative Decree n° 50/2016. ACEA ELABORI	KPI: Yes/No
	Expanding the purification capacity in 13 Municipalities of the Ato 5, through works on 7 new purification plants and 6 existing purification plants: + 79% of equivalent inhabitants (AE) handled. ACEA ATO 5	KPI: purification potential in AE/purification potential in AE at 2017 (target perimeter)
	Expanding the purification capacity in 14 Municipalities of the Ato 2, in critical situations, through works on 13 existing purification plants and 3 new purification plants: +58% of equivalent inhabitants (AE) handled. ACEA ATO 2	KPI: purification potential in AE/purification potential in AE at 2017 (target perimeter)
	Reducing the average water systems failure repair duration times (≤ 2 days). ACEA ATO 5	KPI: ordinary systems failure repair times
	Reducing the maximum water systems failure repair times (≤ 12 hrs. for DN ≤ 300 mm pipes; ≤ 24 hrs. for DN > 300 mm pipes). ACEA ATO 2	KPI: water systems failure repair times starting from report
	Achieving 92% coverage of the purification service with respect to the total active units (2017 data). ACEA ATO 2	KPI: % of units covered by the purification service/total units (2017 data)
	Reaching an average duration of disconnection per customer in high concentration ≤ 25 minutes. ARETI	KPI: average duration of disconnections/customer

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
(follows) **Improving the technical quality of services**	Replacing 20% of the current 361 thermal sub-stations serving the remote-heating network, for greater efficiency of the service and reliability of the unit's service. ACEA PRODUZIONE	KPI: thermal substations replaced/total number of substations serving the remote-heating network

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

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
AREA OF ACTION 1: Professional enhancement, training and development of skills		
Enhancing and boosting Human Capital skills	Implementing training processes for 100% of the "newly-employed" (target population: employed in the last 3 years, under 33 years of age), functional towards defining specific development plans. Intermediate target (2018): training 67% out of 120 (newly-employed target population at 2018). ACEA SpA DEVELOPING HUMAN CAPITAL	KPI (training): n° of "newly-employed" trained/total number of "newly-employed" to be trained. KPI (development): n° of people with high level of performance assessment/n° of trained newly-employed
	Sustaining Active Ageing policies, ensuring transfer of know-how for 100% of the population with critical skills exiting. ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of employees involved in the process /n° of employees with critical skills exiting
	Developing management skills of the 100% of the middle-ranking managers and office staff with responsibility positions within the Group, through targeted training processes. Intermediate target (2018): 26% of 380 (target population at 2018). ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of trained heads of department/total n° of head of department to be trained
Investing in the development and improvement of the staff assessment and recruitment system	Engaging 100% of the staff of the Group in activities aimed at knowing and implementing Leadership Model. ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of resources engaged/ total n° of resources to be engaged
	Managing and ensuring the application of the various dedicated tools (both conventional and innovative) aimed at the structured assessment of the candidate and full traceability of the process for 100% of the recruitment processes. Gradually promoting the awareness of our brand brand in terms of staff recruitment towards external markets (target 2022: 70% of recruitment). ACEA SpA DEVELOPING HUMAN CAPITAL	KPI (internal processes): n° of selection processes activated through dedicated tools/total n° of recruitment activities KPI (external processes): n° of recruitments activated in visible mode/total n° of recruitments activated
	Introduction of objectives aimed at promoting impact on sustainability regarding the entire population as concerns MBO in the performance management systems. Intermediate target (2018): 100% staff n-1 and n-2 by Chief Executive Officer, amounting to about 60 people (target population at 2018). ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of resources with sustainability Objective in MBO/total n° of resources with MBO
AREA OF ACTION 2: Involving people in the Group's identity		
Facilitating the implementation of the new "execution" organisation	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 DEVELOPING HUMAN CAPITAL	KPI= n° of informed employees/total number of employees KPI= n° of action teams activated/total n° of action teams to be activated
Boosting the level of engagement of the company population	Engaging 100% of the employees in initiatives, even with impact on the territory, aimed at boosting the sense of belonging in the company. Implementing 4 initiatives/year. ACEA SpA DEVELOPING HUMAN CAPITAL	KPI= n° of employees engaged/ total n° of employees KPI= n° of initiatives activated/ total n° of initiatives to be activated
	Ensuring that 100% of the company population is informed on the strategic choices, mission and policies of the Group, by implementing at least 5 initiatives/ year to this end. ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Internal Communication)	KPI: % of the company population reached by the information KPI: n° of initiatives/year implemented out of the initiatives to be implemented

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
(follows) **Boosting the level of engagement of the company population**	Measuring the level of information through 2 surveys to be implemented over the five-year period and that engages 100% of the company population. ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Internal Communication)	KPI: % of the company population engaged
	Boosting the sense of aggregation and belonging of our employees with respect to the Group, promoting at least 2 initiatives per year. ACEA SpA EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Internal Communication)	KPI: n° of initiatives/year implemented out of initiatives to be implemented
Defining and promoting an employer branding plan	Reinforcing the employer brand identity by engaging 100% of the company population in specific initiatives. ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of employees engaged/ total n° of employees
AREA OF ACTION 3: Organisational inclusion and well-being		
Identifying and improving the organisational well-being of the entire company population	Reinforcing employer satisfaction, developing an EVP (employee value proposition) coherent with the company strategy as well as with the needs identified through internal organisational well-being survey, by identifying 3 improvement actions/year. ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of improvement actions activated/total n° of improvement actions to be activated
Enhancing diversity and promoting inclusion	Engaging 100% of the employees 2 initiatives/year aimed at enhancing awareness on diversity management and gender equality. ACEA SpA DEVELOPING HUMAN CAPITAL	KPI: n° of employees engaged/ total n° of employees KPI: n° of initiatives activated/ total n° of initiatives to be activated
	Promoting at least 3 initiatives per year regarding creating awareness on diversity management and gender equality. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Social-oriented communication)	KPI: n° of initiatives promoted/ year

MACRO-OBJECTIVE NO. 3
Qualifying presence in the regions and protecting the environment

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
AREA OF ACTION 1: Reducing 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. ACEA PRODUZIONE	KPI: % of reduction of the specific consumption of natural gas
	Reducing the consumption of electrical energy lighting the Central main offices by replacing 100% of the lighting bodies with LED technology bulbs in the previously renovated areas designated to be used as offices: less than 100 MWh as compared to pre-construction consumption records. ECOGENA	KPI: MWh pre-construction – MWh post-construction
	Implementing energy leakage reduction interventions on the network (voltage change, low-leakage transformers, etc.) and other efficiency enhancement interventions that will enable achieving about 18,000 MWh energy saving, about 6,500 t of reduction of emission of CO_2 and saving about 3,400 TOEs as compared to the 2016 data. ARETI	KPI: MWh saved/MWh net distributed KPI: t of CO_2 not emitted KPI: TOEs saved
	Defining the Risk Index (RI) for the significant elements of the electrical systems (MV/LV cabinets, MV semi-dorsal) and seeing to 10% reduction with respect to the 2016 RI, due to the 98 investment interventions aimed at boosting the resilience of the electrical system. ARETI	KPI: Varying the annual percentage of the RI (as compared to the 2016 RI) related to the significant elements by target
	Reaching 100% of the events organised by the companies of the Group that can be classified as "eco-sustainable" (20% increase per year). ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Adv., Brand Image)	KPI: % increase of eco-sustainable events
	Preparing a recovery system in the water production cycle of the 1st and 2nd rainwaters in the Terni e San Vittore installations. ACEA AMBIENTE	KPI: Yes/No

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
(follows) **Planning and implementing actions aimed at fighting climate change (mitigation and adaptation)**	Enhancing efficiency and reducing the energy consumption of the saturated vapour condensation system by 20%, in the recovery installations (waste energy plants). ACEA AMBIENTE	KPI: energy consumption/ pre-construction energy consumption
	Developing biogas cogeneration (39,000 MWh of energy generated from biogas/year) in 4 compost plants, with ensuing reduction of CO_2 (11,300 t CO_2 avoided per year). ACEA AMBIENTE	KPI: MWh/year from renewable sources of biogas
	Drafting risk prevention/mitigation plans, according to the Water Safety Plan guidelines, regarding 50% of the Acea Ato 2 water supply sources. ACEA ATO 2	KPI: n° of risk prevention/ mitigation plans/total n° of supply sources
	Drafting the Water Safety Plan. ACEA ATO 5	KPI: Yes/No
	Developing a quality-quantity assessment programme on at least 10% of the managed sewage systems, with the aim of mitigating the risk of overflow. ACEA ATO 2	KPI: % of the sewage system verified out of the total
	Developing an in-flow/out-flow model in the sewage system foreseeing the effects of the rain on the sewage system and the rain water collection sand disposal system, on which interventions aimed at mitigating and preventing extraordinary atmospheric events will be based. ACEA ATO 2	KPI: Yes/No
	Reducing consumption at purification stage by 5% (about6 GWh), starting from the purification plants serving more than 100,000 inhabitants. ACEA ATO 2	KPI: % of reaching target (about 6 GWh)
	Enhancing the efficiency regarding the 4 most energy consuming purification plants by 5%. ACEA ATO 5	KPI: kWh/cbm of treated waste water (measured at discharge) KPI: % of reduction of energy consumption (with respect to the 2017 data, target perimeter)
	Supplying the main companies of the Group with "green energy" for internal consumption. Target at 2018 (on 2017 consumption): 12 companies, for an overall of about 500,000 MWh in electrical energy consumption (equivalent to about 180,000 tons of CO_2. ACEA ENERGY MANAGEMENT	KPI: n° of companies supplied with green energy GO/ total n° of companies to be supplied
	Reducing electrical energy consumption for lighting company offices (15 sites, including operational offices and installations): 30% kWh less with respect to pre-construction consumptions records, by installing LED solutions. ACEA ATO 5	KPI: KWh consumed /pre-construction consumption records
	Reducing electrical energy consumption for lighting company offices (26 sites, including operational offices and installations): 50% KWh less with respect to pre-construction consumptions records, by installing LED solutions. ACEA ATO 2	KPI: KWh consumed /pre-construction consumption records
Promoting an efficient use of resources, facilitating circular economy	Reducing the level of "actual losses" on the water distribution system up to ≤ 30% (- 17% less with respect to the level of about 47% in 2016). ACEA ATO 2	KPI: % of actual losses
	Reducing the level of "actual losses" on the water distribution system up to ≤ 50% (about - 17% less to the level of about 66.7% in 2016). ACEA ATO 5	KPI: % of actual losses
	Boosting the River Tevere water potabilization systems as an emergency reserve for the Municipality of Rome (about 500 l/s), to supplement the water resources that can be drawn from Lake Bracciano. ACEA ATO 2	KPI: l/s of reserve water resources available for the city of Rome, potabilized from River Tevere
	Installation of sensors (pressure, flow rate) for the advanced monitoring of water leakage in products. ACEA ATO 2	KPI: Yes/No

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
(follows) **Promoting an efficient use of resources, facilitating circular economy**	Implementing interventions for recycling purified waste water mainly for irrigation purposes with ensuing recovery of water resources for drinking purposes (recovery of 12 MM cbm/year). ACEA ATO 2	KPI: MM cbm/year of potable resources recovered through use replacement of the purified water
	Increasing the overall waste treatment capacity by about 700,000 t (equivalent to about 70% more with respect to the 2017 data). ACEA AMBIENTE	KPI: overall t of treated waste/ overall t of treated waste (2017 data)
	Constructing an organic sludge management and treatment system and transformation into biolignite (10% of the dehydrated sludge treated). ACEA AMBIENTE	KPI: t of biolignite produced/ organic sludge treated
	Operativeness of recently purchased milk whey drying plants for transformation into powder for use in the zootechnics industry (30,000 t of whey recovered). ACEA AMBIENTE	KPI: t whey transformed into powder/t of whey treated
	Recovering 200 t of ferrous scrap material (pulper braids, slag, unsorted). ACEA AMBIENTE	KPI: t ferrous scrap material recovered
	Constructing a platform for selecting light multi-material coming from separated collection (recovery of 65% of the managed waste). ACEA AMBIENTE	KPI: t of recovered material/t of managed waste
	Identifying at least 4 possible material recovery initiatives, in compliance with the circular economy. ACEA AMBIENTE	KPI: n° of possible initiatives identified
Taking territorial protection initiatives and reducing impact on natural environment	Boosting use of online billing: about 195,000 digital bills (equivalent to about 35 t of paper saved/year). ACEA ATO 2	KPI: n° of online bills activated KPI: t of paper saved per year
	Boosting the use of online bills: 250,000 digital bills (equivalent to about 52 t of paper saved/year). ACEA ENERGIA	KPI: n° of online bills activated KPI: t of paper saved per year
	Further reduction of use of paper by digitising processes, especially in sales relations (new activities): 80% of the contracts digitised (equivalent to about 16 t of paper saved/per year). ACEA ENERGIA	KPI: % of contracts digitised KPI: t of paper saved per year
	Eliminating 167 pylons, by modernisation the electrical supply system as well as high and ultra-high voltage transmission. ARETI	KPI: n° of pylons eliminated/ n° of pylons to be eliminated
	Completing the supplementation of the of the River Tevere and River Aniene quality monitoring system as concerns the Rome city centre fluvial section (7 control units by 2022). ACEA ELABORI	KPI: n° of control units/ total n° of control units to be implemented
	Increasing the purification efficiency by 5.5%, with respect to 2017, in terms of reduction of BOD_5, on 10 purification plants subject of adjustment. ACEA ATO 5	KPI: (BOD_5 in-BOD_5 out/ BOD_5 in)*100
	Establishing preventive measures on any sources of criticalities identified (e.g. Abnormal discharge), by clustering waste water systems and targeted monitoring (30% catchments monitored). ACEA ATO 2	KPI: n° of sewage catchments monitored through special sensors/ total n° of catchments
	Increasing the set of parameters monitored on waste water, by outlining specific methods that enable identifying emerging pollutants in the water. ACEA ATO 2	KPI: Yes/No
	Developing new infrastructure surveillance systems (aqueduct sections and strategic installations), by using drones and/or satellite systems. ACEA ATO 2	KPI: Yes/No
	Reducing the annual amount of sludge produced by the 4 major purification plants by 50% (as compared to the 2017 volumes), by means of interventions aimed at enhancing the efficiency of stabilisation, dehydration and drying processes. ACEA ATO 2	KPI annual tons of sludge produced by the 4 major purification plants (Roma Nord, Roma Est, Roma Sud, Ostia)/ tons of sludge produced by the aforementioned plants in 2017
	Replacing distribution of water bottles with water dispensers at the 3 administrative offices of the company (reduction, fully operative, of about 35,000 bottles/year, equivalent to about 19 tons of plastic less/year). ACEA ATO 5	KPI: n° of bottles saved in the administrative offices/ n° of bottles consumed (at 2017)

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
Enhancing certified environmental and energy management systems	Reaching 100% of environmental certificates for the Group's subsidiary operative companies (water, energy infrastructure, environmental, engineering and services industries). Obtaining the ISO 50001 certificate for companies of the environmental areas as well as engineering area and services. Maintaining the currently valid environmental and energy management systems certificates. ACEA SpA - Corporate affairs and services - Certification integrated systems	KPI: % of operative companies with an environmental and energy management system (per operative sector)
Implementing sustainability logics in procurement procedures	Participating in CAM (Minimum Environmental Criteria) definition meetings, where required. ARETI	KPI: n° of participations/ n° of active definition meetings on products of competence
	Defining minimum shared criteria, by drafting guidelines/internal manuals, for defining a "green" product or "sustainable" service capable of facilitating definition as a «Green Purchase» of the requirements, when filling in the Shopping Cart. ACEA ATO 2; ACEA ATO 5; ARETI	KPI: Yes/No
	Developing specialised training processes for 100% of the buyers, of the drafters of the technical specifications (identified by the Companies) and of the resources when planning requirements. ACEA ATO 2; ACEA ATO 5; ARETI	KPI: trained dedicated staff / total number of dedicated staff (drafters of the technical specifications, requirements planning, etc.)
	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)	KPI: n° of QASER self-assessed suppliers/total number of qualified suppliers
	Verifying compliance with requirements in terms of quality, environment, safety, energy and social responsibility (QASER) for all economic operators registered in the works and waste management qualification systems, holding a currently valid contract. ACEA SpA - CORPORATE AFFAIRS AND SERVICES - Certification integrated systems (supplier verification)	KPI: n° of QASER verified suppliers/total n° of suppliers of certified works and waste management services holding currently valid contracts
	Exclusively keeping suppliers meeting high requirements in terms of quality, environment, safety, energy and social responsibility (QASER) in its certification systems. ACEA SpA - CORPORATE AFFAIRS AND SERVICES - Certification integrated systems (supplier verification)	KPI: n° of QASER criticalities regarding which the suppliers committed to find a solution/ total n° of QASER criticalities detected by Acea
	Defining, as concerns 50% of the Classes of Commodities regarding procurement of compatible Goods and Services, one or more sustainability criteria applicable when defining technical and/or awarding requirements according to the most economically advantageous tender criterion. ACEA SpA - CORPORATE AFFAIRS AND SERVICES (Procurement and logistics) with contribution from Operative companies	KPI: n° of Classes of Commodities with defined criteria / total n° of compatible Classes of Commodities
	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 multi-company contracts managed centrally. ACEA SpA - CORPORATE AFFAIRS AND SERVICES (Procurement and logistics)	KPI: n° of CAMs applied / total n° of CAMs applicable to common contracts valid during the period of reference
	Assessing selection and procurement criteria for renewing the vehicle fleet of the company with the aim of facilitating transportation solutions using electric/ hybrid technology or biogas-fuelled means. ACEA ATO 2	KPI: Yes/No
AREA OF ACTION 2: Contributing to the well-being of the community		
Promoting activities with positive impact on the collectivity and on the territories where the company operates	Supporting at least 3 social-oriented initiatives per year aimed at promoting sports. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Social-oriented Communication)	KPI: n° of sponsored sports promotion social initiatives
	Enhancing industrial sites and facilities of the Group's Companies through cultural-oriented events. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Adv., Brand Image)	KPI: n° of events organised per year
	Increasing the Rome area development investments by 5% per year by sustaining projects aimed at supporting the enhancement of urban quality. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Social-oriented Communication)	KPI: % of annual increase of investments

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
AREA OF ACTION 3: Consolidating relations with the region		
Contributing towards creating awareness on social and environmental matters	Ensuring Acea's engagement in creating awareness among the citizens as regards ethical matters or social campaigns promoted by the Municipality of Rome, through temporary monuments, fountains, squares and public buildings lighting events (75 events lit free of charge: 15/year). ARETI (Public Lighting)	KPI: n° of events lit free of charge per year
	Support or management of at least 4 awareness initiatives per year and and promoting socially useful campaigns (prevention of cancer, women's rights, protecting diversity). ACEA SpA - External relations and institutional affairs (Social-oriented Communication)	KPI: n° of initiatives supported and/or managed
	Planning and implementing awareness campaigns aimed at compulsory school age students present in the territory where the Companies of the Group operate, as concerns responsible use of natural resources (at least 6,000 students per year; meeting 100% of the demand). ACEA SpA - External relations and institutional affairs (Social-oriented communication)	KPI: n° of students engaged per year/n° of students to be engaged KPI: % of attendance applications admitted
	Creating awareness among customers as regards conscious use of water resources by designing customised information and engagement panels (customised reports, consumption simulator, customised tips, etc.); reducing average consumption of active customers by 10% as compared to 2017. ACEA ATO 2, in conjunction with ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: % of average consumption of active customers
	Creating 2 campaigns per year or awareness initiatives addressing saving water, energy and environmental protection targeting the collectivity. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Advertising, Brand Image and companies of the Group)	KPI: n° of campaigns/initiatives carried out in the year
	Organising at least 5 guided tours of the Group's plants per year, aimed at schools, institutions, committees etc. with aim of creating awareness on environmental matters. ACEA ATO 2; ACEA ATO 5; ARETI, in conjunction with ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: n° of tours carried out per year
Facilitating the engagement of stakeholders in company projects with the aim of creating shared values	Assessing a tool for mapping stakeholders and implementing it in the main companies of the Group. ACEA SPA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Sustainability) in conjunction with the main operative companies	KPI: Defining the tool (0/100%) KPI: Mapping status of the stakeholders in the Group (0/100%)
	Developing permanent relation methods (e.g. Committees, workshops) with the collectivity and the reference territories and applying them to the main companies of the companies of the Group. ACEA SPA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Sustainability) in conjunction with with the main operative companies	KPI: Defining the viewing mode portfolio (0/100%) KPI: Companies with permanent viewing mode/ companies of the Group KPI: Number and type of viewing carried out
	Organising an event for presenting and disclosing sustainability Report Data. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Adv., Brand Image)	KPI: Yes/No
	Planning and carrying out School-Work Alternating projects targeting Technical Secondary School students of the territory (engaging at least 4 students/year for a minimum of 50 hours per student/year). ACEA ATO 5	KPI: n° of students engaged KPI: n° of alternation hours/ student
	Planning and carrying out School-Work Alternating projects targeting Electronic and Electro-technical Secondary School students of the territory (engaging at least 25 students/year for a minimum of 40 hours per student/year). ARETI	KPI: n° of students engaged KPI: n° of alternation hours/ student
	Attending at least 3 Work Groups and/or technical-regulatory workshops headed by organisations of the industry or scientific bodies for conveying management-operational needs and criticalities in the implementation of future guidelines and recommendations. ACEA ELABORI	KPI: n° of initiatives undertaken

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

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
AREA OF ACTION 1: Health and safety in the workplaces for Group workers		
Promoting workplace health and safety culture	Making a "near-miss" injury online training module compulsory for 100% of the operative population. ACEA SpA DEVELOPING HUMAN CAPITAL (Training)	KPI: n° of employees trained/n° of employees to be trained
	Making a safety culture online training module compulsory for 100% of the operative population: awareness and prevention. ACEA SpA DEVELOPING HUMAN CAPITAL (Training)	KPI: n° of employees trained/n° of employees to be trained
	Training 100% of the dispatched staff that uses company vehicles, promoting appropriate driving conduct. Intermediate target (2018): 63% of 1,200 (target population by 2022). ACEA SpA - DEVELOPING HUMAN CAPITAL (Training)	KPI: n° of employees trained/n° of employees to be trained
	Providing dispatched employees, who work alone, with a safety system on APP ("Smart DPI") with the aim of enhancing their protection and timely assistance in case of unwellness or injury. ACEA ATO 2	KPI: Yes/No
	Planning and implementing a special activity addressing smoking cessation. ACEA ENERGIA, ACEA8CENTO in conjunction with ACEA SpA - DEVELOPING HUMAN CAPITAL	KPI: Yes/No
	Joining the "In Salute in Azienda, i.e. Healthy at Work" project (Lazio Regional Government), with initiatives aimed at promoting workplace health and with the aim of obtaining a "Luogo di lavoro che promuove la salute-Rete Europea ENWHP, i.e. Workplace promoting health-European Network" certificate. ACEA8CENTO	"Luogo di lavoro che promuove la salute-Rete Europea ENWHP, i.e. Workplace promoting health-European Network" certificate, KPI: Yes/No
AREA OF ACTION 2: Health and safety in the workplaces for contractors and subcontractors		
Creating awareness among contractors on workplace health and safety	Creating safety communication tools (information pamphlets, brochures, videos, manual, etc.), on the types of risk underlying the managed plants, in various languages (e.g. English, Romanian, Polish) with the aim of facilitating learning efficiency by the labourers of the contractor companies. ACEA ATO 2; ACEA ATO 5; in conjunction with Acea SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS	KPI: Yes/No
	Developing a professional safety plan aimed at contracting companies at the Acea Ato 2 training centres. ACEA ATO 2	KPI: Yes/No
	Creating an annual safety award aimed at creating awareness on safety issues regarding contractors and subcontractors. ACEA ATO 5	KPI: Yes/No
	Extending the introduction of awarding criteria related to health and safety issues to all contracts on networks and plants. ARETI	KPI: n° of contracts featuring awarding criteria related to health and safety/ total number of contracts in the year
	Increasing annual inspections aimed at verifying the application of safety procedures and regulations on networks maintenance contracts monitored by the Safety Team by 50%. ACEA ELABORI Intermediate target (2020): 11,000 verifications per year (+50% as compared to the 2016 data)	KPI: n° of safety inspections/n° of inspections at 2016
	Application of awarding criteria related to health and safety, in 80% of the relative tender contracts, awarded according to the most economically advantageous tender criterion. ACEA SpA - CORPORATE AFFAIRS AND SERVICES (procurement abìnd logistics)	KPI: n° of contracts according to the H&S criteria/ n° of contracts awarded according to the most economically advantageous tender criterion
AREA OF ACTION 3: Health and safety of the communities with which the Group operates		
Ensuring the health and safety of the customers of the reference community for the various services provided	Developing a plan for monitoring the radioactivity of potable water on 100% of the supply systems. ACEA ATO 2	KPI: n° of supply systems monitored/total n° of supply systems

(follows) **Ensuring the health and safety of the customers of the reference community for the various services provided**	Upholding highest quality standards as concerns supplied potable water. ACEA ATO 2; ACEA ATO 5	KPI: n° of analytical verifications compliant with the law requirements/ total number of analytical verifications carried out KPI: n° of analysis on potable water/ km of network

MACRO-OBJECTIVE NO. 5
Investing in innovation for sustainability

OPERATIONAL OBJECTIVES	2022 TARGETS FUNCTIONS/ OWNER COMPANIES OF THE PROCESS	KEY PERFORMANCE INDICATORS
AREA OF ACTION 1: Organisational innovation		
Promoting "smart" processes and working methods	Organising at least one initiative per year aimed at verifying potential introduction of smart working methods in the company. ACEA SpA - DEVELOPING HUMAN CAPITAL	KPI: n° of initiatives activated
	Introducing the BIM (Building Information Modelling) system for planning artistic-monumental lighting projects. ARETI (Public Lighting)	KPI: n° of artistic-monumental lighting projects carried out using the BIM system
AREA OF ACTION 2: Technological and process innovation		
Promoting the resilience of the urban territory and innovation towards a smart city	Installation of a pilot system for monitoring weather conditions with the aim of estimating the resilience of the power supply network. ARETI	KPI: Yes/No
	Creating broadband connection on an optical fibre network owned by the company (or any other broadband connection) serving the operation of the power supply network covering the 71 main cabinets. ARETI	KPI: n° of main cabinets with broadband connection/ 71 main cabinets
	Providing the 1,500 public lighting posts with smart equipment. ARETI	KPI: n° of posts provided with smart equipment
	Conveying information to the citizens in conjunction with the local authorities by means of 100% of the water dispensing stations. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Adv., Brand Image)	KPI: % of water dispensing stations through which information can be conveyed
	Supporting start-ups, in conjunction with Universities, local authorities, etc., with the aim of creating innovative projects related to the Group's core business. ACEA SpA - EXTERNAL RELATIONS AND INSTITUTIONAL AFFAIRS (Adv., Brand Image)	KPI: n° of projects activated
Implementing remote control systems and remote interventions	Installing remote-read meters, with about 1,000 units, in a pilot municipality. ACEA ATO 5	KPI: number of remote-read meters installed per year
	Installing remote-read meters covering 100 % of the units representing 80% of the billed water consumption. ACEA ATO 2	KPI: n° of remote-read meters installed on the units covering 80% of the billed water consumption/ n° of units covering 80% of the billed consumption
	Remote-controlling 100% of the IP plants (intermediate target at 2020). ARETI (Public Lighting)	KPI: % of the remote-controlled light points
Application of new technology to detect of water leakage	Testing 3 new leakage detection technologies. ACEA ELABORI	KPI: n° of technologies tested
AREA OF ACTION 3: Creating and promoting knowledge		
Developing research projects in partnership with other competent organisations	Taking part in funded projects of interest to Acea and its operative companies at national or European community level, regarding research and environmental sustainability issues. ACEA ELABORI	KPI: n° of projects
	Developing methods for the research of 4 emerging organic micro-pollutant classes - MOE (interfering endocrines, drugs, antibiotics, therapeutic substances, substances of abuse) in 10 purification plants of various potential and location. ACEA ELABORI	KPI: n° of organic micro-pollutant classes studied/total number of organic micro-pollutant classes to be studied KPI: n° of plants monitored/total number of plants to be monitored

CORPORATE GOVERNANCE AND MANAGEMENT SYSTEMS

CORPORATE GOVERNANCE IN ACEA

Acea adopts a governance model compliant with the Code of Conduct for Listed Companies and is consistent with the principles of **transparency**, **balance and segregation of policy-driven, management and control activities**.
The Acea SpA Board of Directors establishes the **strategic guidelines of the Group** and is responsible for corporate governance. Some committees have been set up within the Board of Directors (BoD) of the parent company, also in light of the most recent indications proposed by the *Self-Regulation Code*, having propositional and consultation duties: the **Audit and Risk Committee**, the **Appointment and Remuneration Committee and the Ethics and Sustainability Committee**[15]. Moreover, in implementation of Consob regulations, a committee has been set up for examining Party-related transactions, formed exclusively of independent directors.
Lastly, the Board of Statutory Auditors performs supervisory duties, according to the traditional model in force.

THE CORPORATE GOVERNANCE COMMITTEES

The **Audit and Risk Committee** helps defining the guidelines for identifying, assessing, managing and monitoring the main risks for the Group companies, including risk becoming significant with a view to medium/long term sustainability, establishing compatibility criteria for such risks and supporting, subject to appropriate preliminary activities, the evaluations and decisions of the Board of Directors with respect to the internal auditing and risk management system. The Committee gives a prior opinion to the Board with regard to the annual approval of the activity plan prepared by the Head of the Internal Audit Function and provides its own opinion on any proposals for the appointment, removal and remuneration of the Head of the aforesaid Function, while monitoring the latter's independence, efficiency and performance. The Committee reports to the Board of Directors at least on a half-yearly basis concerning the completed activity. At the end of the year, the Committee's duties, provided by the regulation updated and approved by the BoD were supplemented with an appraisal of the correct use of the reporting standards implemented for the purposes of drawing up the disclosure of a non-financial nature as per Legislative Decree no. 254/2016. The Committee met eleven times during 2017.

The Appointment and Remuneration Committee intervenes on the emoluments of Directors holding particular proxies, the Chief Executive Officer and Executives holding key positions. It provides opinions to the Board of Directors regarding its composition (size, appropriate professional profiles, compatibility of positions) and recommends the policy for remuneration of Directors and Executives holding key positions, supporting medium and long-term sustainability and the balance between fixed and variable elements of remuneration depending on strategic goals and the risk management policy. In this regard, it submits recommendations for performance goals related to variable remuneration. It monitors the application of criteria and the decisions implemented by the BoD regarding the remuneration policy. The Committee met fourteen times in 2017.

The Ethics and Sustainability Committee is a panel body - formed of at least three non-executive directors, the majority of which, including the Chairman, are independent - with independent powers of action. It is designated to assist the Board of Directors in preliminary investigative, propositional and advisory functions with regard to corporate ethics and environmental, social and governance related matters. The Committee reports to the Board of Directors at least every half-year regarding the performed activity. The Committee's duties include: supervision on the matter of sustainability linked to exercising corporate activities and the dynamics of interaction with the stakeholders; examination of the Sustainability Plan guidelines and monitoring of the implementation of such Plan once approved by the Board of Directors monitoring of the adequacy and implementation of the Code of Ethics. The Committee met 7 times in 2017.

The Group companies falling within the boundary of the Sustainability Report in relation to the wider system of internal control and risk management adopt, as well as models and procedures concerning specific topics, also their own **Models of organisation, management and control pursuant to Legislative Decree no. 231/2001** (231 Models), in order to prevent the risk from which entities could become liability for administrative crimes due to an offence.
Such models are preceded by thorough crime **risk mapping**, amongst which those pertaining to the law on the matter of **corruption, health and safety at the workplace, and environment**, after which the crimes are identified which could theoretically be committed during corporate activities and are periodically updated to adapt them to any amendments concerning both the internal organisation and predicate offences recalled in the legislative decree.

The **Supervisory Body (OdV)**, as an expressly designated body, has full and autonomous powers of initiative and intervention with regard to the function and effectiveness of the 231 Models, it continuously monitors activities sensitive to the commission of the crimes indicated by the legislative decree.
For Acea the adoption of **relevant and shared ethical principles constitutes an essential element of the internal control system, also for the purposes of crime prevention**. To this end, the behavioural rules announced in the **Code of Ethics - a supplement to Model 231** - represent a basic reference with which the recipients must comply when performing corporate activities.

In 2017 the **231 Models were updated** for the following companies: Acea SpA, Acea Ambiente, Aquaser, Areti and Acea Elabori. For the remaining companies, given the legislative novelties introduced

[15] This Committee, the duties and name of which have been reformulated following the board resolution in December 2017, it was previously called the Ethics Committee.

during the last quarter of the year and the update of Model 231 of the Parent Company, it was deemed appropriate to postpone the update until such novelties were transposed.
The **legislative amendments brought about during the year to Legislative Decree no. 231/2001** concerned the following predicated offences: **corruption among private parties; use of citizens from country whose residence is irregular; racism and xenophobia**. Also to be pointed out is that by Law 179/2017 the protection of an employee or collaborator who reports crimes or violations related to the Organisational and management model of the entity of which they became aware through their office (so-called "Whistleblowing") was introduced in the Legislative Decree in question.
Corporate management is referred to the **Board of Directors** (BoD), which is formed of a number from 5 to 9 members according to the decisions of the Shareholders' Meeting. The members of the BoD - the process of identification and appointment of which is governed by Acea's Articles of Association according to the provisions of the applicable law - remain in office for three financial years and can be re-elected. The method used for their selection is able to guarantee the **representation of the genders**, appointment of an adequate number of **Directors representing the minorities** and the required number of **Independent directors** pursuant to law[16].

The Board in office, voted by the Shareholders' Meeting of 27 April 2017, **is formed of 9 directors**, 3 of which are women. The three female Directors were also attributed the Chairmanships of the Audit and Risks, Appointments and Remuneration, and Ethics and Sustainability Committees.
The Board of Directors met fourteen times during 2017.
The Chairman and **Chief Executive Officer** are the only **executive Directors.**
In accordance with the Code of conduct for listed companies, **Acea carries out a board evaluation annually**, availing of an external advisor in order to assess the dimension, composition and function of the BoD and its internal Committees, as well as the issues subject matter of discussion.
It is important to highlight that, during the year, the BoD dedicated a specific induction meeting, steered by an external expert, to the **integration of sustainability in strategic planning** and, by initiative of the CEO, this training session was repeated for a **meeting of the CEO with the top management** of first report.

TOWARDS AN INTEGRATED GOVERNANCE STRATEGY: INTEGRATED GOVERNANCE INDEX 2017 AND ACEA'S PLACEMENT

The **Integrated Governance Index** (IGI) is the first quantitative index, drawn up by subjects qualified in analysing the development of governance in enterprises (TopLegal, ETicanews, Methodos, Morrow Sodali, Nedcommunity), which, since 2016, has clearly and briefly expressed the position of companies in relation to sustainability governance (or integrated governance). The index is built on the basis of a questionnaire sent to the first 100 companies listed on the Milan Stock Exchange and the assessment is based on a preset score ex ante which is applied on a standard basis to all participants. The questionnaire is formed of an ordinary Area, divided into seven sections of investigation and by an extraordinary Area which further explores topics particularly relevant to the year. In 2017 the extraordinary Area concerned Directive 2014/95/EU whereas the issues investigated by the ordinary Area were as follows: Code of conduct and sustainability; Diversity, professionalism, independence of the board; Csr integrated into retribution; Csr integrated into business strategies; Board committees and sustainability; Csr and responsible investors; Succession plans.
Acea, called to participate in the IGI investigation for the first time in 2017, obtained a score of 55.90, placing it halfway in the general classification of respondents. In particular, the areas in which the best performances are highlighted concerned **conformity to the Code of Conduct, composition of the BoD and the approach to the new law regarding ESG disclosure obligations** (environmental, social, governance). The aspects with a lower score were those concerning **the integration of CSR in retribution, strategic planning and board committees**. During the year the topics examined by the IGI and the assessments obtained by Acea were the subject matter of further investigation and reflections, for improvement initiatives by the Ethics and Sustainability Committee, expression of the new Top Management.
NB The data and information concerning the Integrated Governance Index were drawn up with the collaboration of ETicanews.

The ***Report on corporate governance and shareholders' structure***, available on the institutional website (www.acea.it), provides detailed information about the Directors of Acea SpA: *curricula*, qualification of independence, presence in meetings of the Board and the Committees of which they are members and any positions in other companies.

[16] According 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 31/12/2017, 7 directors are effectively independent

STRUCTURE OF THE BOARD OF DIRECTORS AND INTERNAL BOARD COMMITTEES OF ACEA SPA (AS AT 31/12/2017)

	ROLE IN THE BOD	APPOINTMENT AND REMUNERATION COMMITTEE	AUDIT AND RISK COMMITTEE	ETHICS AND SUSTAINABILITY COMMITTEE	EXECUTIVE DIRECTOR	INDEPENDENT DIRECTOR
LUCA ALFREDO LANZALONE	Chairman				X	
STEFANO ANTONIO DONNARUMMA	CEO				X	
LILIANA GODINO	Director	Chairman	Member			X
GABRIELLA CHIELLINO	Director			Chairman		X
MICHAELA CASTELLI	Director	Member	Chairman	Member		X
MASSIMILIANO CAPECE MINUTOLO DEL SASSO	Director	Member	Member			X
ALESSANDRO CALTAGIRONE	Director					X
GIOVANNI GIANI	Director	Member	Member	Member		X
FABRICE ROSSIGNOL	Director					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:

- Outlining the **Company's general and strategic policies** as well as guiding lines; coordinating the economic and financial operations of the Group by approving business plans, including financial plans, investment plans and annual budgets;
- Defining the nature and extent of risks consistent with the strategic goals of the Company, including in such assessments, all risk which could become significant with a view to sustainability in the medium/long term of the issuer's activity;
- Approving and amending internal regulations with regard to the general organisational structure of the Company;
- Establishing the Committees required by the Code of Conduct and appointing their members;
- Adopting Organisation, management and control models as pursuant to Legislative Decree no. 231/01;
- Assessing the adequacy of the organisational, administrative and accounting structure of Acea and its key subsidiaries;
- Interacting with the shareholders and undertaking initiatives aimed at increasing their engagement and enabling them to exercise their rights smoothly;
- Establishing audits for the protection of personal data or third party sensitive data, complete with the drafting of an annual security policy report (Legislative Decree no. 96/03);
- Adopting the necessary procedures to protect the health of workers and appointing individuals to supervise safety in the workplace (Legislative Decree no. 81/08);
- Evaluating the independence of its non-executive members at least on a yearly basis.

DUTIES OF THE CHAIRMAN AND CHIEF EXECUTIVE OFFICER

The **Chairman** is the legal representative of the Company and is vested with powers of signature. He/she also has the power to call and chair the Board of Directors and Shareholders' meetings. The Chairman's duties include: overseeing the Group's activities and checking the enforcement of board resolutions and corporate governance regulations; monitoring business activities and processes with reference to delivered vs perceived quality as well as activities related to **corporate social responsibility**. Lastly, the Chairman shall supervise corporate secretariat operations of the parent company.

The **Chief Executive Officer** is entrusted with the ordinary business of the Company, vested with powers of signature, he/she is the Company's legal representative and is authorised to represent the Company in dealings before the courts of law. He/she shall also discharge such other duties as may be entrusted pursuant to the law provisions and the Articles of Association. 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 operational guidelines, implementing organisational and procedural changes to the Parent Company's activities consistent with the guidelines issued by the BoD. The current Chief Executive Officer also holds the office of Manager of the Water Business Area.

The **Chairman and the Chief Executive Officer** report at least quarterly to the Board of Directors and the Board of Statutory Auditors on the general operating trend and outlook.

If necessary, the Chairman and Chief Executive Officer are entitled to jointly adopt acts lying with the Board of Directors as regards contracts, purchases, participation in tenders, issue of sureties and appointment of members of the Boards of Directors and Boards of Statutory Auditors of the Group's major subsidiaries if the urgency of the matters does not allow a meeting to be called, subject however to informing the Board of Directors in its first subsequent meeting in order to ascertain the legitimacy of any such actions

The ordinary and extraordinary **Shareholders' Meeting can be called by the Board of Directors** as well as **upon request of the shareholders**, provided that they represent at least 5% of the share capital pursuant to the applicable legal provisions. Furthermore, in compliance with such provisions, the shareholders representing at least 2.5% of the share capital may request that additional matters be discussed by either recommending additional topics or submitting resolution proposals for matters already included in the agenda.
Shareholders are encouraged to attend by ensuring appropriate operating conditions: technology-based interactions are envisaged (electronic notice of proxies; notice of call posted on the website). Moreover, prior to the date set for the meeting, the shareholders may (even by email) submit enquiries regarding topics on the agenda. There are no shares with limited voting rights or absent of such right[17].
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.

Some **corporate Committees** operate within the Parent Company on a structured or periodic basis, established with technical-advisory functions in order to improve corporate integration, decision making processes and dealing with emerging problems required fast and coordinated decisions: the **directive Committee**, formed of managers from the Parent Company of first report to the Chief Executive Officer the **business review Committee** for analysing data and economic-financial performance; the **public lighting Committee** and the **private electricity network Committee**, competent for said environments of the energy sector.
Furthermore, consequent to the water emergency which reached its peak in the summer, specific committees were created, such as the **Group Water Companies Committee, the aqueduct development Committee and the purification development Committee**.
The managers from the Business Areas and Functions of Acea SpA are part of such Committees, chaired by the Chief Executive Officer of the Parent Company and they involve, as required, further corporate professional resources who help with understanding the more operational dynamics of corporate processes. The discussed arguments can be the subject matter of specific informatory documents to the BoD.

PROCESS FOR SETTING EMOLUMENTS FOR THE TOP MANAGEMENT

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 these two main corporate governance bodies ensures the observance of rules which favours a consistent Policy, avoiding 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 resolution for or against the Policy (such resolution not being binding as pursuant to Article 123-ter, paragraph 6, of the Finance Act) as illustrated and reflected in the Remuneration Report 2017. In relation thereto, the retributive references were 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 vested 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 2017 available on the website www.acea.it.

The **Acea Internal Audit and Risk Management System (IARMS)** is a key element of the corporate governance structure comprising rules, policies, procedures and organisational structures aimed at:

- **identifying risks and opportunities** for the pursuit of the goals set by the Board of Directors;
- encouraging the adoption of **informed decisions** in line with corporate goals;
- **protecting the corporate assets, process efficiency and effectiveness, reliability of financial disclosures and compliance with internal and external regulations**.

This system **applies across the entire corporate structure to different extents**: the BoD and the internal Committees of the board, the Director in charge of the IARMS (i.e. the CEO), the Board of Statutory Auditors, the Executive Responsible for Financial Reporting, the Supervisory Board, the Ethics Committee, the Internal Audit Function, managers and employees.

A **specific audit project on the various elements of the IARMS** was initiated during 2017 which considers, specifically, amendments brought to the **Code of Conduct on the topic of sustainability** and legislative novelties regarding **non-financial disclosure** (Legislative Decree no. 254/2016). The activities carried out allowed duties to be redefined and consequent approval of new operational regulations for the internal board Committees, especially the Audit and Risk Committee and the renewed Ethics and Sustainability Committee (see box *The corporate governance committee***s**).

[17] 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 2017*.

CHART NO. 10 – THE KEY PLAYERS OF THE IARMS

BoD

Determines the guidelines of the IARMS so as the main risks for Acea and its subsidiaries are identified, measured and managed

DIRECTOR IN CHARGE

Implements the IARMS guidelines and takes care, also by using the Audit Department, 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

DIRECTOR IN CHARGE OF PREPARING THE COMPANY BOOKS

Responsible for instituting and maintaining the System of Internal Audit on the financial information

OVERSIGHT BODY

Is assigned with the powers of initiative and intervention to the functioning of MOG 231, relying on the collaboration of the Ethics and Sustainability Committee for the profiles of common interest

AUDIT

Carries out independent audits on the operations and suitability of the IARMS using and audit plan (risk based) approved by the BoD and monitors the execution of the action plans issued following the audits performed

COMPANY STAFF

Acts with different responsibilities, from management to workers, in maintaining an efficient process of identifying managing risks and operating with respect to the procedures, by performing activities of control on the line

Risk management is a **cross-cutting process** that entails **widespread responsibilities and the involvement of all company levels**. It aims to: evaluate exposure to risks identify actions to prevent or mitigate risks; carry out audits; transfer unacceptable risks, for example through insurance coverage.

CHART NO. 11 – RISK CONTROL FLOW

FIRST LEVEL
performed by supervisors of the operational activities wherein the risk lies

→

SECOND LEVEL
performed by structures other than the previous, aimed at verifying that first level controls are adequate and operational

→

THIRD LEVEL
independent controls by the Audit function in order to verify the adequacy and operational status of the IARMS

The monitoring and management of risks which, in special circumstances, can also be significant for the purposes of committing crimes, is entrusted to the Supervisory Body 231 as well as corporate structures having the duty to realise and adopt specific audit models. Pointed out among the latter are:

- the "The Group Management and Control Model as per Law 262/05" implemented with the objective of defining an efficient Internal Control System on the **Financial Disclosure for the Group**;
- the control model as per Legislative Decree no. 196/03, implemented with the objective of guaranteeing, in the management of corporate processes, **conformity with the dictates of the privacy law**;
- the organisational model monitoring **IT risks**, implemented with the objective of guaranteeing the design, implementation and realisation of IT security measures within Acea Group;
- the control model dedicated to monitoring risks associated with safeguarding health and safety and the workplace, implemented in conformity with the international standard OHSAS 18001, having the objective of reducing risks linked to corporate activities, applying policies of prevention and continuous improvement;
- the control model dedicated to monitoring **environmental risks**, implemented in conformity with international standard ISO 14001, having the objective of reducing the environmental impact of the activities by applying policies and protocols of management and continuous improvement;
- the **internal organisational and regulatory system**, formed of a group of rules, policies, procedures and operating instructions relevant for the purposes of defining an adequate internal framework of reference consistent with the assigned roles and responsibilities.

The Internal Audit Function also has the duty of following up the **audit interventions Plan**, approved by the Board of Directors, subject to the opinion of the Audit and Risks Committee. During the year, **about 70%** 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**, in violation of **injury prevention laws and the laws safeguarding hygiene and health at the workplace**. As regards corruption, the "purchasing-supplier payment cycle" and "business credit card management" processes were verified for all companies, excluding Gesesa, included in the scope of the *Sustainability Report* (90% of the scope). In 2017, risk assessments were also initiated or completed for the amendment of the MOG 231 of all companies within the scope, which include corruption risk processes.
A specific Operating **Instruction on the Information Flows of the Internal Audit System** identifies the corporate structures which are to perform second-level supervising tasks in respect of some typical risks and provides instruction on **how to prepare an appropriate periodic report to be submitted to top management and governance bodies reflecting the supervisory tasks performed**.

THE RISK & COMPLIANCE FUNCTION

The Risk & Compliance Function was established in 2017 with functional reporting of the Director appointed to the SCIGR, its mission being to identify, describe and measure the **main risk factors** which could jeopardise **reaching the strategic objectives** of the Group, propose **risk management policies** concerning the corporate activity, identify and acquire the most suitable **insurance coverage** for insurable risks and, lastly, avoid risk of non conformity of the corporate activity to the reference normatives. During the year the Audit and Risk Committee asked the Risk & Compliance Function to draw up an analysis of the **Top Risks**, useful for defining and assessing the risks deemed most significant, the impacted business areas of interest and the implemented control system. Among the highlighted macro classes we point out those pertaining to cyber and data security, the environmental and climatic context, social-political context (meant both in terms of geopolitical scenario and stakeholder engagement with Acea's territories of reference), safety, management and development of human capital.
The Risk & Compliance Function also initiated the preparation of a specific activity of analysis to be performed at Acea companies within the scope of this consolidated non-financial Statement (as per Legislative Decree no. 254/2016) with interviews and questionnaires, aimed at accompanying the management towards the **identification and assessment of risks, generated or suffered by Acea concerning the main topics of sustainability with reference to the managed activities**. The detailed information which shall emerge from such assessment process shall give rise to highlighting potential elements of vulnerability which could compromise the achievement of set targets and therefore promptly intervene to improve risk management and take any further opportunities; the activity will also allow the various communication requirements, internal and external, to be satisfied through the production and circulation of informatory flows entailing differentiate reporting according to the different recipients.

There is an operational **reporting system** in Acea for employees and external individuals to report any violations of the **law, internal regulations** and the **Code of Ethics** as well as any problems relating to the Internal Audit System, **corporate disclosures, administrative liability of the company** (Legislative Decree no. 231/01), **fraud and conflicts of interest**, consistent with the principles under the Guidelines of the IARMS, Model 231 and the Code of Ethics itself (so-called "whistleblowing system").

REPORTS RECEIVED ON THE CODE OF ETHICS

Acea adopts a specific procedure for **receiving, analysing and processing reports of presumed violations of the rules of conduct prescribed by the *Code of Ethics*** (whistleblowing). This procedure ensures the **maximum level of confidentiality and privacy** in the processing of communications received, protecting those voicing their concerns and those responsible.
The Audit Function is responsible for receiving, registering and ascertaining the existence of violations and analysed **29 cases of presumed violations** of the Code of Ethics in 2017, also in coordination with other competent corporate Functions. Of these, **24** were traceable to **cases of a technical/commercial nature** and the significance thereof for the purposes of the prescriptions of the Code of Ethics were excluded. The remaining **5 cases** concerned the following articles of the Code of Ethics: art. 16 "Suppliers"; art. 15 "Management, employees, collaborators" art. 14 "Relations with Customers". The Internal Audit Functions draws up periodic reports on performance and the main evidence emerging from the analysis of the reports are forwarded to the Supervisory Bodies.

MANAGEMENT SYSTEMS

A complex **internal rule system** supervises the organisational system of corporate governance for the proper running of the Group's activities, from the definition of the general guideline directives to the formal statement of the particular business aspects, according to the following criteria:

- **group management rules**, through which the parent company gives guidelines, coordination and control instructions to all corporate units;
- **processes:** consisting of governance, functioning and operating processes, depending on whether they pertain to strategic, across-the-board or individual business areas;
- **procedures**, defining the operating methods through which the company processes are implemented.

CHART NO. 12 – THE INTERNAL RULES SYSTEM

Acea recognises the following values, as a fundamental element for the sustainability of the managed activities: promoting the culture of **quality**, respect **of the environment** and protecting **ecosystems**, the valorisation of **persons** and **safety** at the workplace, **efficient management of resources, risk assessments and the responsible management of impacts**, economic, social and environmental, **dialogue** with the interested parties and promoting sustainability in the **chain of value**, involving the supply chain.

Consistently with such guideline, in November 2017 the Top Management of Acea subscribed the new **Policy for sustainability and the quality, environment, safety and energy system**[18], which breaks down 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** conform to standards ISO 9001, ISO 14001, OHSAS 18001 e ISO 50001.

The **Integrated Certification Systems**, in relation to the Safety, Protection and certification Systems Function (Corporate Affairs and Services Department), defines the methods and standards of reference for the implementation of **QASE certificate management systems**, as well as other certificates, accreditations and certifications which Acea Group intends to acquire; it operates in harmony with the QASE Units present in the single operational companies.

Acea also relies on professional profiles such as the **Energy Manager** and **Mobility Manager**, whose duty is to respond to the demands for **optimum management of internal energy consumption and staff mobility**. The duties of the Energy Manager and Mobility

Manager are aimed at seeking systemic efficiencies and savings in important aspects related to the running of an organisation, 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 all the Energy managers in Acea companies.

CHART NO. 13 – THE CERTIFIED INTEGRATED MANAGEMENT SYSTEM

[18] The Policy is available from the institutional website.

The management of **quality, the environment, safety and energy are central aspects in corporate policies**, as confirmed by the number of Group companies which have implemented certified integrated management systems over time.
As of 31/12/2017 **11 of the Group companies are equipped with certified management Systems** (see Table no. 8) and they have all initiated the process for transition to the **new standards ISO 9001:2015 and ISO 14001:2015**. We point out that the Acea Ambiente plants located in Terni, San Vittore del Lazio and Orvieto are **EMAS** registered.
In 2017 **Gesesa** also obtained certification for ISO14001 and OHSAS 18001 and **Ecogena** for ISO50001. Moreover, during the year the process for retaining **SOA certification** was completed for Acea SpA.
Lastly, Aquaser launched the activities in preparation for obtaining **UNI ISO 39001:2012** certification concerning the road traffic safety management system.

Considering the operating companies as a whole, about **70%** hold a **quality** certification, **75%** an **environmental** certification (100% in the Water and Environment business areas) more than **80%** have **safety** certification (100% in the Water and Environment business areas) and more than **30%** an energy management system.

Each certified company carries out an annual **review by its Management** with the purpose of examining the **efficacy of the quality, environment, safety and energy management Systems**, propose possible improvement as well as assess the status of progress of the activities, each certified company **carries out an annual review by its Management**.
On these occasions, always attended by the **Chairman, Chief Executive Officer and the first report managers of the company in question**, various elements are analysed, for example: analysis of materiality, risk assessment, process services, significant environmental aspects, developments in legal prescriptions and concerning health and safety, supplier performance, customer satisfaction levels, analysis of complaints, incidents and injuries, objectives regarding quality, environment, safety and energy. The results of the review 2017, finding no criticalities, **confirmed the adequacy and efficiency of the management Systems, also defining objectives regarding quality, sustainability, safety, the environment and** energy consistent with the organisation's commitment to continuous improvement.

TABLE NO. 8 – CERTIFIED MANAGEMENT SYSTEMS IN THE ACEA GROUP (AS AT 31/12/2017)

	QUALITY (ISO9001)	ENVIRONMENT (ISO14001)	SAFETY (OHSAS18001)	ENERGY (ISO50001)	OTHER
Acea SpA	X	X	X	X	
WATER SEGMENT					
Acea Ato 2 SpA	X	X	X	X	
Acea Ato 5 SpA	X	X	X	X	
Gesesa SpA	X	X	X		
Acea Elabori SpA	X	X	X		UNI CEI EN ISO/IEC 17025:2005 Analysis laboratory accreditation
ENERGY INFRASTRUCTURE SEGMENT					
Areti SpA	X	X	X	X	
Acea Produzione SpA		X	X		
Ecogena SpA	X			X	UNI CEI 11352
COMMERCIAL AND TRADING SEGMENT					
Acea Energia SpA			X		
ENVIRONMENT SEGMENT					
Acea Ambiente Srl		X	X	X	EMAS
Aquaser Srl	X	X	X		

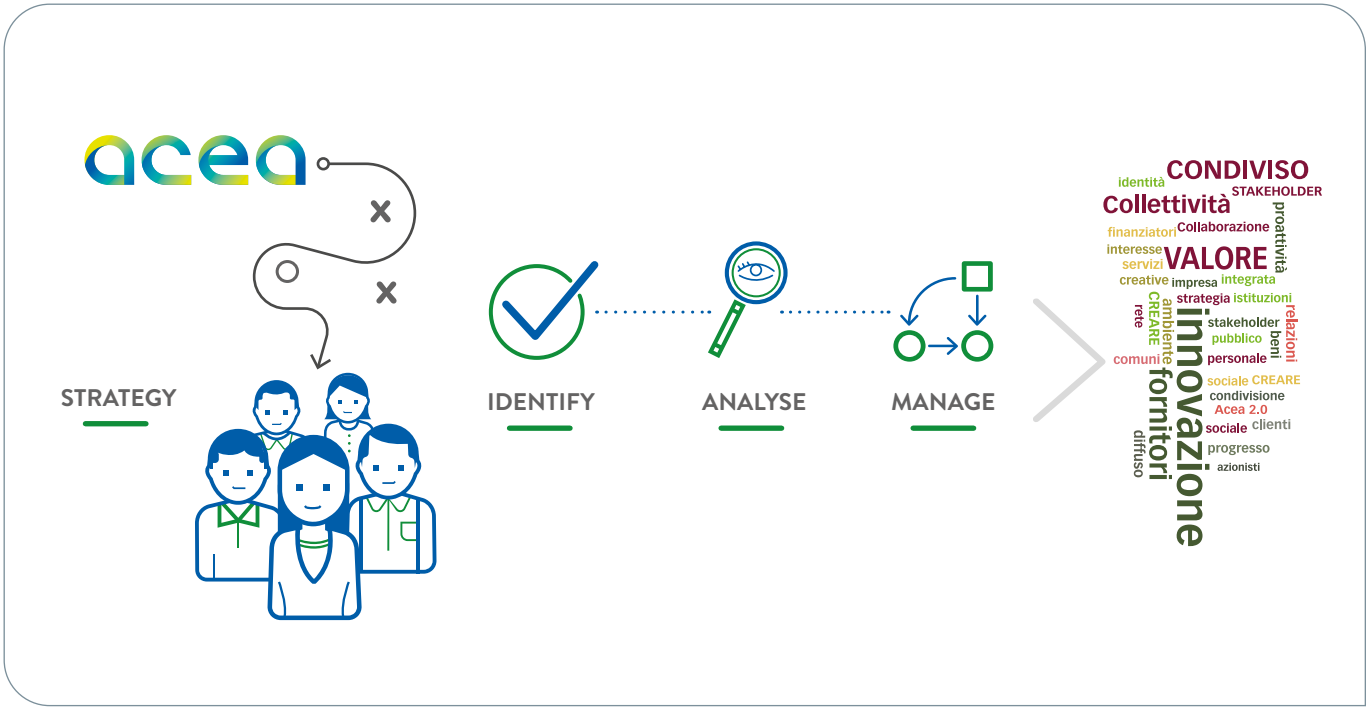
STAKEHOLDERS AND ALLOCATION OF GENERATED VALUE

STAKEHOLDERS AND THEIR INVOLVEMENT

Consistent with the values set forth in the Code of Ethics, Acea relies on dialogue and exchange to promote the involvement of its interested parties[19], enhancing opportunities for the **creation of common value**.
Identifying the different types of stakeholders and analysing and managing interactions between them and the Company are continuous, dynamic and one-on-one activities **stemming from both company drives and objectives as well as inputs from outside**.

The **stakeholder identification** phase makes it possible to identify individuals who are directly or indirectly involved in company activities, the purpose being to evaluate the relevant qualitative and quantitative level of impact.
The **analysis** phase is used to perform a structured evaluation of the interactions existing both between the company and the stakeholders as well as among the stakeholders themselves so that dialogue and 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. 14 - STAKEHOLDERS AND THEIR INVOLVEMENT



The **"Acea stakeholders map"** identifies the macro-categories of key stakeholders: customers, employees, suppliers, shareholders and financiers, institutions, community, environment and the company itself.
In respect of each category, engagement initiatives are undertaken which sometimes result in collaborative paths that prove crucial to both fostering business development and reinforcing and enhancing the standing and repute ascribed to Acea by its stakeholders. Some of the initiatives undertaken during the year are illustrated in the stakeholder's boxes and the detailed boxes (see, for example, the Acea box for school 2017 in section *Customers and community*, paragraph *Communication, events and solidarity*).

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

CHART NO. 15 –STAKEHOLDER MAP

SUPPLIERS

Regarding the **suppliers**, for certain contracts (water, electric and civil) awarded with the most advantageous bid, Acea has consolidated the provision of awards linked to sustainability, **safety** instruction of the workers who perform the work; provision of **ecological tools** used during the activities; possession of joint certifications in **quality, the environment and safety**. For assignments falling within the Code of Public Contracts, regarding work with high manual intensity, as provided by law, it has included the **social clause** of reorganisation of the workforce for the outgoing contractor compatibly with the organisation of the new employer. In terms of **green procurement**, Acea applies the minimal environmental criteria (CAM) adopted with the Decree of the Minister of the Environment in all the contract specifications of pertinence and is committed, by an extension project compatible with the purchases to be made, **to the CAM approach for commodity categories not covered by the legislation of Ministerial Decrees**. Following this positive experience gained with the TenP platform, elaborated with Global Impact Network Italy based on the 10 principles of the "global covenant", Acea decided to make itself independent and integrate the topics of **sustainability (social responsibility/environmental management) in a self-assessment questionnaire managed directly on the Vendor Management platform** of Acea. The integration of sustainability into the aspects of reference in relations with qualified suppliers was further developed over the year, providing the possibility to **audit the second party in addition to quality, environment and safety, also in energy and social responsibility**, in a path to support improvement in the supply chain.

SHAREHOLDERS AND FINANCIERS

Acea manages relationships with **capital markets** to gain the best sustainability conditions of financial provisioning, diversifying the sources and making investment in the company safe and of value for investors (equity and debit). More than 60% of the debt stems from operations of bonds placement. The relationships with analysts, credit rating agencies, banks and shareholders are imprinted in the dialogue and construction of a relationship of mutual trust: **meetings with the financial community**, like the roadshows, are **numerous** (meeting about 160 operators) **at the same time as the main company events** and are carried out on the most important European forums.
The attention of the **ESG analysts** (environmental, social, governance) toward Acea has been consolidated in structured rating activities, corresponding, from the company side, to an ever greater awareness and capacity to create value in ESG aspects, thanks to the growing commitment of the internal departments assigned. In 2017 Acea confirmed important positions in the **Carbon Disclosure Project** (class leadership) and was newly included in the **Ethibel excellence investment register**.

EMPLOYEES

The **staff of Acea** are determined to continue the activities and the success of the organisation. The attention to topics of **safety, instruction, involvement**, devoted to all co-workers, is thus a value of the internal corporate culture that is constantly provided in specific and widespread initiatives on the topic of safety. For example, one indisputable part of the complete comprehensiveness and implementation of the work, with benefit to over **3,000 employees**, was organised as **Safety Week**, with meetings and initiatives prepared by the Safety Manager of the Group to share values, practices and meanings in work carried out in safety.
The new Executive Management, aware of the need for **involving co-workers by making them actors in the processes of imagining and improving processes**, implemented the new Execution Model, a way of activating the assets of the internal skills that, using a transverse team, are called upon to operate to make important corporate strategic initiates concrete. Attention to **diversity and inclusion** are aspects that transform the **well-being of people into organisational well-being**. In this context, two initiatives were indicated for the year: **Massimo Ascolto**, a survey distributed to all employees with the goal of identifying needs and priorities within the scope of organisational well-being, taking into account the personal and familial peculiarities of the company population, and **MAAM** (Maternity As A Master) for enhancing the parenting experience during the first years of the children's growth. Participating in the project were 55 females and 18 males who, along the way of community and coaching learned to capitalise their capabilities of parenting experience to grow the so-called generative leadership.

CUSTOMERS

The figure of the multiutility customer is in continuous evolution and the relationship with the company changes and develops in light of these changes. Acea is committed to being a reliable and high-quality partner to satisfy the demands of its clientele, equipping itself with the most up-to-date interaction systems, facilitating evolving dynamics on the markets served, continuously monitoring the feedback of its own customers to collect their comments and rework them into operational responses. Digital technology continues to be constantly implemented as evolving communications infrastructure with the customer: the installation of **digital meters in remote management** has achieved coverage of 99.33% of the population. In the new configuration of the energy market, the figure of prosumer (energy producer and consumer) has been consolidated: in the distribution network of Areti, there are 11,344 active prosumers - +9% over 2016 - of which about 7,000 are Acea Energy customers. The commitment to continuous improvement of services rendered to customers guides the planning of activities in the water field, for example, **first intervention response times to a breakdown have been reduced**. The efficiencies of these interventions will then be constantly checked using **in-depth and widespread customer satisfaction surveys**.

COMMUNITY

Acea is working to create the best infrastructure conditions based on collective development. The networks and plants in one modern multiutility are designed toward smart city logic in response to urban contexts, for example, innovation projects are framed that regard the **multiservice measuring systems and the technological evolution of public light poles**. The safety of the population is another responsibility that Acea feels its own and responds to by providing **emergency plans** able to ensure systems resilience against critical events, such as environmental, fraudulent or terrorist, ensuring the protection of the collective. The commitment of Acea, however, is not aimed solely at the service infrastructures but also at the construction of **networks for solidarity, cohesion and opportunity** for the collectives in question; just think about the relationships with the Schools, using alternating study-work plans or the environmental educational campaigns (in 2017, involving more than 5,000 students), or the commitment to develop monumental heritage using initiatives conducted in collaboration with the relevant authorities.

ENVIRONMENT

The **natural environment** is the scenario where the activities of the Group are performed and is to be preserved with a responsible and efficient use of resources, **protecting sources, safeguarding the natural areas** where the plants and service networks encroach, mitigating the physical and the external impacts generated in the ecological context of the operating processes.
The widespread adoption of **Environmental management systems** is a concrete response on the importance of environmental dynamics for Acea and a managerial tool for continuous improvement in performance. Consider for example **energy generation** where the repowering initiatives constantly act to modernise plants also by pursuing better environmental impacts in terms of emissions, or the **integrated water service** where Acea's responsible management in resources starts from the provisioning stage, to make it available to people and ends with the commitment to restore the runoff to the receptacle body in the best condition possible. Finally, the **environmental services linked to waste management** cannot be overlooked, where the commitment to the ecosystem regards both operating processes, just think about the environmental efficiencies brought in the innovative project of the Ecobelt® WA belts in the waste to energy plant of San Vittore del Lazio, or the transformation of waste with a view to **circular economy**, as occurs with sludge treatment for water purification.

INSTITUTIONS

For a company that delivers essential public services on the territory and mostly **subject to regulation by the public authorities**, the relationship with institutions is essential both for planning activities and their exercise. Acea represents a **strategic infrastructural asset** of the territory and consequently interacts with the public administrations to contribute to a superior need of the public interest, as for example, national security for emerging phenomena like cyber security. Of no less importance is the relationship with the local agencies that express specific demands for the population or the environment, just think about the **Area Management Authorities** in the water sector, complementary counterparts of the integrated water service companies. For emergencies of a social or environmental type that generate widespread negative impacts - just think about the example of extreme weather events linked to climate change - Acea has proven its approach for thinking globally and acting locally by taking a position with respect to the institutional initiatives of international importance such as the **UN objectives of sustainable development** or also the Alliance of Italian enterprises for water and climate change, in the context of the **International Water and Climate Summit** held in October under the aegis of the Minister of the Environment and in collaboration with, among others, the Economic Commission for Europe of the United Nations and the International Network of Water Basin Institutions.

ACEA

A sustainable organisation tries to aim at and project itself in a future dimension, imagining its own role in in the development of the whole context. To do this, Acea has designed and **Industrial Plan 2018-2022**, feasible, reliable and innovative, that has restored, reinvigorating and renewing, the industrial vocation of Acea, heavily concentrated on the **creation and management of modern and resilient infrastructures**. The innovative nature of this design is corroborated by the simultaneous integrated **sustainability planning** that has made synergies in the development of company goals in both the industrial dimension and the general creation of value for all the stakeholders.
Acea is being constantly renewed, for example, by creating the **first innovation plan** of the Group and instituting a special company department dedicated to innovation. At the governance level, Acea has created the **Committee for Ethics and Sustainability**, allying itself with the most recent indications of integrated corporate governance.

External observers also analyse and evaluate Acea's sustainability performance, conferring adequate recognition for the good levels reached.
In particular, **in 2017** the company participated in the **sixth edition of the Top Utility Award**, which values and rewards the **Italian system of Public Utilities from an integrated view of economic, financial, social and environmental sustainability**.
The analysis is applied to the **top 100 Italian Utilities in terms of turnover**, public and private, on the basis of **201 indicators** and **6 evaluation areas**: economic financial results, operating performance communication, sustainability, customer and territorial relations and research and innovation. **Acea** was part of the **final five for best in class** in the following categories **"best company"**, **"sustainability"** and **"communication"**.

Lastly, the CDP, which valorises good management by companies of the risks concerning climate change, confirmed, also for the year in question, an excellent appraisal of Acea's performance, confirming its presence in the "leadership area" (see *Relations with the environment* in this regard).

TOOLS AND ACTIONS FOR SUSTAINABILITY

Acea supplies network services of public interest and is therefore a vital player for the promotion **of economic and civil development in local communities**. The care dedicated to the quality of the services provided and efficiency of the industrial processes managed, the protection of the natural environment and focus on social dynamics in the areas it operates, ensure that corporate social responsibility (CSR) as a method of pursuing sustainable development is part of Acea's identity.
The Group works towards spreading CSR 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. 16 - CSR TOOLS

RULES AND PROCEDURES

- Code of Ethics - Commttee for Ethics and Sustainability
- MOG 231
- Quality, Environment, Safety Energy, EMAS certified management systems
- Sustainability Policy and QASE
- Management norms (e.g. Antitrust)
- Diversity Committee

REPORTING AND COMMUNICATION

- Sustainability Report
- Website
- Communication On Progress (Global Compact)
- CDP

LISTENING AND ENGAGEMENT

- CSR Awareness and Training
- Analysis and Research
- Customer Satisfaction Survey
- Materiality Analysis
- Engagement with stakeholders

MEMBERSHIPS AND RATINGS

- CSR Manager Network
- Global Compact Network Italia
- Ratings and ESG Indexes (environment, social, governance)

DISTRIBUTION OF THE VALUE GENERATED BY ACEA

The economic value comprehensively generated by the Acea Group in 2017 is **2,841.4 million Euros** (2,880.6 million Euros in 2016). Below is a breakdown of the above figure amongst the stakeholders:

62.2% to **suppliers**, 18.5% to the **company** as resources to be re-invested; 7.6% to **employees**; 5.1% to **shareholders** in the form of profits and reserves; 3.1% to **financiers** in the form of interest on capital provided; 3.4% to the **public administration**[20] in the form of taxes paid and 0.1% to the **community** by way of sponsorships and donations for events and kindred endeavours.

TABLE NO. 9 – ECONOMIC VALUE DIRECTLY GENERATED AND DISTRIBUTED (2016-2017)

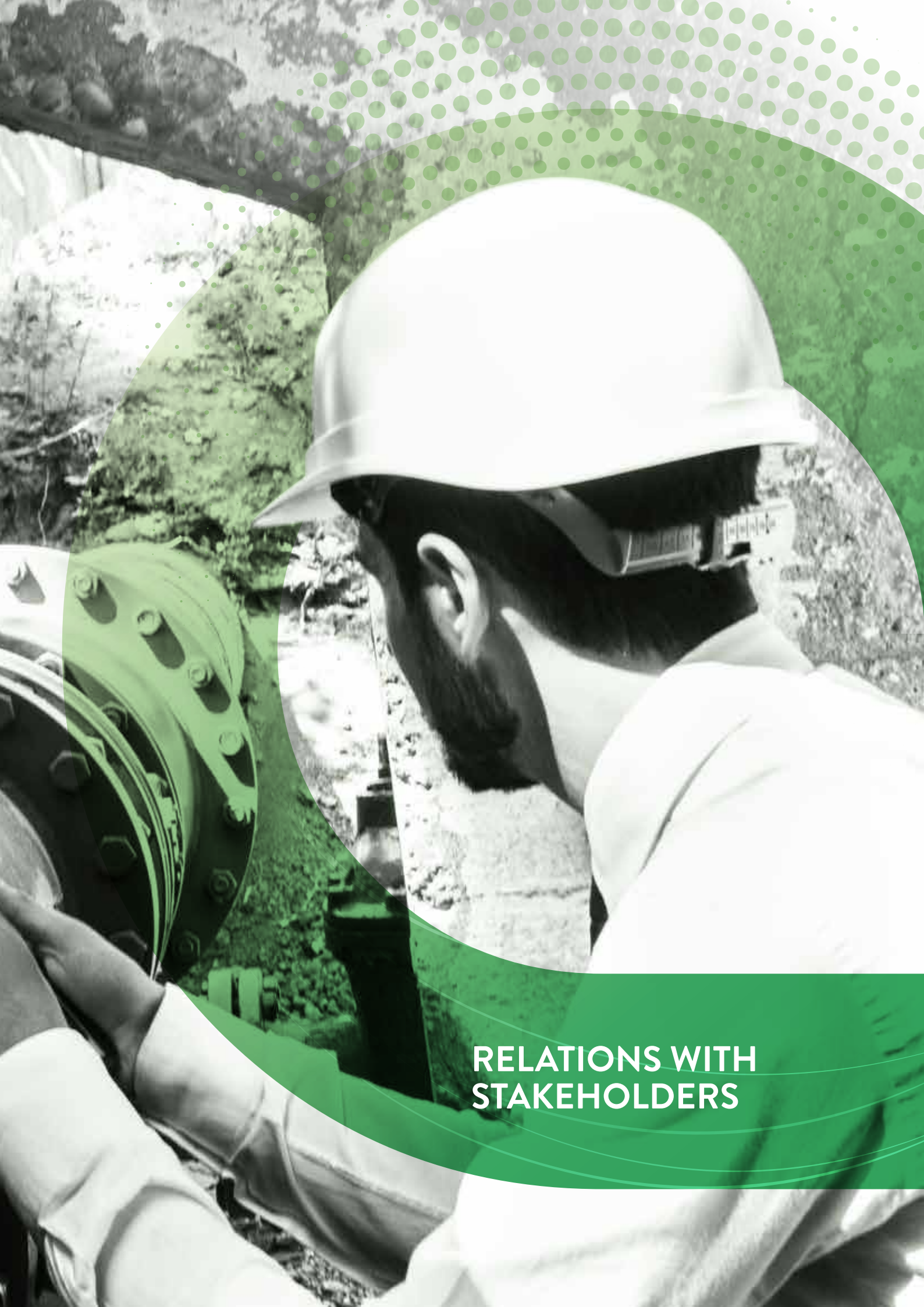
(in million of Euros)	2016	2017
total economic value directly generated	**2,880.7**	**2,841.4**
		DISTRIBUTION TO STAKEHOLDERS
operating costs (suppliers)	1,763.3	1,766.2
employees	199.2	215.2
shareholders	113.4	145.4 (*)
financiers	128.8	89.3
public administration	143.6	96
community	2.9	2.4
company	529.5	526.9

(*) The item does not include third party profits.

TABLE NO. 10 - BREAKDOWN OF VALUE GENERATED BY STAKEHOLDER (2016-2017)

	2016 (%)	2017 (%)
suppliers	61.2	62.2
employees	6.9	7.6
shareholders	3.9	5.1
financiers	4.5	3.1
public administration	5	3.4
community	0.1	0.1
company	18.4	18.5

[20] The amount paid to the public administration net of state and regional public contributions which Acea receives from such stakeholder (equal to 7.4 million Euros) is 88.6 million Euros.



RELATIONS WITH STAKEHOLDERS

CUSTOMERS AND THE COMMUNITY

REFERENCE BOUNDARY

Data pertaining to the volume of customers, apart from Acea Energia, Areti, and, in the water segment, to Acea Ato 2, Acea Ato 5, Gesesa, also include data related to other water companies (Acque, Publiacqua, Acquedotto del Fiora, Umbra Acque and Gori) – that are not included in the reporting boundary - 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 - as recalled in the text.

Interactions between Acea, customers and the community are described in a single chapter, as the information and data related to the services delivered - **perceived quality, delivered quality, customer care** - mainly refer **to the central and southern Lazio area, where the two stakeholders virtually coincide**[21]; on the other hand, data referring to electricity and water service **customer base** comprises all areas covered by the operating subsidiaries.

ACEA GROUP CUSTOMERS: ELECTRICITY AND WATER SERVICES

MORE THAN **1.2 million** CUSTOMERS FOR ENERGY SALES AND ABOUT **167 thousand** GAS CUSTOMERS

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

843,679 WATER USERS IN LAZIO (ACEA ATO 2 AND ACEA ATO 5) EQUALLING ABOUT **4.4 million** RESIDENTS SERVED

2.6 million OF WATER USERS IN ITALY EQUALLING ABOUT **8.9 million** RESIDENTS SERVED

[21] In the area of Rome and provincial districts Acea runs the integrated water service, the supply of electricity (for more than 1.3 million customers), distribution of energy and the public lighting service. As a result, customers and communities in this area virtually coincide. Moreover, in the area of Frosinone and province, Acea manages the integrated water service. For the main social and environmental data pertaining to subsidiaries, operating in the water sector in other areas (in Italy and overseas), see the *Water Company Data Sheets and overseas activities*, drawn up by way of information and outside of the boundary of the consolidated non-financial Statement (pursuant to Legislative Decree 254/2016).

According to the data published by the **Regulation Authority for Energy, Networks and Environment** (ARERA)[22], **Acea Energia** is confirmed as **Italy's sixth largest operator** in terms of **volumes sold on the energy sale end-user market** and the **third** with a 3.5% market share for **energy sold to families** - "domestic customers", the company is the **second largest national operator** in terms of volumes sold to customers in the **more protected market**, with a market share of 4.7%, and is ranked **eleventh operator** in terms of volumes sold to the **free market**, with a market share of 2.3% .
In 2017, Acea Energia managed **about 1,380,000 supply** contracts between sales of energy and gas (see Table no. 11). Following the normal competitive patterns of the free market, the customer base changes each year, either upwards or downwards; between 2017 and 2016 there was a **slight drop, 0.3%** overall, in the customer base managed in the various segments of the energy market ("free" and "more protected")[23].

Areti is Italy's third largest operator in terms of **volumes of electricity distributed**, with a 3.7% market share, and Italy's second largest operator in terms of **withdrawal points**[24]. In its capacity as holder of the ministerial licence, the company delivers energy across the areas of Rome and Formello and in 2017 it had **1,630,373 withdrawal points**; the trend of the customer base is due to both urban expansion and disposals resulting, for example, from companies being discontinued (see Table no. 11).

"PROSUMERS" CONNECTED TO THE ACEA NETWORK

The energy sector continues to evolve towards new generation systems and **energy exchange configurations**. The theme of **renewable sources** is still at the centre of the most important national and international policies, due to its implications on climate change and has contributed to the stimulating the development in the capacity of connection, transmission and distribution systems, linked to the increase, diversification and non-programmable nature of renewable sources.
In addition to bringing **changes to the physical system of the traditional energy model**, these aspects have in recent years made the **"prosumer"** increasingly significant.
Due to its dual nature of **energy producer** and **consumer**, the "prosumer" is capable of partially or totally ensuring its own energy sector and transfer any eventual surplus produced to the network, thus establishing new relations with both the distributor and the subject responsible for selling/withdrawing energy.
Acea has been proactive towards the above forms of energy and has fulfilled the necessary legal and regulatory obligations concerning the new production and consumption systems.
At 31/12/2017, there were **11,344 prosumers active** on the energy distribution **network** managed by Areti – an amount that has grown by more than 9% compared to the 10,375 registered in 2016 - of which **9,231 qualified as "domestic prosumers"**, in other words customers with household utility contracts who also produce small quantities of energy, and **2,113 qualified as "other uses"**, in other words use outside the household (companies, professional and artisan business). About **7,000** of the prosumers on the Acea network are **also Acea Energia customers**. The energy transferred to the network by these subjects was **78.45 GWh** in 2017, **about 73% photovoltaic.**

THE ELECTRICITY SOCIAL BONUS: THE BASES INCREASE

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 indispensable energy-consuming medical equipment[25], ARERA, acting on the advice of the government, has made the so- called **"electricity bonus"** operational; this involves a discount applied to the cost of the electricity consumed. In 2017, the number of Acea customers benefitting from the bonus, on both the protected market and the free market, **totalled 20,683**[26] (about 3% more compared to the 20,080 clients accepted in 2016), of whom 20,091 due to financial hardship and 592 due to their health. Overall, during the course of the year, the electricity bonus system has led to the beneficiaries saving a total of about **1.85 million euros** on their electricity bills
In the area of the **distribution network** managed by **Areti**, there were also **7,556 customers authorised to receive the electricity bonus** (7,352 due to financial hardship, 204 due to their health) served by companies other than Acea Energia as regards the "sales" component.

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 about 8.9 million inhabitants in Italy** (see Table no. 11). Solely within the area of Rome and province, managed through Acea Ato 2, there are **more than 649,000 users** and a served population equal to **about 4 million people**. Starting from this area - Ato 2-Central Lazio - the Group, over time, has progressively expanded its activities, becoming the reference operator also in other Optimal Areas of Operation (ATO)[27] 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). The Group also operates in a number of South American countries.

[22] See the *Annual report on the status of services and activities* carried out, 2017 edition (on 2016 data), *Structure, pricing and quality in the electricity sector* available online on the Authority's website ARERA, formerly AEEGSI).

[23] The relevant national Authority accurately defines the energy market segments. See the *Glossario della bolletta elettrica* [a glossary of the electricity bill] on the ARERA website.

[24] See the *Annual report on the status of services and activities* carried out, 2017 edition (on 2016 data), *Structure, pricing and quality in the electricity sector* available online on the ARERA website.

[25] For details of the conditions legitimising the request and granting of the electricity bonus, see the specific section of the ARERA website: https://www.arera.it/it/bonus_sociale.htm

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

[27] The national territory, according to law no 36/1994, so-called "Legge Galli" [Galli Law], which reorganised water services, is divided into Optimal Territorial Environments which take account of hydrographic basins. For the OTE in which Acea is operational, through investee companies, also see section *Water company data sheet and overseas activities* (outside of the consolidated non-financial Statement boundary pursuant to Legislative Decree 254/2016).

SUSTAINABILITY OF THE WATER SERVICE: ARREARS AND WATER BONUS

During 2017 ARERA intervened, inasmuch as competent, on matters of **containing arrears** and the **social tariff**, subject matter of two Decrees of the Presidency of the Council of Ministers (**DPCM 29 August 2016 and DPCM 13 October 2016**), issued in implementation of Law 221/2015 (so-called "Collegato Ambientale"). With the document for consultation 603/2017, the Authority set out its first guidelines regarding arrears, dealing with essential aspects in the service relationship with the water supply company (placement in arrears, suspended supply, indemnities in the event of erroneous arrears action, arrears interests, timeframes and reactivation procedure of the suspended supply due to arrears and previous arrears). Guidelines were also highlighted related to procedures for arrears management in the case of condominium users, to identifying defaulting users who cannot be disconnected, to arranging instalments of both invoiced amounts and the cautionary deposit. As regard the **social tariff**, by **resolution 897/2017** ARERA approved the integrated text regarding application procedures for the social water bonus for the supply of water to domestic users under economic hardship (**TIBSI**). The TIBSI identifies the beneficiaries of the bonus for resident domestic users under ascertained economic social hardship, in the same way as this happens in the electricity and gas sector, based on specific thresholds of the ISEE indicator. The total amount of the subsidy is calculated by each operator according to family numbers (pro capital basis), applying the preferential tariff to the essential quantity of water required to satisfy the demand to be safeguarded (18.25 m3/inhabitant/year, about 50 litres/inhabitant/day). Without prejudice to the faculty for the Governing Entities of the Sector to introduce, or confirm further measures of protection to the benefit of users under economically vulnerable conditions through granting a supplementary water bonus. The application of the provisions regarding the social water bonus in Italy is provided for as from 1st January 2018, whereas applications can be submitted **as from 1st July 2018**.

TABLE NO. 11 - SOCIAL INDICATORS: ACEA GROUP CUSTOMERS (ENERGY AND WATER SECTORS) (2015-2017)

	u. m.	2015	2016	2017
ENERGY AND GAS SALES (Acea Energia)				
more protected market	(no. withdrawal points)	980,946	942,873	892,877
free market – mass market	(no. withdrawal points)	264,928	247,022	275,688
free market – large customers	(no. withdrawal points)	49,334	44,666	43,020
free market gas	(no. redelivery points)	144,185	148,832	167,337
total	**(no. supply contracts)**	**1,439,393**	**1,383,393**	**1,378,922**
ENERGY SECTOR (Areti)				
domestic customers, at low voltage	(no. withdrawal points)	1,304,281	1,309,366	1,316,339
non domestic customers, at low voltage	(no. withdrawal points)	314,068	312,808	311,141
customers at medium voltage	(no. withdrawal points)	2,886	2,863	2,886
customers at high voltage	(no. withdrawal points)	7	7	7
total	**(no. withdrawal points)**	**1,621,242**	**1,625,044**	**1,630,373**
WATER SALE AND DISTRIBUTION (main water companies of Acea Group)				
Acea Ato 2	(no. utilities)	625,952	628,078	649,319
Acea Ato 5	(no. utilities)	185,673	185,610	194,360
Gesesa	(no. utilities)	55,434	55,221	55,253
Acque	(no. utilities)	323,505	324,122	325,912
Publiacqua (*)	(no. utilities)	388,365	390,486	393,099
Acquedotto del Fiora (*)	(no. utilities)	230,978	231,300	231,428
Gori	(no. utilities)	519,896	518,058	523,352
Umbra Acque	(no. utilities)	231,372	231,485	232,910
total	**(no. utilities)**	**2,561,175**	**2,564,360**	**2,605,633**
Acea Ato 2	(served population)	3,700,000	3,700,000	4,000,000
Acea Ato 5	(served population)	470,000	470,000	481,000
Gesesa	(served population)	128,736	131,512	132,403
Acque	(served population)	735,404	737,204	740,299
Publiacqua (*)	(served population)	1,229,691	1,242,739	1,242,739
Acquedotto del Fiora (*)	(served population)	405,065	403,861	403,861
Gori	(served population)	1,427,699	1,430,774	1,439,091
Umbra Acque (*)	(served population)	504,966	504,966	504,155
total	**(served population)**	**8,601,561**	**8,621,056**	**8,943,548**

(*) Some data related to utilities and served population for the two-year period 2015 and 2016 were amended due to a perfected counting process.

QUALITY PERCEIVED

THE 2017 CUSTOMER SATISFACTION SURVEYS INVOLVED MORE THAN **24,600 people** IN THE LAZIO AREA

THE OVERALL RATINGS FOR SERVICES DELIVERED IN 2017:
- ELECTRIC SERVICE "SALES": **7.8/10**
- ELECTRIC SERVICE "NETWORK": **8/10**
- PUBLIC LIGHTING SERVICE: **6.5/10**
- WATER SERVICE (ROME AND FIUMICINO): **7.8/10**
- WATER SERVICE (FROSINONE AND PROVINCE): **5.3/10**

For many years Acea has **regularly measured customer and citizen satisfaction with regard to the services supplied** in the electricity, water[28] and public lighting areas, **through half-yearly surveys**, performed by an institution specialised in opinion polls, identified through a tender competition.
A dedicated Unit in the Parent Company, within the External Relations and Institutional Affairs Department, in conjunction with the operating companies running the services, coordinates the phases of defining the questionnaire, identifying samples to be interviewed and sharing results with top management.
As in past years, the two **half-yearly surveys** in 2017 were conducted using the CATI method[29] and the following main indicators were elaborated:

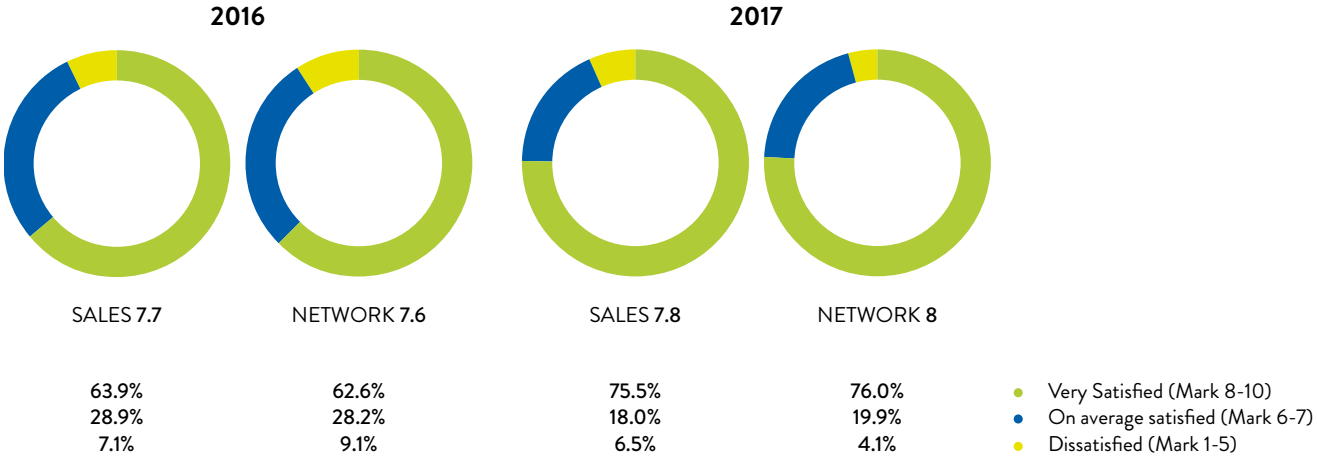
- **overall rating** on the general quality of the service (**on a scale of 1 to 10**), an index of the customers' "impulsive" rating;
- **summary satisfaction indices, both overall** and on **aspects** of the service (**Customer Satisfaction Index - Satisfied Customer CSI, index 0-100**) based on the percentage of customers who stated they were satisfied and processed considering the customers' ratings regarding the individual aspects of the service;
- **satisfaction degree indices**, both overall and **on aspects** of the service (**Customer Satisfaction Index - Satisfaction degree CSI, expressed in % of satisfied customers - threshold value 75%**) which measure "to which extent" the customers are satisfied or dissatisfied with the service.

As regards the "**contact channels**", the interviews involved all of the customers selected using the "call back" method **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.

ELECTRICITY SERVICE RATING

Customer satisfaction as regards the electricity supply service (sale and distribution) was recorded in March/July 2017 and October/December 2017 with comprehensively **12,450** people contacted by telephone, representing customers on the **more protected market** and on the **free market: 8,250** for **sales-related aspects**, managed by **Acea Energia**, and **4,200** for **technical and management aspects of the distribution service** (network), managed by **Areti**.
The overall opinion of the electricity service, expressed with regard to commercial (sales) and distribution (network) are confirmed as positive - 7.8 out of 10 and 8 out of 10 respectively - and slightly improved compared to 2016; the percentage of those contacted who deemed the service **very satisfactory increased**: 75.8%, as an average of the two surveys, compared to 63.3% last year.

CHART NO. 17 - OVERALL RATING ON THE ELECTRICITY SERVICE (2016-2017) (SCALE 1-10)



NB The overall opinions and satisfaction percentages shown in the chart are the average of the two half-yearly surveys.

[28] As regards the water service, the main results from the customer satisfaction surveys, managed by Acea SpA and shown herein, concern customers of the subsidiaries Acea Ato 2 (Rome and province) and Acea Ato 5 (Frosinone and province), operational in the Lazio area. No customer satisfaction surveys were carried out in the year at issue for Gesesa which operates in the district of Benevento and province.

[29] Computer Assisted Telephone Interviewing, with the support of a structured questionnaire administered on a sample arranged on the basis of certain variables and representing the entire reference context, with a maximum statistical error of ± 3.2% and 95% significance level.

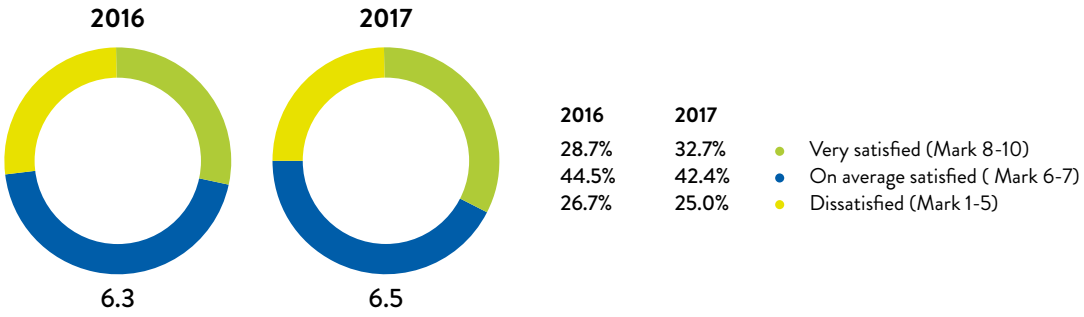
For **customers on the more protected market**, the **comprehensive customer satisfaction index** (CSI) for **electricity sales**, already positive in 2016 (82.1 out of 100) **significantly rises** in the two surveys 2017, giving an average of **88.9 out of 100**. Indeed, there is a **notable improvement**, with ascertained high levels, in the CSIs **concerning all four aspects of the assessed service: billing (95 out of 100), website (92.3 out of 100), commercial toll free number (83.6 out of 100) and helpdesk (85.7 out of 100)**.

On the **free market, the overall customer satisfaction index for the sales service**, as an average of the two half-yearly surveys, was **86.7 out of 100**, an improvement compared to 2016 (83 out of 100). The **satisfaction indexes for all aspects of the service rose - billing (85.5 out of 100), website (87.2 out of 100), commercial toll free number (84 out of 100)** - and, **in particular, the helpdesk (88.8 out of 100)** which scored 78.4 out of 100 in 2016.
As regards the **distribution of electricity** (network), the surveys divulged a **very high overall customer satisfaction index (93.2 out of 100) which even improved compared to 2016** (87.7 out of 100). The CSI for **the four aspects of the service** evaluated are **excellent** in terms of continuity - **technical aspects of the service**, with **98.4 out of 100** - and very good for **scheduled disruptions (90.5 out of 100)** and **fault reporting (91.8 out of 100)** and for **technical intervention (86.7 out of 100)**, the latter being decidedly higher compared to the survey in 2016 (75.9 out of 100).
For the percentages of satisfied customers concerning **single quality factors considered most relevant**, both for the **sales service** (protected market and free market) and **aspects of distribution**, also in comparison to the 2016 survey, see table no. 12.

PUBLIC LIGHTING SERVICE RATING

The satisfaction level of citizens as regards the public lighting service was surveyed in March and October 2017, through interviews to **2,400 residents in the municipalities of Rome and Formello**. The sample, representing the entire resident population, was identified in 3 territorial macro areas: central-northern Rome and Formello, east-south-east Rome and southwest Rome.
As an average of the two half-yearly surveys and compared to the previous year, the **overall rating** of the was confirmed in the local community of average satisfaction (6.5 out of 10), the increasing trend of very satisfied customers continued in 2017, already established between 2015 and 2016.

CHART NO. 18 – OVERALL RATING OF PUBLIC LIGHTING IN ROME (2016-2017) (SCALE 1-10)



NB The overall opinions and satisfaction percentages shown in the chart are the average of the two half-yearly surveys.

The inhabitants expressed their rating on the **technical aspects** of the service and on **fault reporting. The overall satisfaction index for the service** was **75.7 out of 100**, as an average over the two half-years, which is good and substantially stable compared to last year.

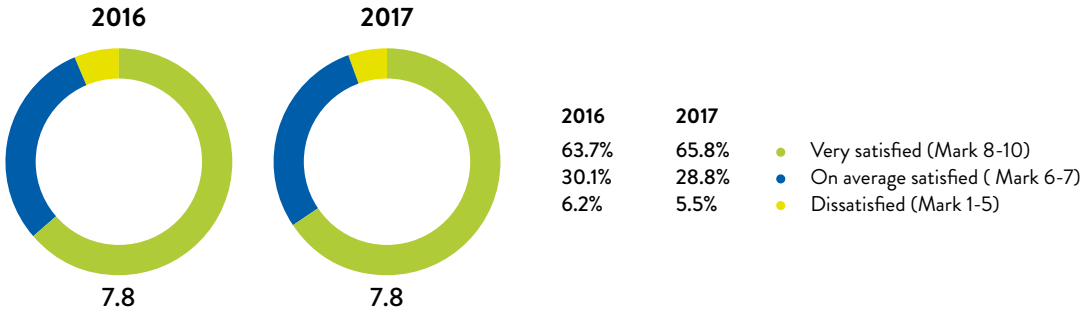
The evaluation of the **"technical aspects"**, both those directly concerning the activities of Areti and those concerning other operators, has worsened compared to last year, recording a **CSI of 73.5 out of 100** (80 in 2016) whereas the **CIS on "fault reporting" rises**, with **78.6 out of 100** (77.6 in 2016).
Data on the level of satisfaction of those interviewed with regard to the **single elements of the service**, considered by the latter as **most important** and the comparison with the previous year, are shown in Table no. 12.

WATER SERVICE RATING

As regards the water service managed in Lazio, the customers in Acea Ato 2 (Rome and province) and Acea Ato 5 (Frosinone and province) was satisfied.

In Rome and Fiumicino, the surveys were conducted by telephone interview in March/July and October/December 2017. The sample, representing all utilities, was identified in 4 territorial macro areas: central-northern Rome, north-eastern Rome, southern Rome, south-western Rome and Fiumicino. Overall, the survey involved **5,800 people**, including **domestic customers**, with or without direct utilities, and **condominium administrators**.
The **overall rating** of the water service, as an average of the two half-yearly surveys, is **confirmed as positive (7.8 out of 10)**, have increased up to **65.8%** of those interviewed being **"very satisfied"**.

CHART NO. 19 - OVERALL RATING OF THE WATER SUPPLY SERVICE IN ROME (2016-2017) (SCALE 1-10)



NB The overall opinions and satisfaction percentages shown in the chart are the average of the two half-yearly surveys.

The summary overall satisfaction index for the service, as an average of the two half years, was the same as last year, **84.7 out of 100**. Whereas, compared to 2016, the **CSI** on **"technical intervention" decrease** (64.6 out of 100) as well as on **"billing"** although the latter is still good (**80.9 out of 100**); the CISs for **"fault reporting"** (87.2 out of 100), **"commercial toll free number"** (85.2 out of 100) and **"helpdesk"** (83.8 out of 100) reported a marked improvement; lastly, continuing to be excellent is the CSI on "technical aspects" service (continuity) (97 out of 100).
The percentage of customers satisfied with the **quality factors** of the water service **considered most important** in each aspect are shown in Table no. 12.

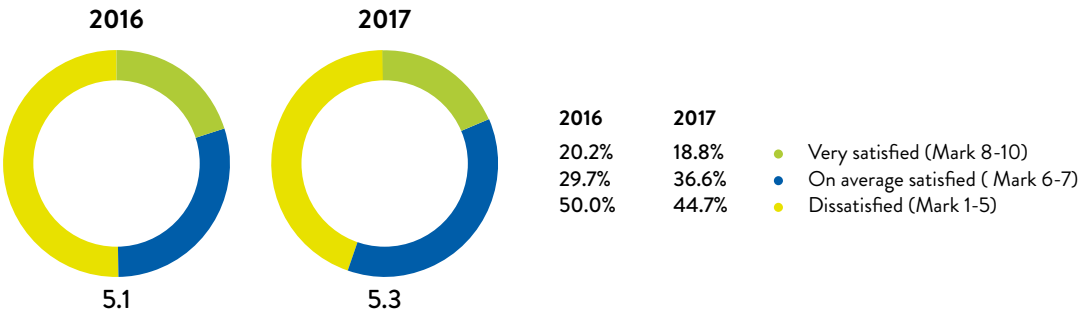
SURVEYS ON CUSTOMER SATISFACTION WITH WATER SERVICE DELIVERED IN OTHER ATO2 MUNICIPALITIES – CENTRAL LAZIO

Customer satisfaction surveys were also conducted in some other municipalities in the province of Rome. The two half-yearly surveys in 2017, conducted in April and October/November, involved a sample of 2,000 residents, representative of all of the direct or condominium utilities present in the four "sentinel" municipalities: Frascati, Guidonia, Monterotondo and Tivoli - within the framework of Optimal Area of Operation 2 - Central Lazio. The **overall rating** recorded was **7.4 out of 10**, in line with the previous year (7.2 out of 10).
The overall satisfaction index for the service, as an average of the two surveys, was **83.7 out of 100** (81.5 out of 100 in 2016); for the single **aspects** involved in the **surveys**, the satisfaction indices were **not as good** for the **helpdesk** (69.8 out of 100), **fault reporting** (71.6 out of 100) and the **commercial toll free number** (77 out of 100), **although the last two notably improved in the second half year** and were **very positive** regarding **technical intervention** (92.1 out of 100), **billing** (88.8 out of 100) and the **technical aspects** (continuity) (91.8 out of 100).

In the **Frosinone** area, the surveys on the **perceived quality of the water service** were conducted in April/May and October/ December 2017. The telephone interviews involved an overall sample of **4,003 residents** in the municipalities of Optimal Area of Operation 5 - Frosinone, consisting in direct users, domestic and non domestic.

The **global rating** of the water service is equal to **5.3 out of 10** (5.1 out of 10 in 2016) slightly decreased is the percentage of those declaring that they were **very satisfied** (**18.8%**), however the percentage of **moderate satisfaction has increased and the percentage of unsatisfied customers has fallen**.

CHART NO. 20 - OVERALL RATING OF THE WATER SUPPLY SERVICE RUN BY ACEA ATO 5 (2016-2017) (SCALE 1-10)



NB The overall opinions and satisfaction percentages shown in the chart are the average of the two half-yearly surveys.

The overall satisfaction index for the service, as an average of the two half yearly surveys, was **70.8 out of 100** (72.7 out of 100 in 2016). As regards the six aspects of the service surveyed, the CSI are still low for **technical aspects** or continuity (58.8 out of 100) and **billing** (64.9 out of 100), although the latter is improving, and very good for **fault reporting** (86.8 out of 100) **commercial toll free number** (84.1 out of 100), **helpdesk** (87.1 out of 100) and **technical intervention** (91 out of 100).

The **percentage of those interviewed who were satisfied with the quality elements** of the service deemed most important are shown in table no. 12.

TABLE NO. 12 - SOCIAL INDICATORS: CUSTOMER SATISFACTION (2016-2017)

(average of the two interim reports)	u. m.	2016	2017	
ELECTRICAL SERVICE – SALE OF ENERGY (Rome and Formello)				
PROTECTED MARKET CUSTOMERS				
sale activity (CIS inclusive)	**0-100**	**82.1**	**88.9**	▲
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
billing	**0-100**	**86.8**	**95.0**	▲
correctness of the amounts	*%*	*86.9*	*95.2*	▲
bill clear and easy to read	*%*	*83.6*	*96.2*	▲
internet website	**0-100**	**82.8**	**92.3**	▲
operation user friendliness	*%*	*82.5*	*92.5*	▲
range of available operations	*%*	*81.9*	*91.7*	▲
commercial toll free number	**0-100**	**77.9**	**83.6**	▲
operator's competence	*%*	*77.0*	*83.2*	▲
clarity of provided answers	*%*	*76.0*	*83.6*	▲
helpdesk	**0-100**	**80.6**	**85.7**	▲
operator's competence	*%*	*84.7*	*86.4*	
clarity of the provided information	*%*	*82.9*	*85.6*	
FREE MARKET CUSTOMERS				
sale activity (CIS inclusive)	**0-100**	**83.0**	**86.7**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
billing	**0-100**	**84.6**	**88.5**	
correctness of the amounts	*%*	*84.4*	*87.6*	
bill clear and easy to read	*%*	*82.8*	*90.0*	▲
internet website	**0-100**	**82.8**	**87.3**	
operation user friendliness	*%*	*80.6*	*88.6*	▲
ease of navigation	*%*	*83.2*	*86.2*	
commercial toll free number	**0-100**	**83.1**	**84.0**	
operator's competence	*%*	*84.4*	*83.5*	
clarity of provided answers	*%*	*83.9*	*82.5*	
helpdesk	**0-100**	**78.4**	**88.8**	▲
operator's competence	*%*	*80.6*	*89.2*	▲
clarity of the provided information	*%*	*80.1*	*89.6*	▲
ELECTRICAL SERVICE - ENERGY DISTRIBUTION (Rome and Formello)				
distribution activity (CIS inclusive)	**0-100**	**87.7**	**93.2**	▲
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**94.8**	**98.4**	
service continuity	*%*	*94.9*	*98.6*	
voltage constancy	*%*	*94.7*	*97.6*	
planned interruption	**0-100**	**85.2**	**90.5**	▲
prior notice of suspended supply	*%*	*85.0*	*90.0*	▲
correctness of information about recovery times	*%*	*86.6*	*91.2*	
fault reporting	**0-100**	**87.7**	**91.8**	
clarity of the provided information	*%*	*87.1*	*92.4*	▲
operator's courtesy and availability	*%*	*90.6*	*95.3*	
technical intervention	**0-100**	**75.9**	**86.7**	▲
intervention speed following the request	*%*	*68.7*	*80.8*	▲
technicians' competence	*%*	*82.1*	*90.8*	▲

PUBLIC LIGHTING SERVICE (Rome and Formello)				
lighting service (CIS inclusive)	**0-100**	**76.0**	**75.7**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**80.0**	**73.5**	▼
(directly depending on Acea)				
service continuity	*%*	*72.8*	*71.6*	
light colouration	*%*	*79.0*	*77.5*	
(not directly depending on Acea)				
presence/network of the lighting service in the city	*%*	*73.6*	*74.2*	
degree/level of lighting (intensity)	*%*	*73.6*	*70.6*	
fault reporting	**0-100**	**77.6**	**78.6**	
clarity of provided information	*%*	*79.2*	*83.3*	
telephone waiting time	*%*	*71.7*	*75.2*	
WATER SERVICE – WATER SUPPLY - ACEA ATO 2 (Rome and Fiumicino)				
water service (CIS inclusive)	**0-100**	**84.7**	**84.7**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**96.2**	**97.0**	
service continuity	*%*	*97.1*	*98.3*	
water pressure level	*%*	*92.3*	*92.3*	
billing	**0-100**	**90.2**	**80.9**	▼
correctness of the amounts	*%*	*92.1*	*84.9*	▼
bills sent regularly	*%*	*91.7*	*83.6*	▼
fault reporting	**0-100**	**76.3**	**87.2**	▲
clarity of provided information	*%*	*75.3*	*84.0*	▲
operator's courtesy and availability	*%*	*81.0*	*91.8*	▲
technical intervention	**0-100**	**70.0**	**64.6**	▼
intervention speed following the request	*%*	*61.7*	*53.3*	▼
technicians' competence	*%*	*74.6*	*73.0*	
commercial toll free number	**0-100**	**79.9**	**85.1**	▲
operator's competence	*%*	*79.6*	*84.2*	
clarity of the provided information	*%*	*79.3*	*84.0*	
helpdesk	**0-100**	**73.5**	**83.8**	▲
operator's competence	*%*	*75.2*	*83.0*	▲
clarity of the provided information	*%*	*75.0*	*82.0*	▲
WATER SERVICE – WATER SUPPLY - ACEA ATO 5 (municipalities falling within ATO 5 - Frosinone)				
water service (CIS inclusive)	**0-100**	**72.7**	**70.8**	
ASPECTS OF THE SERVICE AND ELEMENTS OF QUALITY				
technical aspects of the service	**0-100**	**66.6**	**58.8**	▼
service continuity	*%*	*65.9*	*57.3*	▼
water pressure level	*%*	*69.5*	*66.5*	
billing	**0-100**	**60.8**	**64.9**	
correctness of the amounts	*%*	*57.6*	*68.5*	▲
bill clear and easy to read	*%*	*64.1*	*63.6*	
fault reporting	**0-100**	**87.7**	**86.8**	
clarity of provided information	*%*	*88.0*	*88.0*	
operator's courtesy and availability	*%*	*90.0*	*92.8*	
technical intervention	**0-100**	**90.0**	**91.0**	
technicians' competence	*%*	*92.3*	*98.3*	▲
intervention speed following the request	*%*	*84.3*	*80.0*	
commercial toll free number	**0-100**	**87.3**	**84.1**	
operator's competence	*%*	*89.8*	*83.0*	▼
clarity of the provided information	*%*	*87.8*	*84.8*	
helpdesk	**0-100**	**81.1**	**87.1**	▲
operator's competence	*%*	*87.2*	*90.3*	
clarity of the provided information	*%*	*87.3*	*87.5*	

NB The table only includes **quality factors that the sample interviewed deems to be most important in 2017**; this may give rise to consequent changes in column 2016. 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

Through the operators managing the services, Acea ensures that the **infrastructures** (network and systems) are **renovated or expanded** and works towards **optimising the management processes** to **make restoration more effective and punctual** after faults, so that the end quality of the services provided is progressively and constantly improved. Focus is also given to the processes making the **customer contact channels** and the **management of the commercial aspects more efficient**.
In particular, the Group is **strongly customer oriented, reinforcing both the opportunities offered by the digital era** - in aspects associated to contact channels and operational management - and **concentrating its commitment in planning and implementing interventions on the infrastructures**, to monitor and develop the supplied services.

Some factors of the **"quality delivered"** are **measured on the basis of reference parameters established by the sector Authorities** or indicated in the **service contracts and management agreements** with local authorities:

- for the **public lighting** service, the contract between Acea and Roma Capitale also regulates the qualitative parameters (performance standards);
- the **technical and commercial quality standards in the energy sector** (for both distribution and sales) and **for the water sector** are established by a single national Authority: **the Regulation Authority for Energy, Networks and the Environment** (ARERA)[30] and by the local Authorities.

As regards the **water segment**, having initiated the first phase of **regulation on the contractual quality of the integrated water service**, defining specific and general levels of contractual quality standardised throughout the country as early as the end of 2015[31], in 2017 the Authority launched another procedure by resolution 90/2017, **for the regulation of the technical quality** of the integrated water service. Such new procedure gave rise to two consultation documents during the year and in December 2017, a final resolution, 917/2017/R/idr "Regulation of the technical quality of the integrated service or of each of the single services forming it (RQTI)". The resolution defined the discipline of the technical quality of the integrated water service, with an **asymmetric and innovative approach**, which considers the **specific conditions of the various contexts**. The minimum levels and technical quality objectives are defined in the SII through the introduction of: **specific standards** to be guaranteed regarding services supplied to the single user; **general standards** describing the technical conditions of service supply; prerequisites which represent the **conditions necessary for admittance to the incentivising mechanism** associated to the general standards. The application of the indicator system at the basis of technical quality - as well as the initiation of data monitoring - is fixed **as from 1st January 2018**. As from 1st January 2018 the obligations to register and archive data shall become effective, whereas the regulation of awards/fines shall be applied on the aggregate results 2018/2019 for the operators in 2020.

For the **electricity segment**, downstream of the rule becoming effective in 2016[32] (see regulation period 2016-2023), the Authority, on the matter of **technical quality** issued the guidelines in early 2017 for drawing up plans aimed at **increasing the resilience of the electricity system** following extreme and persistent meteorological events (resilience plans). Such guidelines were drawn up by the "Resilience round table" in which operators and the Authority meet to discuss matters of technical quality regarding the electricity distribution system.
As regards the **commercial aspects**, implemented during the year were resolution 413/2016/R/com[33], concerning the quality to electricity and natural gas sales services and resolution 463/2016/R/com[34], on billing the retail sale service for electricity and natural gas customers. The latter regulated billing by period and also part of the closure billing for discontinued supply; it concerns electricity and gas customers (domestic and small companies) in the free market and more protected services. By way of **guaranteeing the good operation of the billing process**, automatic indemnities are envisaged to the benefit of end customers and the sellers, for delays in issuing period and/or final bills as well as of the distributors, for delays in making measurement data available required for issuing final bills: in this last case, distributors must also pay an indemnity to the sellers. Lastly, electricity distributors, where estimated measurement data for two consecutive months, must pay an indemnity to clients equipped with an electronic metre which measures consumption by time band.
Among the numerous other measures of the national Authority, regarding which reference is made to the website for further information, pointed out herein are: resolution 327/2016/R/eel, for which, in respect of **debranding** the **energy sale** activity on the **free market** respect to the sale activity in the **more protected** service, on **1st January 2017 Acea Energia SpA adopted a new trademark for the more protected service**: "Servizio Elettrico Roma", whereas the trademark remains the same for the free market customers and resolution 867/2017/R/eel, by which **the abolition of progressive tariffs related to the components of general system charges** for domestic clients **is deferred by one year** respect to the envisaged 1st January 2018, in order to avoid greater expenditure for clients with the accumulation, against on 1st January 2018, of the increase in such general charges as well, due to the review on subsidies for high energy consuming enterprises.

Lastly, the attention to quality in supplied services is also favoured by the **UNI EN ISO certified management systems**, in accordance with which the companies operate (see also *Corporate identity*, paragraph *Management systems*).

[30] With the publication in the Official Journal on 29 December 2017 of the draft Budget Law 2018 (law 27 December 2017, no. 205), which attributed the Authority with regulation duties also in the waste sector, the Authority for electricity and gas and the water system (AEEGSI) became ARERA, Regulation Authority for Energy Networks and the Environment. The Authority was thus also assigned with the regulation of the waste sector, having specific duties to be exercised with the same powers and framework of principles applied in the other sectors already the competence of the Authority (electricity, gas, integrated water system and remote heating) as set forth by its implementary law, no. 481 of 1995.

[31] By resolution 655/2015/R/Idr, effective as of 1st January 2016.

[32] TIQE - Output-based Regulation for electricity distribution and measurement (Attachment A to resolution 646/15/R/eel as amended.); TIT - Provisions for the supply of transmission and distribution services, TIME - Provisions for the supply of the measurement service and TIC - Economic conditions for supplying the connection service (Attachments A, B and C to resolution 654/15/R/eel as amended).

[33] Attachment A of which is the *Integrated text on the regulation of the quality of electricity and natural gas sales services*.

[34] Attachment A of which *Integrated text on billing the retail sale service for electricity and natural gas customers*.

QUALITY IN THE ELECTRICITY AREA

APPROX. **163 km** OF MV CABLE AT **20 kV** INSTALLED, FOR THE UPGRADING AND ENHANCING OF THE MV NETWORKS, AS GRADUAL TRANSFORMATION FROM **8.4 kV to 20 kV**

FOR THE UPGRADING OF THE LV, PRIOR TO THE SUBSEQUENT CHANGE IN VOLTAGE FROM **230 V** TO **400 V**: INSTALLATION OF APPROX **256 km** OF LV CABLE (BETWEEN EXPANSION AND REPLACEMENT)

CREATED OR ENLARGED **71 secondary cabins** AND REBUILT **972 cabins** IN OPERATION, TO MEET THE DEMAND FOR NEW CONNECTIONS AND INCREASES IN POWER AND SET THEM UP FOR REMOTE CONTROL

IN 2017: **6,662** MV REMOTE CONTROLLED **nodes**

Areti, in its capacity as owner of a Ministerial licence, operates the **electricity distribution service in Rome and Formello**. It plans and carries out **modernisation and expansion** work on the infrastructures, comprising **high, medium and low voltage electricity lines, stations and substations, systems for remote control and for measuring energy** drawn from and fed into the network.
The activities are carried out in compliance with procedures under the **QASE** (Quality, Environment, Safety and Energy) **Management System certified according to UNI EN ISO and OHSAS Standards**.

The **interventions on the infrastructures**, aimed at realising the progressive **improvement of service quality, according to the challenging objectives set by the national Authority (ARERA) as well as increasing the energy efficiency of the networks** are carried out in compliance with the concession, sector regulations and service requirements, especially for the connection of new customers, related to urban expansion and the increase in electricity applications.
The **general operational instrument** for governing integrated development of the electricity networks is formed of **Regulatory Plans for the HV, MV and LV networks**. One of the important objectives of the **Plans and projects for technological innovations** consists in the realisation of a network configuration that is adequate and enabling for future scenarios with a view to smart city: distributed **generation, electrical mobility, storage systems, involvement of the end user and connectivity**.
In the framework of the **progressive implementation of the MV and LV Regulatory Plans**, Areti realised a complex of significant interventions which envisage the **realisation of new main lines aimed at rationalising and enhancing the networks** and simultaneously **implementing a change of voltage from 8.4 kV to 20 kV on the MV network and from 230 V to 400 V on the LV network with considerable benefits to their transport capacity** which ensure a residual power margin for new connections, and **reduces losses of energy and drops in voltage on MV and LV networks**.
Infrastructure management and development activities **carried out in 2017** concerned interventions of **construction, expansion, transformation, modernisation, upgrading, decommissioning** - and, as a result, reduction of environmental impacts in specific areas - **measure, protection, ordinary and extraordinary maintenance operations** on stations **and substations, high voltage** (HV) **lines as well as low and medium voltage** (LV and MV). The works are functional to the capillary distribution of electricity and improvement of the service, above all in terms of availability and continuity of the supply. The main interventions realised in 2017 are shown in the relevant box.

MAIN ACTIONS 2017 FOR THE OPERATION AND DEVELOPMENT OF ELECTRICITY NETWORKS AND STATIONS

HV LINES AND PRIMARY STATIONS	Activated during the year were the new **150 kV line** called **Cassia-Flaminia/O** (4.7 km of overhead lines built in 2016, 0.9 km of existing overhead line and 0.4 km of underground lines) and the **new 150 kV line** called **Bufalotta-Roma Nord** (about 3 km of overhead lines and 1.6 km of underground lines), which **respectively enabled demolition to begin** of the Cassia-Roma Nord overhead line, for a total of 9.8 km and **39 poles** and the **demolition** of the Bufalotta-Flaminio/O **overhead line**, totalling **9.2 km and 23 poles**. Again in 2017 the design was completed and **building works began** on the **new HV 150 kV line Roma Nord-San Basilio**, concerning the section to be adapted for a length of 5.5 km with tubular posts and masts of a green colour consistently with the prescriptions of Ente Roma Natura. Installation also began of the **new HT line Belsito-Tor di Quinto** of **about 3.6 km**. Activities of **adaptation, expansion and reconstruction took place on 20 primary cabins**. The installation of the **Petersen system**, which has significant **positive effects on the reduction of network faults**, was completed at the Monte Mario/O primary station and **at another 3 cabins**, where the existing system has been expanded. Lastly, the following were carried out: *ordinary and extraordinary maintenance* on the primary stations equipment and, in particular, **on 117 HV switches**; **scheduled maintenance on 640 MV switches;** the **overhaul of 22 live power transformer variators. 60 HV voltage transformers** were replaced.
HV AND MV PROTECTION AND MEASURES	Interventions were carried out to install, calibrate and commission **power protection systems for 59 new MV line bays** and **interventions on the electrical protection systems** present in the primary stations for operation testing purposes (42 HV towers, 489 MV towers, 87 HV/MV and MV/MV transformers). **Ground resistance was measured in 2,888 substations** and step and touch voltage measurements and total ground resistance measurements were carried out at 15 primary stations and 131 substations.

MV AND LV LINES	For the **modernisation and efficient use of the network**, gradually changing from 8.4 kV to 20 kV, **about 163 km of 20 kV MV cables were installed** in 2017 (153 km for refurbishment and 10 km for expansion). As part of the **extraordinary maintenance** of MV overhead lines, inspections were carried out on **various sections of the MV overhead line network**, which led to timely interventions for the replacement of equipment, poles, conductors, etc. Between expansion and refurbishing work aimed at replacing obsolete parts or upgrading inadequate parts, **about 256 km of LV cable was** installed, 39 km for network expansion, while on the remaining 217 km, refurbishment was carried out as part of the plan for the overall modernisation of the LV network, preparatory to the subsequent **voltage change** on the LV network, from 230 V to 400 V.
SUBSTATIONS (MV AND LV) AND REMOTE CONTROL	To meet the applications for new connections to the grid and voltage increase filed by existing customers, **71 substations were built or expanded**. **972** operational **stations were (totally or partially) rebuilt to upgrade them to 20 kV, to ready them for remote control or upgrade their equipment**. Furthermore, the following activities were completed on substations: 850 extraordinary maintenance operations and 2,436 inspections to check the maintenance and operating status of equipment and premises and to bring about the necessary related ordinary maintenance operations. **Remote control was extended** to a further 339 substations and 200 reclosers, with **remote controlled MV nodes totalling 6,662** units as at 31/12/2017. Lastly, 2,750 maintenance operations were completed.

Taking into account the **initiatives proposed by the national institutional authorities** and the **opportunities offered by the European Community, Areti continues to develop several projects**, also with other industrial entities, involving research and **application of innovative technology**. Specifically, these were in the frameworks of the **"smart grid"**, **advanced network management systems, their resilience, distributed storage** and **"smart city"** (see the chapter on *Institutions and the Company*)

Work continued in 2017 for the **expansion of the "ultrabroadband" fibre optic communications network**, with 100 Megabit per second internet connections **in Rome**, as envisaged by the **agreement protocol**, renewed in 2015, between Acea, Telecom, Fastweb and Vodafone. As at **31 December 2017**, Areti had **activated 12,487 new electricity supply points**, totalling about **205 km of excavation**, using the application of techniques minimising the environmental impact of installing the infrastructures.
The **activities for laying fibre optic cables** in 2017, acquired in IRU by Telecom and Wind for the creation of a primary network between LV/MV transformation plants, fibre optic connections shall be activated in 17 different sites. Such infrastructure is **preparatory to the integration of services, present and future, in primary cabins**.

With regard to **digital meters** and **smart metering systems**, in 2017 Areti continued its technical investigations linked to the development and consolidation of new standards and **ran experimental tests in field**, which had already been initiated in the laboratory in 2016, **on products from foremost meter manufacturers, equipped with more advanced technologies**. The analysis of the results of the completed tests was presented to the management.
Furthermore, during the year it carried out a comparative assessment of the **potential partners** for the supply of the **main data acquisition and processing system**, in relation to the replacement of the smart metering system, currently in use, with the new **"evolved second generation"** system (2.1G). Such assessment is structured according to various levels of examination: technical-commercial, system implementation technique, in field on systems already running; for this last point in field visits were made to customers in September 2017 who were **equipped with a system in line with the requirements declared by Areti**.
Thereafter development began on a **multiservice concentrator** for first generation electronic meters duly re-engineered, configured for the acquisition of second generation meters and to be integrated with a third unit for 169/868 MHz RF communication. The new multiservice concentrator is a modular type apparatus consisting **in a main control and processing unit** and one or more **additional units, each one dedicated to a specific service (electricity, water, etc.)**. In late December 2017 the **prototype was presented** which shall undergo tests and inspections during the first half of 2018.
Moreover, Areti continued its activities on developments of the multiservice measure for the **experimentation of multifunctional remote reading technologies and architectures**, applicable to several sectors; in this context, for example, it developed remote reading devices for water meters (equipped with pulse triggers) using GPRS technology, for Acea Ato 2.
Lastly, the installation of **digital meters under remote management** continued **at low voltage users** for a total, **as at 31/12/2017, of 1,609,822 meters installed on active low voltage users**, equal to 99.33% of the total LV meters.

THE QUALITY LEVELS REGULATED BY ARERA IN THE ELECTRICITY SECTOR

The electrical - commercial service quality parameters (i.e., quotes, work, supply activation/deactivation, replies to complaints) and **technical** aspects (supply continuity) - are established at a national level by the **Regulation Authority for Energy, Networks and the Environment** (ARERA), which reviews them on a regular basis, gradually introducing more stringent standards.
Since 2016 **the new regulatory cycle was launched regarding the quality of distribution, measuring and transmission services for the 5th regulatory period 2016-2023**.
Such regulatory framework requires that customers be indemnified in the event certain quality standards are not met and comprises a fine/bonus system applicable to service operators, so as to encourage them to continually improve their services.
The **commercial quality** aspects of the service consist of **"specific" levels** and **"general" levels"**[35], applicable to the operations pertaining to the electricity distribution company (divided into low and medium voltage supplies) as well as those of the **seller** (see Tables 13, 14 and 15). A quality criterion also governs the timely communication of technical data between the energy distributor and seller (see Table 13). Every year **Acea submits the results achieved to the ARERA** for review and then notifies such results to its own customers, as required, by **enclosing them with the bill**.

[35] "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.

As regards **performance 2017 for commercial quality**, related to the distribution and measurement of electricity, we present **estimated data** herein which may differ from those sent to the Authority (ARERA) according to the deadlines set by the latter.
As regards the **"specific" levels of commercial quality** regarding both low voltage supplies to domestic and non domestic customers as well as medium voltage supplies, recorded, in some cases, is a fall in performance levels, mainly due to the need to calibrate the new IT systems introduced in 2016 (the WFM system in April, Twins on SAP in December), also improving the percentage of observance of the standards for most of the processes. Also, as regards the **"general" levels** related to replies to written complaints/enquires, the significant fall in performance levels is related to the need to calibrate the new IT systems, which is currently being resolved (see table 13).
The system contemplates automatic indemnities[36] to be granted to customers in the event of failure to comply with specific" quality levels starting from a basic amount[37], which can either double (in the event 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).

A process of technological development has been undertaken in Acea Energy since 2016 concerning its information systems, having the objective of developing contact channels. 2017 can be considered the **start-up year of the new system**, with the associated and normally required fine tuning. Therefore, with regard to the sales activities subject to regulation, during the year in question **a fall** was recorded in its percentages of compliance with the quality standards. In particular, it should be noted that in the free market and the more protected market there has been **a reduction in compliance with the "specific" quality standards**, whereas the **"general" standards remain above the compliance levels** required by ARERA (see Table no. 14).

The **Authority** also defines and updates the benchmark parameters of **"technical" quality** of the service[38], in relation to continuous electricity supply, envisaging an incentive system for the operator (bonuses and fines) and indemnities for customers.
It should be stressed that **the continuity indicators** supplied related to financial year 2017 are not those communicated to ARERA but rather the highest possible estimate at the time of publication of this document[39].
With reference to the **duration of disruptions** and the **number of disruptions** for LV users, the first available data concerning financial year 2017 and shown in Table no. 15 indicate a decrease in the results compared to 2016 and prove to be more aligned with the indicators divulged for 2015.
Annual performance was negatively influenced by climate factors, both with reference to the phenomena of heat waves that occurred in the summer 2017 and consequent to the cloudburst events the following autumn.
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[40] 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.

TABLE NO. 13 - SOCIAL INDICATORS: SPECIFIC AND GENERAL LEVELS OF COMMERCIAL QUALITY - ENERGY DISTRIBUTION (2016-2017) - (ARERA PARAMETERS AND ARETI'S PERFORMANCE - 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
		2016		2017	
LOW VOLTAGE (LV) SUPPLIES					
DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
estimates for work on LV networks (ordinary connections)	15 working days	11.19	82.53%	8.97	93.23%
completion of simple work (ordinary connections)	10 working days	8.38	80.83%	9.71	84.72%
completion of complex works	50 working days	15.76	92.00%	25.33	66.67%

[36] Compensation as pursuant to the Authorities provisions 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.

[37] The amount currently set by the Authority starts from a basic amount of 35 Euros for domestic low voltage customers; 70 Euros for non domestic low voltage customers and 140 Euros for medium voltage customers.

[38] Resolution 654/15/R/eel.

[39] The data for 2017 are the best estimate available at the time of publication, certified data shall be made public by the Authority and available on the website www.arera.it.

[40] 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.

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
		2016		2017	
LOW VOLTAGE (LV) SUPPLIES					
DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
supply activation	5 working days	2.02	95.70%	2.28	94.20%
deactivation of supply on customers request	5 working days	1.09	97.13%	1.29	97.39%
reactivation of supply following disconnection for late payment	1 weekday	0.29	97.72%	0.11	99.13%
resumption of the supply following faults of the metering equipment (requests sent during business days from 08:00 to 18:00)	3 hours	1.87	87.17%	2.43	78.09%
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	1.88	92.31%	2.43	88.23%
notification of outcome of metering equipment check on customers request	15 working days	9.84	88.43%	9.42	92.99%
notification of outcome of voltage supply check on customers request	20 working days	19.00	100.00%	/	/
maximum punctuality band for appointments with customers	2 hours	n.a.	83.83%	n.a.	85.15%
replacement of faulty metering equipment	15 working days	17.71	76.68%	49.76	41.03%
resumption of correct supply voltage	50 working days	/	/	/	/
estimates for work on LV networks (temporary connections)	10 working days	/	/	/	/
completion of simple work (temporary connections not exceeding 40 kW)	5 working days	/	/	/	/
completion of simple work (temporary connections exceeding 40 kW)	10 working days	/	/	/	/
NON DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
estimates for work on LV networks (ordinary connections)	15 working days	10.38	86.73%	8.28	94.28%
completion of simple work (ordinary connections)	10 working days	6.04	88.22%	9.31	86.69%
completion of complex work	50 working days	12.55	94.98%	25.62	88.00%
supply activation	5 working days	2.64	93.07%	2.28	94.20%
deactivation of supply on customers request	5 working days	1.64	95.85%	2.31	95.97%
reactivation of supply following disconnection for late payment	1 weekday	0.33	97.38%	0.14	99.02%
resumption of the supply following faults of the metering equipment (requests sent during business days from 08:00 to 18:00)	3 hours	2.26	81.07%	2.57	74.76%
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	2.08	90.62%	2.57	86.87%
re-notification of outcome of metering equipment check on customers request	15 working days	9.02	90.84%	9.42	92.99%
notification of outcome of voltage supply check on customers request	20 working days	/	/	21	0%
maximum punctuality band for appointments with customers	2 hours	n.a.	87.24%	n.a.	88.75%
replacement of faulty metering equipment	15 working days	16.13	79.49%	37.89	44.44%
resumption of correct supply voltage	50 working days	/	/	/	/
estimates for work on LV networks (temporary connections)	10 working days	5.34	90.85%	4.77	95.26%

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
		2016		2017	
LOW VOLTAGE (LV) SUPPLIES					
NON DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
completion of simple work (temporary connections not exceeding 40 kW)	5 working days	4.08	88.15%	5.91	85.80%
completion of simple work (temporary connections exceeding 40 kW)	10 working days	/	/	4.57	96.67%
MEDIUM VOLTAGE (MV) SUPPLIES					
END CLIENTS		ARETI'S PERFORMANCE			
estimates for work on MV networks	30 working days	30.83	86.67%	41.85	65.57%
completion of simple work	20 working days	23.33	83.33%	23.71	85.71%
completion of complex work	50 working days	22.00	100.00%	41.63	83.33%
supply activation	5 working days	5.90	77.78%	5.50	77.78%
deactivation of supply on customers request	7 working days	8.69	84.00%	19.33	55.56%
reactivation of supply following disconnection for late payment	1 weekday	6.83	50.00%	2.89	55.56%
notification of outcome of metering equipment check on customers request	15 working days	9.13	75.00%	9.20	90.00%
notification of outcome of voltage supply check on customers request	20 working days	/	/	/	/
maximum punctuality band for appointments with customers	2 hours	n.a.	81.44%	n.a.	87.10%
replacement of faulty metering equipment	15 working days	/	/	/	/
resumption of correct supply voltage	50 working days	/	/	/	/
COMMUNICATION OF TECHNICAL DATA FROM DISTRIBUTOR TO SELLER (*)					
technical data (that **can be obtained** by **reading** a metering system)	10 working days from receipt of the request	6.57	90.42%	21.11	85.38%
technical data (that **cannot be obtained** by **reading** a metering system)	15 working days from receipt of the request	13.81	77.01%	37.48	93.30%

GENERAL LEVELS OF COMMERCIAL QUALITY

SERVICES	ARERA PARAMETERS Minimum percentage of services to be provided within max. time limit	Service delivery average actual time	Percentage of services provided within max. time limit.	Service delivery average actual time	Percentage of services provided within max. time limit
		2016		2017	
LOW VOLTAGE (LV) SUPPLIES					
DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
reply to written complaints/enquiries regarding distribution operations	95% within 30 calendar days	29.99	70.20%	59.25	43.82%
reply to written complaints/enquiries regarding metering operations	95% within 30 calendar days	66.92	49.94%	43.93	60.57%
NON DOMESTIC CUSTOMERS		ARETI'S PERFORMANCE			
reply to written complaints/enquiries regarding distribution operations	95% within 30 calendar days	33.22	68.99%	69.04	38.76%
reply to written complaints/enquiries regarding metering operations	95% within 30 calendar days	67.64	43.42%	46.61	55.97%

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

MEDIUM VOLTAGE (MV) SUPPLIES					
END CUSTOMERS		ARETI'S PERFORMANCE			
reply to written complaints/enquiries regarding distribution operations	95% within 30 calendar days	11.40	92.59%	44.11	67.48%
reply to written complaints/enquiries regarding metering operations	95% within 30 calendar days	76.23	38.46%	79.11	33.33%

TABLE NO. 14 - SOCIAL INDICATORS: SPECIFIC AND GENERAL LEVELS OF COMMERCIAL QUALITY - ENERGY SALE (2016-2017) - (ARERA PARAMETERS AND ACEA ENERGIA PERFORMANCE; DATA SUBMITTED TO THE ARERA)

SALE OF ENERGY

SPECIFIC LEVELS OF COMMERCIAL QUALITY (*)

SERVICES	ARERA PARAMETERS Max. time for service delivery	Percentage of services carried out within time limit	Percentage of services carried out within time limit
		2016	2017
MORE PROTECTED SERVICE		ACEA ENERGIA'S PERFORMANCE	
billing adjustments	90 calendar days	100.0%	69.2%
double billing adjustments	20 calendar days	88.9%	/
reasoned reply to written complaints	40 calendar days	93.2%	76.3%
FREE MARKET		ACEA ENERGIA'S PERFORMANCE	
billing adjustments	90 calendar days	100.0%	86.7%
double billing adjustments	20 calendar days	/	100.0%
reasoned reply to written complaints	40 calendar days	91.7%	77.6%

GENERAL LEVELS OF COMMERCIAL QUALITY

SERVICES	ARERA PARAMETERS Max. time for service delivery	Percentage of services carried out within time limit	Percentage of services carried out within time limit
MORE PROTECTED SERVICE		ACEA ENERGIA'S PERFORMANCE	
Reply to written enquiries	95% within 30 calendar days	99.5%	97.1%
FREE MARKET		ACEA ENERGIA'S PERFORMANCE	
Reply to written enquiries	95% within 30 calendar days	99.5%	97.1%

(*) In the event of failure to meet the standards, more protected service customers (mainly domestic customers and small businesses) will receive an automatic compensation of 20 Euros. The symbol "/" is used when services were not requested during the year, n.a. means the data is not applicable.

TABLE NO. 15 - SOCIAL INDICATORS: SERVICE CONTINUITY DATA – ENERGY DISTRIBUTION (2015-2017) - (ARERA PARAMETERS AND ARETI'S PERFORMANCE - 2015-2016: DATA CERTIFIED BY THE ARERA; 2017: PROVISIONAL ESTIMATED DATA)

ENERGY DISTRIBUTION - CONTINUITY INDICATORS - LV CUSTOMERS

DURATION OF DISRUPTIONS AND PERCENTAGES OF IMPROVEMENT

SERVICES	average aggregate duration of lasting disruptions without prior notice of the operator's responsibility per LV customer per year (minutes)			percentage of improvement	
	2015	2016	2017	2017 vs. 2015	2017 vs. 2016
high concentration	34.55	27.88	37.1	7.5%	33.2%
medium concentration	49.70	31.46	40.3	-19.0%	28.0%
low concentration	58.38	45.76	54.1	-7.2%	18.3%

AVERAGE NUMBER OF DISRUPTIONS AND PERCENTAGES OF IMPROVEMENT (*)

SERVICES	average no. disruptions without prior notice of the operator's responsibility per LV customer per year			percentage of improvement	
high concentration	1.74	1.42	1.81	4.6%	28.2%
medium concentration	2.79	1.67	1.92	-31.2%	15.0%
low concentration	3.46	2.51	2.58	-25.4%	2.8%

(*) 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).

NB 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 PUBLIC LIGHTING AREA

199,077 LIGHT POINT AND **224,480** LIGHTS MANAGED IN ROME

IN 2017 INSTALLED OVER **89,000** LED ILLUMINATING BODIES (BETWEEN NEW LAMPS AND INSTALLATION TRANSFORMATIONS)

REINSTALLED **121** CORRODED SUPPORTS AND RELIT **11,610** LIGHTS

ARTISTIC ILLUMINATION WITH **LED technology:** OF **Piazza Navona,** THE **Cestia Pyramid** AND THE **Palatine**

Part of the activities referring to Acea Illuminazione Pubblica in December 2016 merged into Areti[41], which, during 2017 thereby managed most of the interventions concerning **public lighting, operational lighting** and **artistic monumental lighting in Rome**, on **more than 199,000 lighting points** spread around a district - about 1,300 km2 – that is equivalent to almost 7 times that of Milan, according to the *Service Agreement*[42] stipulated between Acea SpA and Roma Capitale.
The company is responsible for the **design, construction, operation, maintenance and restoration of networks and plants** and operates in compliance with procedures under the QASE (Quality, Environment, Safety and Energy) **Management System certified according to UNI EN ISO and OHSAS Standards**.
Work is scheduled **ensuring that the management and technical staff of the company work together on the basis of the instructions given by local public administration and supervisory departments and authorities** responsible for new urban developments, improvement projects and the cultural heritage. In addition to delivering the service for the Municipality of Rome, the Company makes its know-how available to other stakeholders.

TABLE NO. 16 – PUBLIC LIGHTING IN ROME IN FIGURES (2017)

lighting points (no.)	**199,077** (+ 1.8% compared to 2016)
Monumental artistic lighting points (no.)	*about* **10,000**
bulbs (n.)	**224,480** (+1.8% compared to 2016)
MV and LV network (km)	**7,956** (+ 1.4% compared to 2016)

Among the **main interventions on public lighting carried out** during the year, **in the functional and artistic monumental context**, highlighted are **the transformation of about 88,000 lights** as part of the **LED Plan** for the Capital (see dedicated box). Expansion and modernisation works also took place on the lighting in **Piazza Navona**, both of a functional and artistic nature and **the functional lighting plant for the New Internal Ring Road** (NCI) was undertaken, realised by RFI as part of the road works connected to Tiburtina Station. **Regarding the latter**, Areti's Public Lighting Unit also **proposed modernisation works on the plants** to the capita's Administration, these were approved and **shall be carried out in 2018**, they entail the replacement of the current **High Pressure Sodium bulbs with LED lighting points** (about 1,350 fittings) thus gaining considerable energy efficiency and saving as well as improved visual perception. Moreover, during the year the **plants in the Port of Rome were taken over with transformation to LED** of **about 1,240 lighting points**.
At artistic monumental level, we point out lighting interventions on the **Basilica di S. Marco Evangelista al Campidoglio**, in Piazza Venezia, the **Basilica di San Clemente**, of **Porta San Paolo and the Cestia Pyramid** and, by the end of **the year there was the launch of the permanent lighting of the archaeological area of the Palatine** overlooking the Circus Maximus (see dedicated boxes hereunder).

PROGRESS OF THE LED PLAN FOR ROME

The works in **progress on the LED Plan**, initiated in the second part of 2016 downstream of the agreement signed with Roma Capitale, **continued** at a steady pace, as mentioned above, during 2017 and led to the **comprehensive installation, as at 31/12/2017**, of about **162,000 lights**, with the related benefits in terms of **energy saving**, reduction of the effects of light flow dispersion and full observance of the law on public lighting. The completion of the transformation works on functional lighting sources is expected by the first quarter of 2018, whereas the artistic and ornamental installations, subject matter of review and agreement with the Municipal Administration and the supervisory authority shall be completed by the end of 2018. In late 2017 the Municipal Administration also approved the LED transformation plan for the tunnels to be worked on during 2018.

[41] Areti SpA, which manages the distribution of energy in Rome and Formello, in acknowledgement of the partial proportional demerger project regarding Acea Illuminazione Pubblica SpA in December 2016, absorbed part of its activity. Therefore Acea Illuminazione Pubblica is not included in the reporting boundary of this document.

[42] 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.

By carrying out the two surveys 2017 on the satisfaction of customers and citizens with regard to supplied services, **Acea continued to monitor the opinion and perception of citizens regarding the transformation**, in progress, **of the lighting using LED**. The average results from the two half-yearly surveys highlighted that about **59%** of the 2,400 interviewees (+18% compared to 41% reported in 2016 out of a panel of the same consistency) **had notice the LED lighting on the road. 82% of the interviewees considers the project to** transform lighting using LED as important for the city and the three main reasons given were: **reduced consumption** (energy efficiency) for **82%, improved distinction of colours on the road**, for **29.4%** (a notably increased amount compared to 20% reported in 2016), and, for **26.4% environmental compliance** (the amount was 15% in 2016).

TABLE NO. 17 – MAIN PUBLIC LIGHTING WORKS ON LIGHTING POINTS (2017)

TYPE OF WORK	(NO. LIGHTING POINTS)
Installation of **new lighting points** (including artistic)	**962** lighting points
Actions to improve **energy efficiency/technological innovation** (fixture replacement)	**88,100** LED lights
Safety measures	**3,156** lighting points

NB The table includes operations carried out for the Municipality of Rome and third parties.

NEW LIGHTING USING LED TECHNOLOGY IN PIAZZA NAVONA

The Department for the Development of Infrastructures and Urban Maintenance of Roma Capitale asked Areti for a new project to redevelop and upgrade the existing lighting plant, **both functional and "artistic"** in Piazza Navona.
The artistic lighting intervention concerned the plants dedicated to **Sant'Agnese church in Agone, Nostra Signora del Sacro Cuore church** (currently being restored), the fontana dei Fiumi fountain with the obelisk, the **Nettuno fountain and the Moro fountain**.
The colour temperature of the lighting points on the facades and fountains was agreed with the representatives of the Administration, State Authority and Capital Authority.
9 LED spotlights were installed to light Sant'Agnese church in Agone and the Nostra Signora del Sacro Cuore church, at a colour temperature of 3000K. For the Fiumi fountain, apart from **replacing underwater spotlights** with as many equipped with LED technology having a colour temperature of 4000K, **the obelisk was lit up** using 2 LED lighting points LED having a colour temperature of 3000K, installed on the posts nearest to the fountain and set on the opposite apexes of the obelisk. The reason for this contrast in colour (4000K – 3000K) lies in the decision to **highlight the nature of the materials forming the monumental fountain**.
Apart from replacing the existent underwater equipment inside the upper bowl of the Moro and Nettuno fountains, the project also envisaged the instalment of 4 LED spotlights for each fountain, laid in the lower bowl in order to light the four perimetral masks in the Moro fountain and the winged cherubs in the Nettuno fountain.

Each year, Acea carries out **planned and extraordinary maintenance** work on the systems for safety purposes in order to maintain an adequate level of lighting in the managed area (see la Table no. 18).

TABLE NO. 18 – REPAIRS AND PLANNED AND EXTRAORDINARY MAINTENANCE OF PUBLIC LIGHTING (2017)

TYPE OF WORK	(NO.)
Checking corrosion on lamp posts	**31,702** lamp posts checked
Replacing bulbs prior to luminous flux loss	**11,610** bulbs replaced
Reinstalling lamp posts that were corroded or knocked down due to accidents	**121** lamp posts reinstalled

Acea **monitors the public lighting service quality standards** pertaining to **fault repair times**, which are calculated starting from a fault being reported[43].
The **service standards** are **expressed by an average admitted recovery time** (TMRA), within which the repairs shall take place and a **maximum time** (TMAX), after which a **fines system** is activated[44].
The **performance related to average recovery times** (TMR) **of plant operations**, used by Acea **in 2017** for the various types of fault (see Table no. 19), **are basically in line** with the service levels recorded in 2016 **with cases of improvement on some types of fault**.

[43] For the purpose of calculating service levels, reports pertaining to damages caused by third parties will not be considered.

[44] 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 accurate data on reports con¬cerning 2017 subject to fines being calculated is not available.

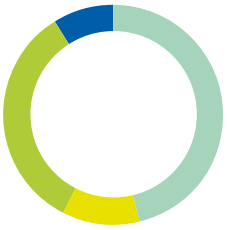
TABLE NO. 19 – PUBLIC LIGHTING FAULT RECOVERY: FINES, STANDARDS AND ACEA PERFORMANCE (2016-2017)

FAULT TYPE	FINE PER DAY OF DELAY	SERVICE LEVEL AGREEMENT (*)		ACEA PERFORMANCE	
	(euro)	TMRA (admitted average recovery time) (working days)	TMAX (maximum recovery time) (working days)	TMR (average recovery time) (working days)	
				2016	2017
Blacked out neighbourhood - MV network failure	70	1 day	1 day	< 1 day	< 1 day
Blacked out street - MV or LV network failure	50	5 days	8 days	2.7 days	2.8 days
Blacked out stretch (2-4 consecutive lights out)	50	10 days	15 days	9.1 days	6.7 days
Lighting points out: single lamps, posts, supports	25	15 days	20 days	8.3 gg.	8.6 gg.

(*) 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.

Faults are detected by internal control systems, such as remote management and, as mentioned, can be reported to the company by the citizens and the Municipality of Rome using the different contact channels available (call centre, web, fax or letter)[45]. **23,760 fault reports** were received in 2017[46] and **94%** of them were **dealt with** by the end of the year. The **percentage distribution of reports by type of fault** is shown in chart 21. The most significant incidence concerns "blacked out street", in relation to a network fault (46.2%) and "lighting point out" (33.8%), having the lowest impact in terms of safety, the "blacked out stretch" is more contained (8.7%) and, lastly, not cases of "blacked out neighbourhood" due to network fault were recorded.

CHART NO. 21 - TYPES OF PUBLIC LIGHTING FAULTS OUT OF TOTAL REPORTS RECEIVED (2017)



0.0% District in the dark – network breakdown
46.2% Dark street – network breakdown
11.3% Section unlit (2-4 consecutive lights off)
33.8% Light off (individual light, riser, reinforcement, support
8.7% Other (ceiling lamp, etc.)

In agreement with the relevant Authorities, **Acea is committed to enhancing the monumental and architectural heritage of the Capital by deploying** about **10,000 dedicated lighting points**, thanks to the **distinctive skills in the artistic lighting sector** it has acquired over time, which makes it available for interventions requested by "private entities" (such as churches, hoteliers or third parties in general).
During the year **various important artistic lighting interventions** were realised, a large part of which already recalled at the start of the paragraph. Three interventions by Acea are highlighted in the boxes below, which it wanted to offer the city, contributing to enhancing its cultural worth.

[45] More detailed information on call centre performance and written complaints is provided in the Customer Care section.

[46] The datum excludes reminders and repeated reporting of the same fault.

LIGHTING THE PALATINE HILL

In 2017 **Acea proposed the restoration and redevelopment of the Palatine lighting system** to the Ministry of Cultural Assets and Activities and Tourism (MIBACT), Archaeological park of the Colosseum and, in particular, **the southern face of the archaeological monumental area overlooking the Circus Maximus**.
The modernisation and redevelopment works on the previous plant, tracing back to 2000, envisaged the installation of **96 lighting points**, divided into different types, by optics, power and colour temperature, ranging from 2,700K to 2,200K, with chromatic yield exceeding 80. The facades were lit of the **Domus Severiana**, **Domus Augustana**, the **Stadium**, the **Domus Flavia** and the **Pedagogium**.
The choice of a neutral colour temperature (2,700K) for the facades facing the Circus Maximums was made to bestow a more realistic rendering of the colours of the composition materials, while a warmer temperature (2,200K) was used to highlight the depth of the environments.
The previous plant, using High Pressure Sodium technology, had a power absorption of 15,700 W, whereas the current system, realised using LED equipment, ascertains a value of 4,400 W, a saving of more than 70%.
This was an intervention to **enhance a monumental area** that is particularly representative of the city, with its rich historical suggestion and that of its landscape. The intervention was presented in December 2017 in a press conference jointly with the Municipality of Rome and **the lighting system was opened on the night of 31 December 2017** during the new year festivities.

THE CESTIA PYRAMID AND PORTA SAN PAOLO

In agreement with the MIBACT and the Department of the Development of Infrastructures and Urban Maintenance of Roma Capitale, **Acea proposed and realised** the lighting of the **Cestia Pyramid** and **Porta San Paolo**. The project completely redesigned the lighting system realised previously in 2000. The **oblique light** method was chosen over the projection method, thanks to the availability of the Managers of the local authority. The walls of the pyramid, which are covered in marble sheeting, were lit using LED bars at a colour temperature of 3,000K, with diversified optics to obtain uniformity on the vertical planes. The placement of two lines of rods at a different distance from the surface, allowed the best lighting of **both the lower part and the part tapered to the monument, over 36 metres high** and **with a square base of about 30 metres to the side**. Furthermore, the oblique lighting system allows the **two epigraphs to be read** perfectly, which cite the owner of the tomb and the days needed to build the funeral monument. Six 48 W rods were used for each facade, five of which with a wide beam and one with a narrow beam; the edges were highlighted using narrow beam spotlights, again 3,000K, having a power of 17 W. The system also envisaged the lighting of the surrounding columns and sections of Roman wall adjacent to the pyramid, with equipment having 2,200K colour temperature, suited to the building material. Comprehensively **43 apparatuses** were installed. The total installed power is 1,480 W versus 3,600 W of the previous system.
By way of correctly contextualising the monumental area, the lighting **of Porta San Paolo** was also modernised using LED technology; it is located near the Cestia Pyramid. The equipment was installed on the poles intended for public lighting which surround the gate. The Towers, entry Gate and the internal area were lit using different colour temperatures, 2,200K for the masonry areas and 3,500K for the marble parts, installing a total of 13 apparatuses having a total power of 520 W. Special care was taken when positioning the lighting points in order to contain the dispersion of the light flux. For the building and the internal part of the gate, lastly, which houses some relics, 5 spotlights were used with a total power of 110 W.

THE BASILICA DI SAN MARCO EVANGELISTA AL CAMPIDOGLIO

Acea realised the lighting for the Basilica di San Marco Evangelista al Campidoglio, located in Piazza Venezia, in accordance with MIBACT and the Department of the Development of Infrastructures and Urban Maintenance of Roma Capitale. The intervention envisaged the lighting of the **Façade**, the **Portico** and the **upper Lodge**. The Basilica, the initial construction of which traces back to 336, underwent renovations until the baroque era and shows differing architectonic styles. In total **16 spotlights** were installed for a total power of 300 W. The Facade was lit by projection using 4 LED apparatuses, colour temperature 2,700K and 20 W power each. The lighting on the Portico was realised by placing 4 apparatuses on the stringcourse or the four internal capitals with asymmetric optics to light the underlying environment by reflected light. The light flux was directed towards the cross vaults, highlighting the structure thereof. The base relief of San Marco in the panel surmounting the entrance portal was highlighting by means of 2 narrow beam apparatuses of 10 W power and colour temperature 3,500K positioned diagonally respect to the relief in order to avoid flattening the figures. For the upper Lodge, of renaissance era, the pictorial frame surrounding it and the wood beam roof were highlighted using 4 lighting apparatuses and another two were aimed towards the floor level where museum relics are often placed.

QUALITY IN THE WATER AREA

The Acea Group manages the integrated water service (SII) in several Optimal Areas of Operations (ATO) in Lazio, Tuscany, Campania and Umbria, through investee companies.

In compliance with the reporting boundary (see *Disclosing Sustainability: methodological note*) the following is a description of the activities of **Acea Ato 2 in Optimal Area of Operations 2 - Central Lazio** (Rome and another 111 municipalities in Lazio,

with a total of about 4 million inhabitants served), **the "historical" area of the Group's operations**[47], by **Acea Ato 5, also operating in Lazio** (ATO 5 - southern Lazio and Frosinone, with 86 municipalities and about 480,000 inhabitants)) and, for the first time, by **Gesesa**, operational in **Campania** (in the district of Benevento and province, 21 municipalities managed, with a total of about 132,000 inhabitants served[48].

The management of the integrated water service (SII) comprises the entire drinking and wastewater cycle: from collection of the natural resource from the springs to its return to the environment, it is governed by a Management Agreement between the **company running the service and the Area Authority** (EGA - "Ente di Governo dell'Ambito, EGA" - Area Regulatory Agency). In late 2015, the ARERA (formerly AEEGSI), by resolution 656/15, approved the minimum essential contents of the **"model agreement" regulating relations between awarding and managing entities uniformly and nationally**. This new model agreement concerns the instruments for **keeping the economic and financial balance of the management systems** and updating of the data and information on the basis of the planning activities required by the Authority for the approval of the tariff preparation and takeover procedures, with consequent payment of the reimbursements due. For the other main regulatory interventions on the water sector undertaken during the year by ARERA (and, specifically, resolution 917/2017/R/idr) refer to the beginning of paragraph Quality Delivered and, for more details, to the Authority's website.

The **Integrated water service charter**[49], annexed to the Agreement, defines the **general and specific quality standards** that the manager must respect in relation to the users, **in accordance with the definitions under resolution 655/15**. Customer relations are also disciplined by the **User Regulations**, also annexed to the Agreement, which establishes the technical, contractual and economic conditions which the managers must respect in supplying 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 SII IN ATO 2 – CENTRAL LAZIO

APPROX. **11,300 km** OF NETWORK MANAGED FOR THE DRINKING WATER SYSTEM (OF WHICH 7,292 REMOTE-CONTROLLED) AND APPROX. **6,600 km** OF SEWER SYSTEM

DURING THE YEAR: SYSTEMATIC CAMPAIGNS CONDUCTED SEARCHING FOR HIDDEN LEAKS ON **5,400 km** OF THE ROME DISTRIBUTION NETWORK

66 ACTIVE WATER HOUSES (**20** IN ROME AND **46** IN PROVINCE): APPROX. **17.5 million** LITRES OF WATER SUPPLIED **350t** OF PLASTIC/YEAR SAVED AND **620t** OF CO_2 NOT EMITTED INTO THE ATMOSPHERE

311,929 ANALYTICAL CHECKS ON DRINKING WATER PERFORMED DURING THE YEAR AND APPROX. **184,200** ANALYTICAL DETERMINATIONS ON WASTEWATER

Acea Ato 2 performs the **design, construction, maintenance and restoration of networks and plants** across the Ato 2 area - Central Lazio and operates in respect of the procedures in the **QASE** (Quality, Environment, Safety and Energy) **management systems, certified according to UNI EN ISO and OHSAS standards** (see *Corporate identity, Management Systems*).

The pursuit of **continuous improvement** in the processes and activities managed is the **foundation of the applied Management systems** and the **QASE policy** of ACEA Ato 2 is based on the principles and values which also have effects **on the context of reference** such as: the capillary offer to the customer of high qualitative level public services under fair and non-discriminatory conditions: transparency regarding stakeholders and the impacts on the entire community in terms of economic, social and environmental responsibility.

Acea Ato 2 is **gradually taking over the management** of the municipalities in the reference Optimal Area of Operation after performing an **inspection of the condition of the infrastructures** (networks and systems) in accordance with the local administrations and, in the event of non-compliances, must wait for the municipalities concerned to complete the work required to bring them to standard. In 2017 the S.I.I. (integrate water service) was acquired of the municipality of **Rignano Flaminio**, although the effective transfer of the sewage and purification sectors was subject to the completion of adaptation works on the municipal purification pants. As at **31 December 2017**, out of the 112 municipalities in Ato 2 - Central Lazio, **Acea Ato 2 managed** the **integrated water service** - aqueduct, sewerage and waste water treatment - in **79 municipalities**[50], equal to about 94% of the total population in Ato 2; the SII was **partially managed in another 14 municipalities**.

[47] Acea has been 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. The Rome and Fiumicino network is therefore defined as "historical".

[48] These are the two main companies in the Acea Group operating in the water sector in Italy, and consolidated in the annual Sustainability Report using the step-by-step method (100% Acea SpA). Alone, they represent more than 51% of the population served in the water sector by all the companies in the Group. The companies operating in Tuscany, Umbria and Campania, owned by Acea, are consolidated using the equity method, consequently they are not included in the reporting boundary, 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 boundary of the DNF pursuant to Legislative Decree 254/2016, *Water company data sheets and overseas activities*).

[49] The *Integrated water service charter* is applied progressively in the municipalities under management. The Service charters of Acea Ato 2 and Acea Ato 5 are available online on the website www.acea.it. Specifically, Acea Ato 2 has adopted the Service Charter as modified in ARERA resolution no. 655/2015/R/idr d the Conference of Mayors in Ato 2 – Central Lazio and Rome on 27 July 2016, no. 1/16 "adoption of the 2016 – 2019 regulatory scheme".

[50] Note that 8 small municipalities have chosen to manage their own services, invoking the right to not subscribe to the SII for municipalities of less than 1,000 inhabitants, as provided under art. 148, paragraph 5 of Legislative Decree no. 152 of 03/04/2006.

The **infrastructures managed** in the area include about **11,300 km of networks** (aqueduct, transport, distribution)[51] **for drinking water** and **about 6,600 km of sewerage networks**; the networks are connected to a complex system of facilities and plants making the aqueduct, waste water treatment and sewerage services operational. The company follows the development of new urban development and carries out work every year for the **modernisation and efficient use of the systems and completion, expansion or reclamation of pipelines and networks**.

The objective of integrated new technologies in operational management was consolidated in 2017 and this allowed the efficiency of certain processes to be improved. For example, a **reduction in response times on the first fault intervention** was achieved by introducing automations which engage operators when the call arrives at the call centre. New information system functions, already implemented in 2016, allow full **integration between the GIS geodiagram**[52] **and the SAP maintenance system for displaying the networks and faults in one sole environment** and, in this way, the call centre operator is guided in defining the fault and associating reports to faults that already exist. It is also possible to **report, from the areaby using the device, corrections or updates** detected during the operations, in order to keep the GIS system **constantly updated** and thus consistent with the status of the assets in the area.
Lastly, with the purpose of complying with the provisions of the ARERA on the matter of technical quality (in force since 2018), which imposes **punctual monitoring of service continuity**, recording duration and nature of the disruptions, **new functions** were implement which allow an estimate of the number of users involved in the disruption using the cartography system.
As regards the **"smart metering"** systems, which make **remote reading** and **remote management** of the meters possible, generating benefits both for the consumer and the operator, **Acea Ato 2 carried out in 2016 an experiment – the Top 300 pilot project** – installing 300 apparatuses at different types of users, able to make data and measurements available, such as **leak detection/alarm** and **consumption control**. As a result of this experience, the company decided to **extend the application of remotely read meters**; this also meets the provisions of the Decree of the Ministry of Economic Development, 21 April 2017, no. 93, according to which a mass replacement campaign is to be carried out in the next few years.

During the year **systematic hidden leak detection campaigns were executed on the 5,400 km supply network in Rome**, with the purpose of resource recovery and dealing with the water emergency in progress. For further information refer to box ***Leak recovery plan in Rome and the communities of Ato 2*** in section *Relations with the environment*.

Lastly, as regards the progressive digitalisation of the sanitary water networks in Ato 2, with data entry **into the GIS information system**, as at 31/12/2017 **the completion of the drinking water network was reached** (about 11,300 km) and **84% of the sewage network** (with about 5,600 km of digitalised network).

THE AQUEDUCT SERVICE MANAGED BY ACEA ATO 2

The aqueducts and the transport network are controlled remotely, from a qualitative and quantitative viewpoint, and remote sensing 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 manoeuvres). The distribution network in Rome is also powered by remote controlled water stations with flow and/or pressure and/or level meters. **The comprehensive span of the network subject to remote control, including that of the aqueduct**, according to data drawn from the GIS system **is about 7,292 km**. Thanks to the progressive implementation of the system, **614 water stations** were partially or totally remotely controlled (with pressure and/or flow and/or level measurements) in 2017, and **193** of them (amongst which the **Water houses** active in the year) were equipped with remotely controlled quality measurement capabilities. Furthermore, 133 pressure points were equipped with remote control, spread along the distribution network.

2017 was marked by an accentuation of the drought which had already happened in 2016. In dry periods which last for more than one year, due to the natural drop in sources not refilled by autumn and winter rainfall, **part of the water resource disappears** and significant deficits arise. For these reasons, **the availability of water at the procurement source was found that exceeded 1,200 l/s on average per annum**.
Consequently **Acea Ato 2** had to deal with an **emergency type situation** and immediately **drew up and implemented a consistent plan of interventions** aimed at ensuring the provision of water and preserving the strategic emergency reserve (Bracciano Lake), already suffering due to the drought. The **realised interventions** together with the activities of **leak search and repair** and the activities which optimised **and increased the efficiency of the Roman transport system** allowed a comprehensive recovery of the resource equal to about **1,750 l/s**.

For example, the restored operation of the some springs that had not been used pertaining to the **Acquedotti Appio Alessandrino and Nuovo Vergine** aqueducts was planned and brought about through extraordinary electromagnetic maintenance performed at the related water stations; the works, **which ended in July 2017**, allowed the recovery of about **650 l/s of water and a further 50 l/s** not collected previously, thanks to the completion of electro-mechanical works for raising a spring.
Interventions at the **EUR Water Station** allowed flow management to be re-established and the supply to the tanks in the Aciliia and Ostia coastline was rendered independent, ensuring greater continuity and flexibility in water provisioning in both areas (the EUR area, Laurentino, Torrino, Tormarancia, Garbatella etc. and the coastline). At the **Capore springs** a complex intervention (see dedicated box) allowed the recovery of water not previously collected and thanks to the modernisation of the lifting system for the springs of the Peachier aqueduct, completed in late 2016, it was possible to collect about 200 l/s more.
Moreover, **night-time pressures were optimised** using remotely managed valves able to limit the outflow of water from the tanks to the network, this allowed daily shifts in water supply in the Capital to be avoided during the most extreme stages of the water crisis, as well as a recovery of about 500 l/s on average per day.
Lastly, at the **Vigne Nuove well field**, to the north of Rome, collection form two wells located about 70 m deep had been decommissioned in the 80s due to intervening contamination problems. After having ascertained the quality of the water which shall be conveyed, subject to chlorination, at the Cecchina water Station and mixed with water coming from the Peschiera aqueduct, during the year all the works needed to restore the functionality of the plant were completed. **It shall be reactivated in January 2018** with an expected flow rate of about 70l/s. Similar restoration activities were initiated in 2017 at the **Colle Mentuccia well field** and at the **Torre Spaccata water station, completion for both** is expected **in 2018** with a predicted recovery of about 100 l/s, at the former and 14 l/s at the latter.

[51] In detail: 721 km of aqueduct, 1,176 km transport networks, 9,442 km distribution.

[52] The GIS - Geographic Information System - is a computerised information system allowing the acquisition, recording, analysis, display and return of information deriving from geographic data, placing different elements into relation according to their common geographical reference.

THE RECOVERY OF WATER AT THE CAPORE SPRINGS

In order to ensure water supply in the Municipalities of Ato 2 central Lazio, particularly Rome, it was considered necessary to **proceed with the recovery of water not previously collected** from the Capore springs. Such water, in fact, rise from **surface pools** and did not flow into the artesian wells which drain the water in the collection tank for diversion. Collection was performed by means of **installing an immersion electropump** with operation point calibrated at 120 l/s raised flow rate. A DN 200 pipeline was realised in steel for delivery to the collection tank of water from deep springs, from which the Capore aqueduct tunnel branches off. Furthermore, there was purposeful intake work for the installation of a control station to continuously monitor turbidity. This station is connected to a programmable logic controller (PLC) exactly like the immersion electropump. In this way it is possible to management the switch on/off of the electropump automatically as the turbidity thresholds vary, as measured by the probe. The same parameters were remotised and are available 24hr for remote monitoring at the Environmental Operations Room in Acea Ato 2.

Also carried out during the year were routine maintenance activities - such as closing pipelines for repairs; washing and disinfection of tanks and ducts - which, albeit not linked to the water emergency situation, **were of strategic importance for guaranteeing flexibility and efficiency in the transport system**; during such interventions, in fact, reclamations and replacements of hydraulic parts, valves, etc. were often carried out, functional to optimising the water supply.

The **installation of new meters or replacement of meters that are not working properly continued**, which in 2017 led to about **38,500 interventions**.
Table 20 shows the **main ordinary and extraordinary maintenance work** carried out during the year on the water networks in Rome and the other managed municipalities, and **the tests performed on the quality of supplied drinking water**.

TABLE NO. 20 – MAIN INTERVENTIONS ON THE AQUEDUCT NETWORKS AND CONTROLS ON DRINKING WATER IN ATO 2 – CENTRAL LAZIO (ROME AND OTHER MANAGED MUNICIPALITIES) (2017)

TYPE OF WORK	(NO.)
Interventions due to aqueduct network failure/leak detection	**38,463 interventions** (**34,533** due to fault, **2,993** for water emergency repairs and district metering, **937** leak detection)
Meter installations (including new installation and replacement)	about **38,500 interventions**
Water network extension	**7.7 km** water network extension
Water network reclamation	**36.5 km** reclaimed network
Drinking water quality control	**8,007 samples** collected and **311,929 analytical tests performed** on drinking water

With r**egard to water supply continuity**, in 2017 **2,058 disruptions and pressure reductions occurred**. Of these, **1,915 were urgent disruptions** (due to accidental faults to pipes/plants) and **143 planned**. About 11.8% of the shutdowns lasted for more than 24 hours.

TABLE NO. 21 – NUMBER, TYPE AND DURATION OF DISRUPTIONS IN THE SUPPLY OF WATER IN ATO 2 - CENTRAL LAZIO (2016-2017)

	2016	2017
urgent disruptions (no.)	1,874	1,915
planned disruptions (no.)	76	143
total disruptions (no.) (*)	**1,950**	**2,058**
suspensions lasting > 24hrs (no.)	193	242

(*) The data for total disruptions includes shutdowns (due to damage to pipes/pipelines and network manoeuvres) and the interruptions due to disruptions and plant anomalies.

Acea is committed to protecting the areas where water supply sources are present and controls the **quality of the water distributed for drinking use** and water returned to the environment (see *Relations with the environment*, *Water Area* and *Environmental accounts*). Acea Ato 2, with the support of Acea Elabori, performs tests on samples collected from springs and wells, supply systems, reservoirs and along the distribution networks. The **frequency of the tests** and **sample collection points** are defined taking into consideration a number of variables, such as volumes of water distributed, population covered, network and infrastructure conditions and specific characteristics of local springs. **Comprehensively**, during the year in the municipalities of Ato 2 – central Lazio under management, **8,007 samples** were collected and, in total, both by Acea Elabori and Acea Ato 2, **311,929 tests** performed on drinking water. The data on water quality, periodically updated, are also available online (www.acea.it). Ministerial Decree 14/06/2017 was published during the year, which transposes Directive (EU) 2015/1787 which amends Legislative Decree no. 31/2001. The introduced novelties amend **programmes for testing water intended for human consumption with the objective of further containing risks to human health** throughout the drinking water supply chain.

The **quality of the spring water** collected to supply the **areas of Rome and Fiumicino** (Acea's "historical network") **shows excellent levels**. In the **Castelli Romani** area and other areas of **northern Lazio, the volcanic nature of the terrain** causes the presence in groundwater of mineral elements such as fluorine, arsenic and vanadium in **concentrations exceeding those** envisaged by the law. This has made it indispensable to supply some municipalities notwithstanding these legal provisions and the **planning and realisation of numerous operations aimed at overcoming these issues**, such as the decommissioning of some local sources of supply to replace them with higher quality springs. During the past few years, **more than 40 purification plants** were rolled out for an overall flow rate of about 500 l/s, which are gradually being managed remotely.

In 2017 the purifiers serving the municipalities of Oriolo Romano and Vejano became operational and the **functional inspection** is in progress for the purifier in Fontane Nuove to become operational for the municipality of **Sant'Oreste** and for **Fiano Romano** (Sassete Well Field). The **tender was also awarded** and works undertaken to **realise the new 5 Bottini purifier at the municipality of Allumiere**. In **Bracciano**, a new purification station became operational in November which serves the area of Vigna di Valle. In Rignano Flaminio, acquired under management in 2017, the realisation of a purification plant at the "Tarabussola" well field and increased efficiency of the existing plant at the "Pietrolo" wells are foreseen. Also serving Manziana, planned for 2018 was the realisation or upgrading of some purification plants. A **provisional purification plant** was realised and the **water raising system** upgraded with a view to changing the water distribution format and improving the mixture of local resources with water supplied from the Marcio aqueduct, serving **Ardea** and **Pomezia**. During the year, lastly, **projects are being perfected** for the realisation of new purification plants in Ardea, Ariccia, Genazzano and Rome (Grottarossa plant) and for revamping the purifier of the Pozzo Madonna di Coccio well in Castel Gandolfo.

Acea **measures customer habits and perceptions regarding the quality of the water supplied**. Customer satisfaction surveys conducted twice yearly call for an in-depth review of this topic both in Rome as well as in other municipalities of Ato 2. **The opinion on taste, smell and clearness of the water distributed in Rome and Fiumicino**, given by the sample of interviewees, **was good**, and equal, on the average of the two surveys to **7.2 out of 10**; the same datum of global satisfaction, **in the province, is 7 out of 10**, both in line with last year. In Rome **53% of the interviewees say they normally drink tap water at home** whereas **28.4% states they never drink it;** such percentages, **in provincial areas**, change to **36.5%**, for those **routinely drinking tap water** and to **43.9%**, for those who do not. Among **the reasons given by those who never drink tap water**, for Rome and Fiumicino, **the habit to drink mineral water prevails**, in 53.3% of the cases and in provincial areas, a dislike of the taste, in 37.3% of the cases.

Also continuing into 2017 was the installation of ***Water Houses* - free dispensers of cold natural or sparkling water for the inhabitants and tourists** - reaching a total at the end of the year of **66 working Water Houses: 20 in the city of Rome and 46 in provinces of Rome**. 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. These water dispensers have a **180 l/h flow** rate, allowing a 1 litre bottle to be filled in 20 seconds. Each Water House 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 such as mobile phones or tablets and a screen for transmitting company/local information. **The initiative continues to have a high level of response: over 2017** the **Houses supplied** a total of **17,500,000** litres of water, of which about 61% was sparkling water. In addition to **obvious social benefits**, it is also important to stress the **environmental benefits**: the dispensed litres are in fact equivalent to **about 350 tonnes of plastic saved in the year** (equal to about **11.7 million 1.5 litre bottles**) and **about 620 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 Houses and the CO_2 added to produce sparkling water.

Acea Ato 2 manages **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 Naiads Fountain and the "Fontanone Mostra dell'Acqua Paola" on the Janiculum hill.
In the Municipality of Rome the company also manages the pumping stations, reservoirs that feed the non-drinking water network and irrigation network supplying water for "jeux d'eau" in major artistic fountains. Extraordinary maintenance works took place in 2017 to revamp the circulation system of the **three fountains in Piazza Navona** and the **lifting station that serves the Fountain of Moses** was revamped. Lastly, Acea Ato 2 is 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.

THE WATER TREATMENT AND SEWERAGE SERVICE MANAGED BY ACEA ATO 2

The integrated water service includes **the collection of wastewater and its treatment prior to being returned to the environment**. The treatment system in **Ato 2 – Central Lazio** consists of **"catchment basins"**, territorial units comprising **wastewater treatment plants, sewerage networks** connected thereto and the associated **water lifting stations**. The infrastructures managed at **31/12/2017** include about **6,600 km of sewerage networks** (of which over **4,000 km** managed in Rome) **600 sewerage lifting systems** (**173** of which in the municipality of Rome) and **170** treatment plants (**33** of which in the municipality of Rome).
Apart from the management and maintenance activities during the year there were works on **extension, integration and reclamation of the sewerage network, together with controls on wastewater** (see Table no. 22). Between fault repair and planned works, **about 4,700** interventions were completed in 2017; as well as **repairing the detected damage**, an intervention on the network often involves **punctual inspection of a longer sections** and this allows any **reclamation activities to be planned** in order to improve operating conditions.

[53] Although significant, this figure is certainly underestimated, as it does not consider the saving in emissions due to bottles not being transported by road/railway.

TABLE NO. 22 – MAIN INTERVENTIONS ON THE SEWERAGE NETWORKS AND CONTROLS ON WASTEWATER IN ATO 2 – CENTRAL LAZIO (ROME AND MANAGED MUNICIPALITIES) (2017)

TYPE OF WORK	(NO.)
Interventions due to sewerage network failure	**4,252 interventions**
Planned maintenance work on sewerage network	**464 interventions**
Network extension	**1.0 km sewerage network extension**
Network reclamation	**8.6 km reclaimed network**
Wastewater quality control	**7,214 samples** collected and about **184,200 analytical tests performed** on wastewater

Acea **monitors the parameters indicating the quality of the water coming into and flowing out of the purifiers and the impact on the receiving water bodies**: the Tiber and Aniene rivers (also see *Relations with the environment, Water Area*). In particular, the **Acea Ato 2 Environmental Operations Centre constantly monitors data** recorded by remote control, thanks to the adoption of 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 along the urban stretches of the Tiber and Aniene rivers**.

THE SII IN ATO 5 – SOUTHERN LAZIO - FROSINONE

APPROX. **4,330 km** OF NETWORKS MANAGED FOR THE DRINKING WATER SYSTEM AND **1,775 km** OF SEWER SYSTEMS

OVER **1,900** SEARCH AND LEAK RECOVERY INTERVENTIONS

APPROX. **650 km** OF WATER AND SEWER NETWORK DIGITIZED IN GIS (GEOGRAPHIC INFORMATION SYSTEM)
OVER **14,800** INTERVENTIONS BETWEEN NEW INSTALLATIONS AND REPLACEMENT OF METERS
APPROX. **28 km** OF WATER AND SEWER NETWORKS CLEANED

91,157 ANALYTICAL CHECKS ON DRINKING WATER
23,421 ANALYTICAL DETERMINATIONS ON WASTEWATER

Acea Ato 5 performs network and plant design, construction, maintenance and restoration interventions on networks and plants across the Ato 5 area - Southern Lazio – Frosinone and operates in accordance with the procedures in the **QASE** (Quality, Environment, Safety and Energy) **management systems, certified according to UNI EN ISO and OHSAS standards** (also see *Corporate Identity, Management systems*).

The municipality of Cassino was acquired during the year. As at **31 December 2017, the integrated water service** – aqueduct, sewerage and purification – was managed in **83 municipalities**, equal to approximately 95% of the total population of Ato 5. **Two municipalities outside of the Sector** (Conca Casale and Rocca d'Evandro) **were also being managed**, for a total of **85 municipalities** under management.

Acea Ato 5 managed a total of about **4,330 km of networks** (including supply and distribution)[54], serving the drinking water system, and about **1,775 km of sewerage networks**. The networks are connected to a complex plant and construction system that make it possible to operate the aqueduct, purification and sewerage service.
Modernisation on the technological infrastructures serving operational processes continued in 2017. This mainly involved the processes presiding interventions in loco (Workforce Management), those concerning customer relations (CRM-ISU) and the corporate resources planning system (ERP).
The GIS is also constantly growing, which maps almost all of the plants and network surveys in some municipalities as well as monitoring and extension of remote control.

The company intervenes on the infrastructures each year, through the modernisation or efficient use of the plants and the completion, extension or reclaiming of the pipelines and networks. In 2017, the analysis of the set-up of the water networks and **leak detection and recovery** intensified, leading to **1,932 interventions**, especially in Sora, Fiuggi, Ceccano and Frosinone; **the pilot studies at Sora and Fiuggi were brought to an end**, allowing the recovery of about 35 l/s and improved the set-up of the networks, and **a similar study in the municipalities of Ceccano and Frosinone is near completion** (see *Relations with the environment*).

(GRI 203-1) The **digitalisation of the water and sanitation networks** in the managed area, with data entry **into the GIS** - Geographic Information system, as mentioned, continued: **as at 31/12/2017,**

[54] In detail: about 573 km transport network and 3,756 km drinking water distribution network.

254 km of the water network had been digitalised (**174** km of supply network and **254** km of distribution network). All of the water sites (wells, springs, reservoirs/dividers) and the sewerage lifting and treatment plants have already been geo-referenced, including the relevant functional schemes, making technical intervention easier and more effective. **Similar work is being carried out for the mapping of the sewerage network:** at 31/12/2017, the network digitalised in the mapping system spans **224** km (217 km of primary section, 6 km of connection section and about 1 km of discharge section).

THE AQUEDUCT SERVICE MANAGED BY ACEA ATO 5

Some of the water sites managed by Acea Ato 5 - consisting of supply sources and distribution plants (dividers and reservoirs), sewerage lifting systems and purification plants – **are equipped with remote control-enabled technology**. In particular, both telemetry and command and control activities are carried out; hydraulic parameters are also recorded, such as water flow, network pressure, reservoir levels, operating status of the electric pumps, with relevant electrical parameters, and, lastly, qualitative parameters (clearness and residue colour).

Installation continued during the year of additional instrumentation for a more detailed monitoring of the plants already remote controlled and investments were made for the remote management of new sites. The remote controlled plants, identified from among the largest and those with the most hydraulic complexities, number of inhabitants served and strategic territorial aspects, totalled **92 sites at 31/12/2017** (equipped with hydraulic measures - flow, pressure and levels - and 11 also equipped with water quality control systems).

The **installation of new meters or replacement of those not working properly** continued, leading to **over 12,500 interventions in 2017**.

Table 23 shows the main reclamation and replacement **ordinary and extraordinary maintenance works** completed, functional to improving the supply service in Frosinone and in the other municipalities under management, as well as the **tests on the drinking water supplied**.

TABLE NO. 23 – MAIN INTERVENTIONS ON THE AQUEDUCT NETWORKS AND TESTS ON DRINKING WATER AT ATO 5 – SOUTHERN LAZIO (FROSINONE AND MANAGED MUNICIPALITIES) (2017)

TYPE OF INTERVENTION	(NO.)
interventions due to aqueduct network failure	**12,642 interventions** of repair
planned maintenance work on aqueduct network	**71 interventions**
meter installations (including new and replaced meters)	**14,842 interventions** (**2,320** new installation and **12,522** replacements)
water network extension	**4 interventions on water network extension**, for about **1.5 km of extended network**
water network reclamation	about **76 interventions** on network reclamation for about **25.0 km reclaimed network**
drinking water quality control	**1,835 samples collected** (including samples collected for extraordinary testing) and **91,157 tests performed** on drinking water

With respect to **water supply continuity**, in 2017 **573 network shutdowns** were necessary, of which **303 urgent** (pipeline or plant faulty, interrupted energy, etc.) and **270 planned; about 1% of the shutdowns lasted more than 24 hours**.

TABLE NO. 24 – NUMBER, TYPE AND DURATION OF DISRUPTIONS IN THE WATER SUPPLY AT ATO 5 – SOUTHERN LAZIO (2016-2017)

	2016	2017
urgent disruptions (no.)	355	303
planned disruptions (no.)	375	270
total disruptions (no.) (*)	**730**	**573**
suspensions lasting > 24hrs (no.)	2	6

(*) The data for total disruptions includes shutdowns (due to damage to pipes/pipelines and network manoeuvres) and the disruptions due to faults and plant anomalies.

Acea Ato 5 performs **drinking water quality monitoring** activities with the support of Acea Elabori. Tests 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.). 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. In 2017, more than **91,157 tests were performed** as a whole on 1,835 samples collected. Moreover, parameters concerning radioactivity were analysed on 398 samples (pursuant to Legislative Decree no. 28/2016). The main water quality parameters are also available online on the website www.acea.it.

Customer satisfaction surveys for Acea Ato 5 customers also required an in-depth review on **drinking water quality perception** with respect to taste, smell and clearness of the water distributed. The overall rating expressed **has not reached full satisfaction and is 5.3 out of 10**. In line with last year, the low percentage of respondents stating that they usually drink tap water was confirmed, a mere 18.1%, as was the high percentage of those stating that they never drink any, 65.3%. Three main reasons were given for this: 38.6% stated "I don't trust the factors of hygiene", 32.5% said "I don't like it, it tastes of chlorine", and the same percentage stated, "it is not good for my health (too much calcium, presence of minerals)".

THE TREATMENT AND SEWERAGE SERVICE MANAGED BY ACEA ATO 5

The collection of wastewater and its treatment prior to being returned to the environment are part of the integrated water service. The treatment system in **Ato 5 - Southern Lazio** consists of **"catchment basins"** comprising **wastewater treatment plants**, **sewerage networks** connected thereto and the associated **water lifting stations**. The infrastructures managed at 31/12/2017 included **255 sewerage lifting stations, 127 treatment plants** and **1,775 km of dedicated networks**.

In 2017 **planned maintenance and faulty repair works** were completed on the networks servicing the sewerage and purification system, work progressed on the **replacement or realisation of collectors** and realisation and **extension of the sewerage network** (see Table no. 25).

Wastewater monitoring tasks were performed on 1,681 samples, totalling **23,421 analytical tests.**

TABLE NO. 25 – MAIN INTERVENTIONS ON THE SEWERAGE NETWORKS AND TESTS ON WASTEWATER AT ATO 5 – SOUTHERN LAZIO (FROSINONE AND MANAGED MUNICIPALITIES) (2017)

TYPE OF INTERVENTION	(NO.)
interventions due to sewerage network fault	**937 interventions**
planned maintenance work on sewerage network, of which:	**11 interventions** planned
planned network extension	***5 interventions*** to expand the sewerage network, on **about 2.5 km of extended network**
planned network reclamation	***6 interventions*** of network reclamation for **about 3.0 km of reclaimed network**
wastewater quality control	**1,681 samples collected and 23,421 tests performed on wastewater**

THE SII IN ATO – CALORE IRPINO

APPROX. **1,270 km** OF NETWORKS MANAGED FOR THE DRINKING WATER SYSTEM AND **950 km** OF SEWER NETWORKS

295 SEARCH AND LEAK RECOVERY INTERVENTIONS AND **2.8 km** OF CLEANED NETWORK

APPROX. **1,600 km** OF WATER AND SEWER NETWORK DIGITIZED IN GIS (GEOGRAPHIC INFORMATION SYSTEM)
APPROX. **3,160** INTERVENTIONS BETWEEN NEW INSTALLATIONS AND REPLACEMENT OF METERS

6,289 ANALYTICAL CHECKS ON DRINKING WATER
4,268 ANALYTICAL DETERMINATIONS OF WASTEWATER

Gesesa performs design, construction, maintenance and restoration interventions on networks and plants in **Benevento and provincial areas**, across the **Ato – Calore Irpino** and operates in accordance with the procedures in the **QASE** (Quality, Environment, Safety and Energy) **management systems, certified according to UNI EN ISO and OHSAS standards** (also see *Corporate Identity, Management systems*).

The municipality of Tocco Caudio was acquired during the year, therefore as at **31 December 2017, the integrated water service** – aqueduct, sewerage and purification – was managed in **21 municipalities**, with a **customer base of served population equal to about 132,000 people**.

As a whole, the company managed about **1,270 km of networks** (including supply and distribution)[55], serving the **drinking water system**, and **about 950 km of sewerage networks**; the networks are connected to a complex plant and construction system that make it possible to operate the aqueduct, purification and sewerage service.

Consistently with the entire technological infrastructure and operational procedures of the Group, WFM (Workforce Management) procedures were also implemented in Gesesa to manage interventions in the area and those regarding "Enterprise Resource Planning", for the main internal processes. Furthermore, digitalisation is underway on the drinking water and sewerage networks using GIS (Geographic Information System), also with a view to integrating other information systems.

The company intervenes on the infrastructures each year, through the modernisation or efficient use of the plants and the completion, extension or reclaiming of the pipelines and networks. In 2017, the analysis of the set-up of the water networks and **leak detection and recovery** led to **295 interventions and the reclamation of about 2.8 km** of water supply network. The "districts division" method was also developed for water networks, progressively extending the reduction in pressure in all the managed municipalities; in particular this activity involved 8 municipalities during the year.

[55] In detail: about 119 km transport network and 1,151 km drinking water distribution network.

As mentioned, the activity of network digitalisation using GIS is in progress and as at **31/12/2017 1,040 km of the water network** (**119 km** of supply network and **921 km** of distribution network) and **577 km of sewerage network** (including outfalls, main and secondary collectors) had been digitalised. The **water sites** (wells, springs, reservoirs/dividers) and the **sewerage lifting and treatment plants** have already been geo-referenced, including the relevant functional schemes, making technical intervention easier and more effective.

THE AQUEDUCT SERVICE MANAGED BY GESESA

The network is remotely controlled in one sole entry point in the district of Santa Colomba in the municipality of Benevento, where input flow and pressure is measured and the pressure in the less advantaged point; the sites (provisioning sources and distribution plants, sewerage lifting and purification plants), instead, have been progressively **equipped with remote control-enabled technology: as at 31/12/2017 the remote controlled plants**, identified as those of greatest importance, counted 25 and the system shall continue to be extended to other plants in 2018, with particular attention to purification.

Among the interventions undertaken in 2017, we point out the activation of the well in the municipality of Frasso Telesino which is connected to the city network; also outfitted was the well in the municipality of Colle Sannita, also connected to the city network and the well in the municipality of Solopaca-Lago dei Selci, for which connection was realised in 2018 to the Santo Stefano Station.
The **installation of new meters** and **replacement of those not working properly** was carried out in the year and totalled 3,100 interventions.
Table no. 26 shows the main **ordinary and extraordinary maintenance works**, including extension and reclamation performed on the water networks, functional to the drinking water supply service, as well as **testing on the supplied drinking water**.

TABLE NO. 26 – MAIN INTERVENTIONS ON THE AQUEDUCT NETWORKS AND TESTS ON DRINKING WATER IN ATO – CALORE IRPINO (BENEVENTO AND MANAGED MUNICIPALITIES) (2017)

TYPE OF INTERVENTION	(NO.)
interventions due to fault/leak detection on aqueduct network	**3,071 interventions** (**2,776** due to fault and **295** leak detection)
planned maintenance work on aqueduct network	**69 interventions**
meter installations (including new and replaced meters)	about **3,160 interventions** (including new installation and replacement)
water network extension	**2.6 km** di water network extension
water network reclamation	**2.8 km** reclaimed network
drinking water quality control	**367** samples collected and **6,289** tests performed on drinking water

In relation to **water supply continuity, Gesesa is implementing an information system** which shall **record incoming calls** to the operations room due to urgent interventions requested by users. Completion is expected **by the first half-year of 2018**, therefore data for 2017 are not available.
Planned water closing and opening manoeuvres were carried out during the summer in some districts of the served municipalities due to the scarce water resource.

THE PURIFICATION AND SEWERAGE SERVICE MANAGED BY GESESA

The collection of wastewater and its treatment prior to being returned to the environment are part of the integrated water service. The treatment system in **Ato Calore-Irpino** consists of **"catchment basins"** comprising **wastewater treatment plants, sewerage networks** connected thereto and the associated **water lifting stations**. The infrastructures managed at 31/12/2017 included **13 sewerage lifting stations, 27 treatment plants** and **950 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 2017, **156 interventions due to fault and 16 planned interventions** were completed on the networks servicing the sewerage and purification system. Apart from the management and maintenance activities, work progressed on the **extension, integration and reclamation of the sewerage network** (see Table no. 27).
Wastewater monitoring tasks were performed on 211 samples, totalling **4,268 completed analytical tests**.

TABLE NO. 27 – MAIN INTERVENTIONS ON THE SEWERAGE NETWORKS AND TESTS ON WASTEWATER IN ATO – CALORE IRPINO (BENEVENTO AND MANAGED MUNICIPALITIES) (2017)

TYPE OF INTERVENTION	(NO.)
interventions due to sewage network fault	**156 interventions**
planned maintenance work on sewage network:	**16** planned **interventions**
network extension	**0.03 km** extended sewage network
network reclamation	**0.25 km reclaimed network**
wastewater quality control	**211 samples collected and 4,268 tests** performed on wastewater

THE QUALITY LEVELS REGULATED BY ARERA IN THE WATER SEGMENT

The Regulation Authority for Energy, Networks and the Environment (ARERA), had, in 2015, resolved (655/15/R/Idr) **on the matter of contractual quality for the water segment**, defining the **specific and general levels of quality**, in force, regarding most of the aspects, from July 2016 (see the start of paragraph *Quality delivered*); for the first time, therefore, the main **annual performance data** are available related to 2017.
As regards **Acea Ato 2**, it is important to specify that in 2016, the company was **part of the few companies at national level** to have proposed improvement levels on the minimum standards of contractual quality and **the Authority accepted the application from the Area Regulatory Agency** (Mayors' conference of Ato 2 Central Lazio) aimed at **recognising awards related to contractual quality** associated with **the identification of stricter improvement standards respect to those defined by resolution 655/15**[56].
In particular, **the improvement standards** regarding Acea Ato 2, concern **43 indicators out of the 47 set out by the resolution**, having an average value of improvement of 46.5% in 2016 and 38.3% in the following years. **The tariff related recognition of the award** intervened in the year after that of the communication on performance[57] and **within the limits that the proposed improvement levels were reached and aggregated**. It was also established that, so as to allow the Operating Technical Secretariat for the Area (STO) to control and assess performance, as from 2017 **Acea Ato 2 is bound to producing, by 20 January of each year** (early in respect of the term of 31 March set out by resolution 655/15) **the Lists bearing data on performance for the previous year**[58]. Having completed the appropriate assessments, the Technical Secretariat proceeds with quantifying the award of economic competence to the year of reference.

Commercial performance, as mentioned, is separated into specific and general levels regarding which the national Authority has defined service standards expressed in various units of measurement **The table illustrating the performance of Acea Ato 2 shows the improvements proposed 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 performance 2017 for Acea Ato 2, communicated to the STO** (see Table no. 28), shows an average compliance equal to about 89%, with **excellent results achieved in the following macro-areas**: supply activation and deactivation, call centre, complaints, billing, metering and pressure checks, helpdesk counters and transfers of registration. The indicators related to urgent intervention (first inspection and emergency call answer times) recorded a poor performance, mainly due to the considerable increase in calls to the faults switchboard attributable to the freeze emergency in January[59] and the water emergency which characterised the summer of 2017 in various communities of the Area[60], including the city of Rome. The indicators related to the completion of works and connections represent an area of improvement to be focussed upon in the short/medium term.

Resolution 655/2015 provides for a mechanism of automatic indemnities to be granted to customers in the event of off standard services related to one of the specific indicators. The unitary indemnity for 2016 equalled 30 Euros, whereas from 2017 onward the unit value varies according to the delay in service execution (30, 60 and 90 Euros according to whether the service is completed in a time less than double the standard, at time ranging between double and triple the standard, or in triple or more than triple time of the standard).
Acea Ato 2 accrued automatic indemnities to clients in 2017 equalling about 2.7 million Euros, the most part of which referred to billing indicators regarding which - despite the good performance - the high number of services are significantly influential.

Acea Ato 5 and Gesesa did not propose improvement standards respect to those set out by the Authority and comply with the **consignment times for performance data as provided by the latter** (31 March 2018). **It shall therefore not be possible to publish the available estimates on performance data herein**. As these are not definitively aggregated data officially communicated to ARERA, **such estimates are to be understood as exclusively indicative of the service performance** and the publication of aggregated data 2017 is deferred to the next reporting cycle.
Given the foregoing, the contractual quality performance estimates 2017 for Acea Ato 5, as defined by ARERA, show a clear trend of improvement compared to the second half-year of 2016[61], for example, the "bill issue time" changed from a compliance percentage of 91% related to the half-year 2016 to 99.12% in 2017, or, further, the "arrival time at the location of the emergency call" changed from 24% in 2016 to 100% in 2017; moreover, better work organisation and punctual monitoring have led to a reduction in indemnities issued to users (see Table no. 29). Also, with regard to Gesesa, performance estimates (see Table no. 30) indicate improvements in service quality compared the first half-year of effectiveness of Resolution 655/2015.

Acea Ato 2 and Gesesa, furthermore, as required by the Authority, communicate performance data to users in bills once a year[62], whereas at the moment only Acea Ato 2 makes these available online as well (www.acea.it). Again in compliance to the regulatory interventions already intervening on the topic, companies operating in the water segment also make information about the quality of supplied drinking water available for the consultation of users.

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[56] With the exception of those related to processes not present in the operational organisation or having stricter levels in the Service Charter.

[57] For example, regarding performance in 2016, communicated in 2017, the recognition of the award shall take place in the tariffs of 2018.

[58] With reference to 2016, on 20 January 2017 Acea Ato 2 sent the STO data on the achieved contractual quality levels for each indicator, according to the regulations under resolution 655/2015, for the recognition of the award system related to the 2nd half-year 2016 and following the completed assessments, the Secretariat granted Acea Ato 2 an award of about 23 million Euros. On 20 January 2018, Acea Ato 2 sent the data related to performance for 2017 and the Secretariat has 40 days to quantify the award for 2017.

[59] In January 2017 the volume of calls and fault reports reached up to 10 times the average volume of the most critical days of the other months of the year.

[60] The water emergency gave rise to the need for continuous manoeuvres on the networks and plants aimed at managing the deficit in the water resource, even recurring to hourly shifts in supply.

[61] Reminder is given that the contractual quality performance for the water segment became effective as from July 2016.

[62] 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. 28 - SOCIAL INDICATORS: SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SEGMENT (2017) - ACEA ATO 2 - (ARERA PARAMETERS, ACEA ATO 2 IMPROVEMENT STANDARDS AND ACEA ATO 2 PERFORMANCE - DATA COMMUNICATED TO THE STO)

CONTRACTUAL QUALITY WATER SEGMENT – ACEA ATO 2

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD (*)	ACEA ATO 2 IMPROVEMENT STANDARD	average actual time for completing services	degree of compliance
			PERFORMANCE ACEA ATO 2	
			2017	
estimate for water connection with inspection	20 working days	15 working days	9.6	90.6%
estimate for sewage connection with inspection	20 working days	15 working days	6.8	100%
execution of the water connection with completion of simple work	15 working days	10 working days	10.3	76.0%
execution of the sewage connection with completion of simple work	20 working days	15 working days	/	/
supply activation	5 working days	3 working days	11.0	77.5%
reactivation or takeover of the supply without changing the meter rate	5 working days	3 working days	2.4	93.9%
reactivation or takeover of the supply with changes to the meter rate	10 working days	6 working days	3.4	95.0%
reactivation of supply following disconnection for late payment	2 weekdays	1 weekday	1.6	77.5%
deactivation of supply	7 working days	3 working days	2.5	93.6%
transfer of registration	5 working days	3 working days	0.1	99.8%
estimates for works with inspection	20 working days	15 working days	11.2	85.2%
completion of simple works	10 working days	6 working days	15.6	46.2%
punctuality band for appointments	180 minutes	120 minutes	-	94.9%
intervention to check the meter	10 working days	5 working days	3.8	87.9%
notification of outcome of the meter check in situ	10 working days	6 working days	1.8	96.1%
notification of outcome of the meter check in a laboratory	30 working days	20 working days	35.3	66.7%
replacement of a faulty meter	10 working days	5 working days	0.0	100%
intervention to check pressure level	10 working days	3 working days	1.4	97.8%
notification of the outcome of the pressure level check	10 working days	5 working days	1.0	97.8%
bill issued	45 gg.	30 gg.	2.1	98.9%
billing frequency (consumption ≤100 m^3/year)	2 bills/year	3 bills/year	4.9 (**)	97.5%
billing frequency (100 < consumption ≤ 1000 m^3/year)	3 bills/year	4 bills/year	5.4 (**)	91.8%
billing frequency (1000 < consumption ≤ 3000 m^3/year)	4 bills/year	6 bills/year	9.0 (**)	92.2%
billing frequency (consumption > 3000 m^3/year)	6 bills/year	12 bills/year	13.2 (**)	82.3%
bill payment term	20 gg.	30 gg	30.7	99.9%
reply to complaints	30 working days	20 working days	11.1	96.8%
reply to written enquiries	30 working days	20 working days	12.4	97.0%
billing adjustment	60 working days	55 working days	6.2	98.4%
separate management - request received from the end user forwarded to the sewage and/or purification service operator	5 working days	3 working days	0.0	100%
separate management - communication received from the sewage and/or purification service operator forwarded to the end user	5 working days	3 working days	/	/

GENERAL LEVELS OF QUALITY

SERVICES	ARERA STANDARD (*)	ACEA ATO 2 IMPROVEMENT STANDARD	average actual time for completing services	degree of compliance
			2017	
completion of complex water connection	90% of the services within 30 working days	90% of the services within 20 working days	21.2	76.0%
completion of complex sewage connection	90% of the services within 30 working days	90% of the services within 25 working days	14.0	100%
completion of complex works	90% of the services within 30 working days	90% of the services within 20 working days	47.3	41.8%
maximum time for the agreed appointment	90% of the services within 7 working days	90% of the services within 5 working days	3.8	82.2%
minimum prior notice for cancelling the agreed appointment	95% of the services within 24 hours before the start of the agreed punctuality bracket	95% of the services within 48 hours before the start of the agreed punctuality bracket	173.9	87.0%
arrival at the location of the emergency call	90% of the services within 180 minutes from the telephone conversation with the operator	90% of the services within 120 minutes from the telephone conversation with the operator	2,105.4	61.5%
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	10.2	97.2%
maximum waiting time at helpdesk counters	95% of the services within 60 minutes	95% of the services within 55 minutes	8.1	98.6%
average waiting time at helpdesk counters	20 minutes	15 minutes	8.1	100%
accessibility to the telephone service (AS)	> 90% for at least 10 months out of 12	> 95% for at least 10 months out of 12	-	100%
average waiting time for the telephone service (TMA)	≤ 240 seconds for at least 10 months out of 12	≤ 180 seconds for at least 10 months out of 12	110	100%
telephone service level (LS)	≥ 80% for at least 10 months out of 12	≥ 85% for at least 10 months out of 12	110	89.7%
reply to the emergency call (CPI)	90% of the services within 120 seconds	90% of the services within 110 seconds	120.7	85.1%
separate management - notification of completed activation, deactivation, takeover, discontinuance, transfer of registration	90% of the services within 10 working days from the date of execution	90% of the services within 5 working days from the date of execution	1.6	99.8%

(*) The times provided under the Authority's reference standards, also where not expressly indicated in the table, are to be understood, case by case, as related to a certain moment, for example: starting from the date of receipt of the request, the date of acceptance of the estimate, the date the agreement was stipulated, etc. See resolution (655/15/R/Idr), available on the ARERA website.

(**) The average time for billing frequency refers to the average number of issued bills.
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 - SOCIAL INDICATORS: MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SEGMENT (2017) - ACEA ATO 5 - (ARERA PARAMETERS, AND PERFORMANCE OF ACEA ATO 5 - ESTIMATED DATA UNDER VALIDATION - REPORTING TO THE ARERA FORESEEN FOR 31/03/2018)

CONTRACTUAL QUALITY WATER SEGMENT– ACEA ATO 5

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD(*)	average actual time for completing services	degree of compliance
		PERFORMANCE ACEA ATO 5	
		2017	
estimate for water connection with inspection	20 working days	4	95%
estimate for sewage connection with inspection	20 working days	4	91%
execution of the water supply with completion of simple work	15 working days	12	88%
execution of the sewage supply with completion of simple work	20 working days	12	100%
supply activation	5 working days	9	67%
reactivation or takeover of the supply without changing the meter rate	5 working days	3	95%
reactivation or takeover of the supply with changes to the meter rate (**)	10 working days	n.a.	n.a.
reactivation of supply following disconnection for late payment (**)	2 weekdays	n.a.	n.a.
deactivation of supply	7 working days	5	90%
transfer of registration	5 working days	1	99%
estimates for works with inspection	20 working days	5	95%
completion of simple works	10 working days	9	83%
punctuality band for appointments	180 minutes	-	76%
intervention to check the meter	10 working days	7	96%
notification of outcome of the meter check in situ	10 working days	8	91%
notification of outcome of the meter check in a laboratory	30 working days	/	/
replacement of a faulty meter	10 working days	1	100%
intervention to check pressure level	10 working days	7	96%
notification of the outcome of the pressure level check	10 working days	5	79%
bill issued	45 working days	6	99.12%
billing frequency (consumption ≤100 m^3/year)	2 bills/year	n.a.	45%
billing frequency (100 < consumption ≤ 1000 m^3/year)	3 bills/year	n.a.	96%
billing frequency (1000 < consumption ≤ 3000 m^3/year)	4 bills/year	n.a.	98%
billing frequency (consumption > 3000 m^3/year)	6 bills/year	n.a.	75%
bill payment term	20 calendar days	45	10%
reply to complaints	30 working days	8	96%
reply to written enquiries	30 working days	14	89%
billing adjustment	60 working days	8	99%
separate management - request received from the end user forwarded to the sewage and/or purification service operator	5 working days	/	/
separate management - communication received from the sewage and/or purification service operator forwarded to the end user	5 working days	/	/

GENERAL LEVELS OF QUALITY

SERVICES	ARERA STANDARD(*)	average actual time for completing services	degree of compliance
		PERFORMANCE ACEA ATO 5	
		2017	
completion of complex water connection	90% of the services within 30 working days	10	93%
completion of complex sewage connection	90% of the services within 30 working days	14	100%
completion of complex works	90% of the services within 30 working days	11	98%
maximum time for the agreed appointment	90% of the services within 7 working days	4	97%
minimum prior notice for cancelling the agreed appointment	95% of the services within 24 hours before the start of the agreed punctuality bracket	n.a.	100%
arrival at the location of the emergency call	90% of the services within 180 minutes from the conversation with the telephone operator	55	100%
reply to written billing adjustment requests	95% of the services within 30 working days from receipt of the request	16	87%
maximum waiting time at helpdesk counters	95% of the services within 60 minutes	33	97%
average waiting time at helpdesk counters	20 minutes	n.a.	n.a.
accessibility to the telephone service (AS)	> 90% for at least 10 months out of 12	n.a.	98%
average waiting time for the telephone service (TMA)	≤ 240 seconds for at least 10 months out of 12	68	98%
telephone service level (LS)	≥ 80% for at least 10 months out of 12	n.a.	88%
reply to the emergency call (CPI)	90% of the services within 120 seconds	n.a.	22%
separate management - notification of completed activation, deactivation, takeover, discontinuance, transfer of registration	90% of the services within 10 working days from the date of execution	/	/

(*) The times provided under the Authority's reference standards, also where not expressly indicated in the table, are to be understood, case by case, as related to a certain moment, for example: starting from the date of receipt of the request, the date of acceptance of the estimate, the date the agreement was stipulated, etc. See resolution (655/15/R/Idr), available on the ARERA website.

(**) 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. 30 - SOCIAL INDICATORS: MAIN SPECIFIC AND GENERAL LEVELS OF CONTRACTUAL QUALITY IN THE WATER SEGMENT (2017) – GESESA - (ARERA PARAMETERS, AND PERFORMANCE OF GESESA - ESTIMATED DATA UNDER VALIDATION - REPORTING TO THE ARERA FORESEEN FOR 31/03/2018)

CONTRACTUAL QUALITY WATER SEGMENT- GESESA

SPECIFIC LEVELS OF QUALITY

SERVICES	ARERA STANDARD (*)	average actual time for completing services	degree of compliance
		PERFORMANCE GESESA	
		2017	
estimate for water connection with inspection	20 working days	20.0	86.4%
estimate for sewage connection with inspection	20 working days	/	/
execution of the water supply with completion of simple work	15 working days	15.0	100%
execution of the sewage supply with completion of simple work	20 working days	/	/
supply activation	5 working days	5.0	100%
reactivation or takeover of the supply without changing the meter rate	5 working days	5.0	98.7%
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	/	/
deactivation of supply	7 working days	7.0	96.3%
transfer of registration	5 working days	5.0	99.7%
estimates for works with inspection	20 working days	3.2	100%
completion of simple works	10 working days	10.0	100%
punctuality band for appointments	180 minutes	96	81.6%
intervention to check the meter	10 working days	10.0	100%
notification of outcome of the meter check in situ	10 working days	10.0	100%
notification of outcome of the meter check in a laboratory	30 working days	10.0	100%
replacement of a faulty meter	10 working days	/	/
intervention to check pressure level	10 working days	10.0	100%
notification of the outcome of the pressure level check	10 working days	10.0	100%
bill issued	45 working days	10.0	97.1%
billing frequency (consumption ≤100 m^3/year)	2 bills/year	-	96%
billing frequency (100 < consumption ≤ 1000 m^3/year)	3 bills/year	-	98.5%
billing frequency (1000 < consumption ≤ 3000 m^3/year)	4 bills/year	-	85%
billing frequency (consumption > 3000 m^3/year)	6 bills/year	-	81.4%
bill payment term	20 calendar days	30.4	100%
reply to complaints	30 working days	30.0	96.6%
reply to written enquiries	30 working days	30.0	89.4%
billing adjustment	60 bills/year	60.0	100%
separate management - request received from the end user forwarded to the sewage and/or purification service operator	5 working days	/	/
separate management - communication received from the sewage and/or purification service operator forwarded to the end user	5 working days	/	/

GENERAL LEVELS OF QUALITY

SERVICES	STANDARD ARERA (*)	average actual time for completing services	degree of compliance
		PERFORMANCE GESESA	
		2017	
completion of complex water connection	90% of the services within 30 working days	/	/
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	8.7	100%
maximum time for the agreed appointment	90% of the services within 7 working days	1.9	97.9%
minimum prior notice for cancelling the agreed appointment	95% of the services within 24 hours before the start of the agreed punctuality bracket	72.7	66.7%
arrival at the location of the emergency call	90% of the services within 180 minutes from the conversation with the telephone operator	180	66.7%
reply to written billing adjustment requests	95% of the services within 30 working days from receipt of the request	20.5	88.2%
maximum waiting time at helpdesk counters	95% of the services within 60 minutes	60	95%
average waiting time at helpdesk counters	20 minutes	20	95%
accessibility to the telephone service (AS)	> 90% for at least 10 months out of 12	-	100%
average waiting time for the telephone service (TMA)	≤ 240 seconds for at least 10 months out of 12	81	95%
telephone service level (LS)	≥ 80% for at least 10 months out of 12	-	95%
reply to the emergency call (CPI)	90% of the services within 120 seconds	-	88%
separate management - notification of completed activation, deactivation, takeover, discontinuance, transfer of registration	90% of the services within 10 working days from the date of execution	/	/

(*) The times provided under the Authority's reference standards, also where not expressly indicated in the table, are to be understood, case by case, as related to a certain moment, for example: starting from the date of receipt of the request, the date of acceptance of the estimated, the date the agreement was stipulated, etc. See resolution (655/15/R/Idr), available on the ARERA website.
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.

PRICING POLICY

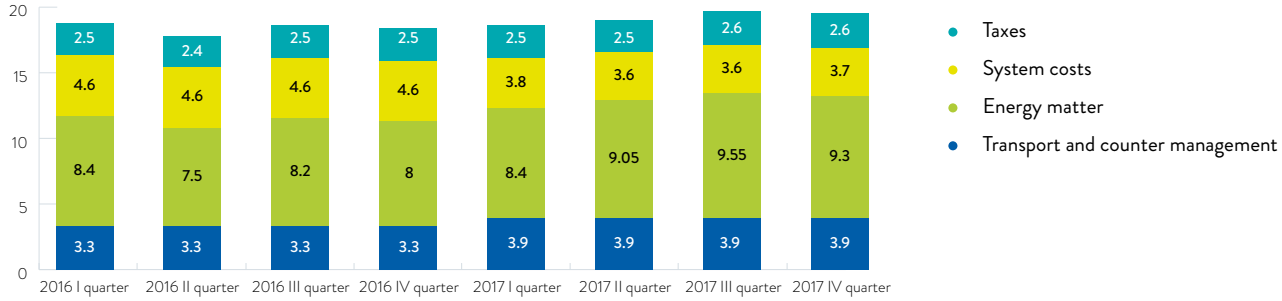
ELECTRICITY SERVICE PRICING

The Italian electricity sales market consists of the following segments: the **"free market"**, in which the consumer directly chooses the operator from which they receive supply of the service, the **"more protected market"** where the service is provided to the customer under the **contractual terms and conditions and pricing**[63] **laid down by the Regulation Authority for Energy, Networks and the Environment** - the national regulatory body for the sector - and the remaining "safeguard service".

The **costs** shown on the energy bill refer to **four expense items: energy matter**, formed of a fixed amount, a power amount and an energy amount, with differentiated prices by time band, **transport and meter management**, formed of a fixed amount, a power amount and an energy amount referring to the activities for supplying energy to the end customers, **system-related overheads**, which cover costs for activities of general interest regarding the electricity service and are borne by all end customers of the service, and **taxes** due.

The **more protected** service is the most populated by Italian customers to date (domestic and non-domestic), with a subscription rate of 62.6% (65.4% in the previous year), albeit recording constant decreases in favour of the free market.
However, observing the volumes of sold energy, the ratio is inverted and the **free market** customers consume 77.3% of the energy comprehensively sold to the end market (76.3% in the previous year)[64].
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 518.4 Euros in 2017** (19.2 € cent/Wh), an increase compared to last year (18.4 € cent/Wh, totalling about 497 Euros). The final price is affected mainly by the increase in the energy component and transport and meter management costs; also to be observed is a substantial decrease in costs related to system-related overheads.

CHART NO. 22 – ELECTRICITY PRICE TREND FOR A STANDARD DOMESTIC CUSTOMER (€ CENT /KWH) (2016-2017)



Source: ARERA website – statistical data.

WATER SERVICE PRICING

Regulation Authority for Energy, Networks and the Environment laid down the framework of regulations for a fair, certain and transparent pricing system for the water segment by **resolution 664/2015**, for the period 2016-2019.
Such method, based on **regulatory schemes**, ensures an efficient and economically-financially balanced management, able to incentivise 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".
As regards specific situations, we point out that earlier in 2016, by subsequent resolutions, the Authority **approved the regulatory schemes for Acea Ato 2**, whereas for **Acea Ato 5 and Gesesa we still await** approval from ARERA.
Indeed, for **Gesesa**, the related Area Management Agency (EGA) - a body comprising all the municipalities pertaining to the Optimal Area of Operation of reference, having decision making and planning duties, amongst which pricing preparation, approved the regulatory scheme for the period of reference to March 2017. The situation of **Acea Ato 5** however, is affected by the disputes in progress with the Mayor's Conference, related to both a lack of economic recognition for the company and the application for termination of the management agreement promoted by the Mayor's Conference. Against such measure, the local court of Latina upheld the argument of Acea Ato 5, with a ruling in December 2017 whereas the hearing for the other disputed is envisaged for March 2018.

A measure by ARERA worthy of mention is **resolution 918/2017**, which governs the **updating criteria for the two-year period 2018-2019** regarding cost components admitted for pricing recognition, foreseeing the introduction of a component (OpexQT) to be granted, against grounded application, upon the **increasing improvement of certain technical quality service standards** - regulated by resolution 917/2017 - which quantifies component UI3 – provided under **resolution 897/2017** – with a mechanisms, at national scale, for the **equalisation of costs related to the supply of the social water bonus**.

[63] Tariffs are defined by ARERA and updated every quarter, based on the costs that the Sole Purchaser (AU) bears, minimising costs and risks connected to the various methods of provisioning, to cover the more protected clientele demand on the electricity wholesale market.

[64] Based on the number of served collection points and the volumes sold in 2016 (ARERA *Annual report 2017*).

TABLE NO. 31 – AVERAGE WATER PRICES APPLIED (2017)

Company	€/m³
LAZIO/CAMPANIA	
Acea Ato 2 SpA	1.49
Acea Ato 5 SpA	2.14
Gesesa SpA	1.18

CUSTOMER CARE

THE POSITIVE TREND CONTINUES IN THE DECREASE IN THE OVERALL NUMBER OF CALLS TO THE TOLL-FREE NUMBERS: IN 2017, **4.8 million** CALLS (**-4%** COMPARED TO 2016) AND THE NUMBER OF CUSTOMERS RECEIVED AT THE CENTRAL OFFICE COUNTERS: **223,482 customers** (**-5%** COMPARED TO 2016)

ELECTRONIC BILL: **65,000** CUSTOMERS OF ACEA ENERGIA SELECTED IT IN 2017, APPROX. **13.5 t/year** SAVED IN PAPER

"GREEN" ENERGY SOLD BY ACEA ENERGIA TO CUSTOMERS OF THE FREE MARKET INCREASED REACHING **20.5%** OF THE TOTAL (IT WAS 7% IN 2016)

ENROLLED IN THE LIST OF THE AUTHORITY THE ADR (ALTERNATIVE DISPUTE RESOLUTION) BODY ACEA-CONSUMER ASSOCIATION: RECEIVED **325 requests**

CUSTOMER CARE POLICY

Customer focus is one of the **sustainability and strategic objectives of the Group**. In particular, Acea's intention 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 such objective in their **customer relations**, whereas in the Holding, **the CEO Office Unit** which is engaged with Group Customer Care, amongst others, since October 2017, endeavours to provide **consistent and integrated customer management to the maximum extent possible**, in compliance with industry regulations and specific local conditions, focussing on activities measuring customer experience.

The company's customer focus policy has for many years included **listening to the questions raised by Consumer Associations**, which Acea supervises through a dedicated Unit within the **External Relations and Institutional Affairs Function** of the parent company as well as in **concert with its operating companies**. In 2017 the activity promoting the **awareness of the Consumer Associations** as regards the **use of digital channels** - mainly the **web form for settlements** and the **call and e-mail channels dedicated to the Associations** - continued and action was taken by the Associations so that they can in turn effectively contribute towards reminding users to use the digital channels.

Some meetings were organised during the year with the main Associations **concerning problems related to the water resource**, in order to promote timely communication on the issue and about measures implemented by Acea to tackle and resolve critical issues in the medium and long term.

Acea has for some time activated the **joint settlement procedure**, an **out-of-court commercial dispute settlement process**, in which **customers are represented and supported by the Consumer Associations** recognised by the National Consumer and User Council (CNCU - Con¬siglio Nazionale Consumatori e Utenti). With the objective of **extending the customer protection system**, in November 2016 **the Protocol of understanding for ADR** (Alternative Dispute Resolution) was signed **between 19 Consumer Associations** and **Acea Energia, Areti, Acea Ato 2 and Acea Ato 5**, after which the **ADR Committee** was established (see dedicated box). The Committee was registered in the list kept by the Authority since February 2017, consequently customers signing the Protocol are able to access out-of--court settlement of disputes through the ADR procedure. From 1 March to 31 December 2017 the Committee received a total of **325 applications for the ADR procedure**: out of these, according to the provisions of law and the Regulation, 227 were judged as prosecutable and 98 non prosecutable. **181 applications** were received for the water segment, (134 prosecutable, 47 non prosecutable); **144 applications** were received for the energy segment (93 prosecutable, 51 non prosecutable).

THE ADR COMMITTEE

The "ADR Acea SpA-Associazioni dei consumatori" body **was registered in the ADR List** of the Authority (Resolution 78/2017/E/com) **in February 2017**. "ADR Committee" means any Committee (public or private) established on a permanent basis, which offers the settlement of a dispute through an ADR (Alternative Dispute Resolution) procedure and is registered in the specific List.

It is formed of a joint guarantor committee, a Settlement Committee and a Settlement secretariat:

- the joint guarantor committee, formed by three members designated by Acea and three designated by the Associations, has supervisory powers to ensure the transparency and impartiality of the process;
- the Settlement Committee, formed by two representatives, one from the companies and one from the Consumer Associations, has the duty of preparing a settlement proposal that the customer is free to either accept or reject;
- the Settlement Secretariat provides organisational, functional and operational support for the proper performance of the procedure in overall terms.

Access to the ADR procedure is voluntary and free for all customers. Since 1 January 2017, for the sectors involved, such as the sale of energy, attempted settlement will be a condition for continuing with legal action. In order to start the settlement procedure, the consumer must in any event submit a complaint to the company supplying the service. Should this complaint not be considered within the deadlines envisaged, or if the reply given is deemed inadequate, the procedure can then be implemented and must be concluded within 90 days of receipt of the request.

By request of the Otuc - an Organisation Protecting the rights of Users and Customers of the Integrated Water Service - and with the approved of the Operational Technical Secretariat of Ato 5, in March 2017, **Acea Ato 5** activated a **telephone number dedicated to the 14 Consumer Associations registered in the Otuc** (open on Fridays from 10:00 to 13:00) and also made a **physical counter** available to the Associations to manage commercial issues, every Friday from 15:00 to 17:00, at the seat in Viale Rome in Frosinone, subject to appointment. It then set up a customer Helpdesk Counter, a preferential channel for the Associations having the objective of solving more complex issues.

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

LITIGATIONS WITH CUSTOMERS 2017

Legal proceedings **brought by customers** against companies of the Acea Group mainly concerned disputes relating to **charges for service supply, refunds, adjustments, pricing structures and service activation delays**. Disputes as at 31/12/2017 totalled **383**, 64 of which had already been resolved last year. Therefore, as in the previous year, there is a **decrease in customer litigations** (455 litigations had been brought in 2016). Customer litigation continues to be the most rapid solution and less costly procedure.

Acea Energia, **protecting free market customers**, also arranged for the implementation of **procedures aimed at fighting the phenomenon of so-called "unwanted contracts"** in 2017. On this matter, we point out that since May 2017 ARERA resolution 228/17 is in force, which requires a clearer classification, distinguishing between "disputed activations/contracts" (the customer complaining of irregular conclusion of the contract can access a recovery procedure with payment of the prices set by ARERA) and "unwanted supplies" as per art. 66 quinquies of the Consumer Code, according to which a customer is not obliged to make any payment for the whole period of activity with an unwanted supplier. To this end:

- customers having **signed a contract proposal (PDC)** on the free market by means of **door to door sales** were contacted by telephone after signing (**Confirmation Call**), in order to **verify that the content of the signed contract is set out clearly and the behaviour of staff was correct**; if such customers gave an email address and/or mobile number when completing the contract, they received a notification of activated process for the supply so as to remind the customer that they had **signed a contract**, limiting both the risk of any misunderstandings and the risk of delay in the customer exercising their right of withdrawal. Moreover, as **from August 2017**, Acea Energia introduced **formal checks** for completeness and absence of alterations, **in the paper contracts produced by sales agents**. If the tests failed, the information systems stop the activation of the new offer from continuing;
- customers having adhered to a **contract proposal (PDC)** on the free market by means of telesales received, before completing the contract, **all precontractual and contractual information on an Acea platform on durable medium**. Thereafter, by means of a **Confirmation Call** the clients had to **confirm** their intention to become AceaEnergia customers and conclude the contract, after having examined and understood the contractual conditions of the offer, or they independently confirmed their intention to join by interacting on a web page set up on the durable medium platform. Such platform also allows **voice recordings to be made available**. Acea Energia **listened to all the telephone recordings produced by sales agents**. In the event of a negative result of such checks, the information systems stop the activation process for the new offer from continuing.

As regards the **Agency Mandate which governs relations with the sales agents network**, Acea Energia continued to run checks on the services, analysing, over 2017, **1,292 contract offers subject matter of complaint** (for the two specific cases: "disputed activations/contracts" or "unwanted supplies"). It **reported 66 contracts to the Agencies**, deemed as "incorrect commercial practices" and **issued pecuniary sanctions** amounting to 30,000 Euros. Acea Energia continued to perform an obligatory training programme for sales staff (see chapter *Suppliers*). Lastly, since 2015 Acea Energia

inserted bonus/malus mechanisms in the contracts with its agents associated to the quality of acquisitions.

The commercial action of **Acea Energia on the free market** is aimed at **satisfying customer requirements**: from families of large business customers, **diversifying the offers** (see dedicated box). A relevant increase in "green" energy sold to free market customers was recorded in 2017.

ACEA ENERGIA COMMERCIAL PROPOSALS 2017 ON THE FREE MARKET

The commercial proposals of Acea Energia to the **mass market segment** - residential customers, freelance professionals, commercial activities and Small and Medium Enterprises - were circulated with the identification of dedicated and differentiated offers, both for market target and that of the clientele. All the products for residential customers were strongly characterised, so as to respond to well defined requirements of the targets; the **Acea Unica** product was supplemented by the possibility to activate value added services which facilitate the management of the supply to which economic advantages (bonuses) are associated; the **Acea Rapida** product, dedicated to customers joining via web, was characterised by the possibility, for those choosing it, of a fully online management of their energy sector; the **Acea Viva** product, which s**upplies "green" energy** generated from renewable sources with Guaranteed Origin, having the objective of responding to the needs of customers wishing to respect the environment, it was limited to activating the web bill and the bonus for those choosing method of payment with domiciliation. For **large Business clients**, choosing the Acea Viva product constitutes an asset of strategic positioning, strengthened by personalised solutions of communication which Acea Energia makes available to each single customer. The overall volume of **green energy sold in 2017 was around 790,000 MWh**, with a notable increase compared to 2016 value (360,000 MWh). **The incidence** of such item **on the total energy sold to customers of the free market by Acea Energia** (3,852 GWh, also see the *Environmental accounts*) **reached 20.5%** (it was 7% in 2016).
Added over the year were **products only dedicated to the web channel** of limited duration (flash offers) and linked to specific events, such as **Acea Speciale Summer** (summer promotion) or **Acea Speciale Black Friday**. The **Acea Esclusiva per ING** product was born of the partnership with ING DIRECT, dedicated to ING DIRECT Customers who activate an energy sector contract with Acea Energia. The partnership also involves old customers of Acea Energia who domiciliate energy bills on an "Orange Current Account". Economic bonuses are envisaged both for new customers of Acea Energia on the free market and old ones.

The **"Acea con Te" loyalty programme** dedicated to domestic customers, for electricity and gas, on the free market, recorded a growth in memberships and interest of customers. New initiatives were proposed with competitions to reward customers in light of virtuous conduct **with focus on the use of online services** (e-bill, domiciliation, payment by credit card, etc.). In particular, the **Emozioni da Prima Fila** competition, which awards entry to exclusive events and experiences, continued in 2017 and was met with notable interest and participation, creating a monthly engagement and consequent word of mouth.

CONTACT CHANNELS AND PERFORMANCE

In all customer relations, Acea is committed to guaranteeing the respect of privacy in the management of personal data, as required by the reference laws in force[65] (see also chapter *Institutions and the company*).
In 2017 Acea progressed with the actions aimed at **enhancing remote channel performance** with a push towards digitalising customer requests and towards the end of the year the support **online chat** was introduced in **MyAcea**. Today customers can request **most operations online** which regard their utility and for the more protected electricity service, the **new digital acceptance of commercial forms was introduced**: customers are able to download and accept, in real time and with just a few "clicks", all contractual documentation, overcoming the need to return the signed package by traditional post. Such modus operandi is aimed at simplifying and facilitating relations with the Company and shall also be extended to free market customers in 2018. This led to an **overall improvement in the call centre activity**. A relevant effort was also put into circulating the use of the e-bill with satisfactory results (see hereunder).

Acea8cento provides the management of some **remote channels** - telephones, faxes, web forms, mail, social networks - for the main operating companies in the Group, mainly for commercial use[66]. The service delivered by the contact centre aims to maximise operations in order to en-sure quality, promptness and consistency in meeting customer's requests.
Acea8cento gave its full support to the process underway, for reviewing and simplifying the contact channels. In particular, in 2017, it contributed:

- to the **full activation** of the **TwinsOnSAP system** for managing "more protected" customers of Acea Energia;
- to the launch, on the same system, of the perpetual lighting management service carried out by Areti (the go-live of the new processes took place in 2017);
- to the **consolidation of the web channel in self-care mode**;
- to the re-opening of the **social channel** (Face book) for Acea Energia, guaranteeing the moderation and management of private messaging;
- **to the realisation**, with the use of SnapEngage Live Chat software, of **remote chat support in MyAcea**, directly undertaking its management.

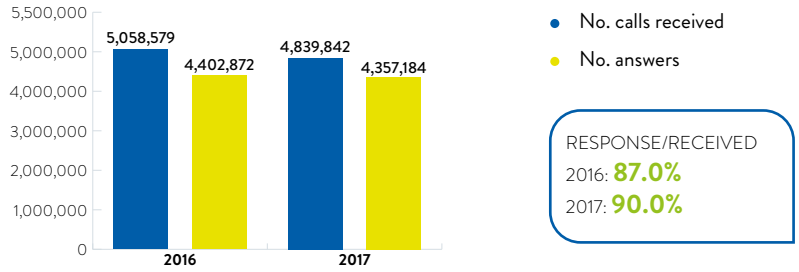
The Parent Company regularly **performs checks on the quality of the telephone channels and helpdesk counters through mystery client surveys**. The results are shared with Service Managers and contact operators and **facilitate the identification of areas for improvement** in each contact channel and take the necessary corrective measures. In 2017 the activity continued with the aim of systematically correlating the results of the surveys on perceived quality with the actual quality supplied, including the data from the mystery clients.

[65] Legislative Decree no. 196/2003 as amended.

[66] In addition to the commercial channels, Acea8cento manages the numbers for reporting faults in the water service supplied by Acea Ato 5 and for cemetery lighting by Areti.

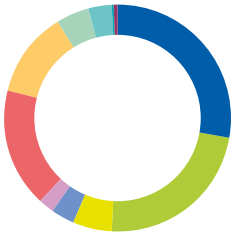
In 2017, **Acea toll free numbers received about 4.8 million calls, over 4% less compared to 2016**, confirming the positive trend in **reduction already** recorded in the previous year. The **comprehensive service level**, representing the answers on the total calls received, **was 90%**, an improvement of 3 points compared to 2016. The **reduction in the number of calls** was registered in the **energy sector** (commercial) in particular - it accounted for 64% of the total number of calls in 2016, compared to 50% this year - where the improvement of the processes, caused by greater protection from the introduction of the new information system, further reduced the need to call respect to the past. **The impact increase, however of the water toll free numbers** of Acea Ato 2, Acea Ato 5 and Gesesa, above all in relation to extreme climate phenomena - freezing weather in January, exceptional drought and lack of water in the summer - which characterised the year. For the same reason call to report electrical faults also increased (Areti) (see chart nos. 23 and 24 and Table no. 32 at the end of this section).

CHART NO. 23 – TOTAL TELEPHONE CALLS TO ACEA FREE-TOLL NUMBERS (2016-2017)



NB Gesesa was also included in the two-year data.

CHART NO. 24 – PERCENTAGE BREAKDOWN OF INBOUND CALLS TO ACEA TOLL-FREE NUMBERS (2017)



- 27.9% | electricity enhanced protection market commercial (Acea Energia)
- 23.2% | electricity and gas free market commercial (Acea Energia)
- 5.4% | electricity failures (Areti)
- 3.3% | public lighting failures Rome (Acea Illuminazione Pubblica)
- 2.4% | cemetery lighting (Areti)
- 16.8% | water commercial (Acea Ato 2)
- 12.3% | water failures (Acea Ato 2)
- 4.7% | water commercial (Acea Ato 5)
- 3.2% | water failures (Acea Ato 5)
- 0.5% | water commercial (Gesesa)
- 0.3% | water failures (Gesesa)

The polling survey conducted by the Regulation Authority for Energy, Networks and the Environment (ARERA) in the second half of 2016[67] has identified, for the **Acea Energia toll-free numbers**, an increase in ICS - Customer Satisfaction Index - as a whole (scale 0-100) – which rose from 84.1 out of 100 for the first cycle 2016 to **85.9 out of 100**. The improvement is mainly due to the positive trend in the degree of satisfaction related to the "operator courtesy" factor.
The **service levels of the toll-free numbers**, represented by the **percentage ratio of calls answered over total calls received**, remained **stable and high** for most of the toll-free numbers. There was a further clear **improvement** in terms of performance for the **Acea Ato 2 toll-free number** for reporting water faults, despite the increases in incoming calls due to the freeze emergency in January and the exceptional lack of water in the summer; also notably improved was the service level for the commercial toll free number of **Acea Ato 5** and the **cemetery lighting service** where the new system only became fully operational in the second half-year. The main performance indicators for the last two years period is given in Table no. 32, at the end of this section.

Since the start of the year the single internet website became fully operational, superseding the websites of the single water service supply and energy sale companies and, in particular, the **new self-care area, "MyAcea"**, which is also available as an App for mobile devices (see also, further on, section *Communication*). From **one sole account**, within the reserved area MyAcea, the customer can **manage all water, electricity and gas utilities active with the Group companies**, with a view to **simplifying and contextual expanding the available operations**, while the processing of documents continues to be ensured by the proprietary companies of the various services.
The data disclosed in the year continue to testify **the new habits and increasing interest of customers in using the online channel**: over **48% of the page displays** for the entire acea.it portal (36.7 million page displays) involved the **self care area**. During the year the **MyAcea App** was installed by about **100 thousand**

[67] The Authority had not yet shared the results of the survey in the second half of 2017 when this document was published.

users. For **Acea Energia** more than 483,600 contracts are managed by online customers.
The **Gesesa** website also became part of the **single Acea Group website in May 2017** and given the familiarity with the brand in the area of reference (Benevento and province), the area dedicated to customers was named **MyGesesa**, which is also available as an App for smartphones. During the year, Gesesa ran an informatory campaign entitled ***"Gesesa sempre più vicina a te"***, in order to promote the knowledge and use of the call centre by means of public posters, social channels and online press, as well as a MyGesesa campaign, through both social media and during events associated to the area with informatory stands, in order to encourage customers to favour the use of web channels and smartphones in their commercial relations with the company.
Acea Ato 2, supplemented **its website** during the year **with a fault map updated in real time**. In particular, disruptions in the water service were published in the map, due to planned or urgent technical interventions, also showing details about service recovery times. It also brought about certain campaigns aimed at incentivising customers to use digital services (mail campaigns, enclosed with the bill, information on the toll free number, etc.) managing to notably increase the number of subscribers to the relevant MyAcea customer area (117,514 users associated as at 31/12/2017 equal to +125% from the start of the year).
Acea Ato 5 intensified the informatory campaign for the use of all the contact channels alternative to the counter and launched **the first Acea web point**, in **Frosinone**, aimed at users and fully dedicated to multimedia services. Innovative in its spaces and aesthetics, the Acea web point makes various tools available to users, such as tablets, PCs and telephones, with the objective of favouring the **knowledge and use** of the smartphone App of the MyAcea area and the call centre. **With the same intentions**, Acea Ato 5 realised an **advertising campaign** in the main local newspapers and through posters at commercial counters and reached customers in a capillary manner with an informatory campaign, providing, in the bills linked to the first billing 2017, a **short "guide" on the use of the new internet website** and circulating informatory material at the commercial counters open to the public. A self-reading promotion campaign was also realised during the year.

At **Acea's head office** in Rome, in Piazzale Ostiense, **the public showroom was opened, where electricity, gas and water service customers are welcomed, who visit the counters** managed by Acea Energia and Acea Ato 2. In 2017 the part of the showroom dedicated to Acea Ato 2 was renovated; during the works, the central reception isle directly resolved more simple cases and directed customers, where necessary, to the provisionally opened counters in stores near to the main showroom. As from 30 October 2017, the **normal operation** of the water service counters **was restored** at the public showroom and the 4 workstations continued to operate in the central isle, next to the sorting. **A second line counter was also activated for more complex issues**. The new organisational setup led to a notable improvement in waiting times.
The number of customers received in 2017 **at the public showroom in the head office - 223,482 customers - reduced by 5%** (236,000 welcomed in 2016), confirming the positive **trend in reduction of counter visits, already highlighted in the last three years**. The lower number of accesses particularly involved the more protected electricity service. The call centre operators, on shift, flanked their colleagues at the counters, both to provide support in the most critical moments and to obtain an increasing alignment in treating the requests at the two channels. The inflow to the counter for the water service was, instead, a higher influx, consequent to the aforementioned situation of water emergence which also affected the commercial channels.
There are other counters in the detached branch of Ostia Lido and, for the water service, **Acea Ato 2 manages**, apart from in **Frascati, another 13 contact points in the province of Rome**; the latter have comprehensively received 57,722 visits in 2017, a decrease respect to the 71,504 of 2016. Ostia and Frascati comprehensively hosted about 21,000 customers. Furthermore, since 1st July, the "queue managers" were activated at the counters outside of Rome which did not yet have them.
Acea Ato 5 developed a **reorganisation plan for the helpdesk counters** (the counters in Sora and Fiuggi were closed and those in Frosinone and Cassino updated), foreseeing **more functional**, informed and comfortable **environments**. From April 2017 **the opening hours to the public were extended** for the helpdesk counter in Frosinone, which opens earlier from 8:30 to 17:00 and offers the clientele 3 hours' access per week more respect to that established by the Service Charter (44 hours per week). The counters recorded an overall reduction in volumes.
As regards the **performance of counter activities, the service levels**, given by the percentage ration between customers served and the total tickets issued, **improved** for the counters in the head office of **Acea Energia** and continue to be very high for **Acea Ato 2**, whereas the counters for **Acea Ato 5**, albeit recording a slight worsening, in any case retained a **high service level** (see Table no. 32); in the same way, the counter at **Gesesa**, in Benevento, hosted a **higher number of visitors** compared to 2016, retaining a **very high service performance**.
At all the Group's counters, represented in Table no. 32, moreover, a **notable reduction in the average waiting time** is recorded.

The operating companies also manage **written complaints, following, in a computerised manner, the path of the documents: from reporting to remedy**.
For the **energy service**, the "replies to written complaints/enquiries" both by the sale company and the distribution company, are services included among the levels of commercial quality subject to regulation by the national Authority (ARERA) (for performance data 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 as from July 2016, by Resolution 655/2015/R/idr, also provide for the procedures of management and response times to enquiries, written complaints and requests for billing adjustment (for performance data on operating companies in the water segment, refer to sub-paragraph *Quality levels regulated by ARERA in the electricity sector*).
For the **public lighting service**, the replies to **written complaints/enquiries** were managed directly by Areti; during the year a total of **2,292 complaints/enquiries** were received which is a datum considerably higher compared to the 814 recorded in 2016, and the **company responded to 2,202 complaints**, equal to **96% of the total** by 31 December.

The Acea website contains the **guide for reading the bill, both in the Energy section** - for free market and protected market customers - **and in the Water section** - for water service customers. The layout of the **Acea Energia bill** has been optimised with a view to a clear and transparent bill. In 2017 the bill was supplemented with the insertion of **messages** dedicated to promoting services for managing the supply, such as Web Bill domiciliation or loyalty programme (the latter only for free market customers).

Continuing, lastly, is the **significant subscription** by Acea Energia customers to the **"e-bill" option**, in fact, in 2017 customers making this choice **counted about 65,000** (62,000 in 2016); in terms of **environmental protection**, this corresponds, solely with reference to paper, **to about 13.5 t/annum of saved paper**.

TABLE NO. 32 - SOCIAL INDICATORS: TOLL-FREE NUMBER AND HELPDESK COUNTER PERFORMANCE (2016-2017)

TOLL-FREE NUMBERS			
ELECTRICITY SERVICE			
COMMERCIAL TOLL-FREE NUMBER (Acea Energia) - MORE PROTECTED MARKET			
	u. m.	**2016**	**2017**
total calls received	no.	1,796,325	1,352,215
total answers	no.	1,542,319	1,230,629
service level (% of answers to calls received)	%	85.9%	91.0%
average waiting time before answer	min. sec.	2'7"	2'23"
average conversation time	min. sec.	4'24"	6'07"
COMMERCIAL TOLL-FREE NUMBER (Acea Energia) – FREE MARKET (energy, gas and offers)			
total calls received	no.	1,421,298	1,120,688
total answers	no.	1,240,060	987,337
service level (% of answers to calls received)	%	87.2%	88.1%
average waiting time before answer	min. sec.	1'41"	1'32"
average conversation time	min. sec.	4'18"	4'37"
FAULT TOLL-FREE NUMBER (Areti) (*)			
total calls received	no.	197,035	259,017
total answers	no.	186,128	235,924
service level (% of answers to calls received)	%	94.5%	91.1%
average waiting time before answer	min. sec.	1'23"	2'19"
average conversation time	min. sec.	2'34"	2'51"
LIGHTING SERVICE			
LIGHTING SERVICE - FAULT TOLL-FREE NUMBER (Areti) (*)			
total calls received	no.	137,098	161,777
total answers	no.	124,698	138,930
service level (% of answers to calls received)	%	91.0%	85,9%
average waiting time before answer	min. sec.	1'42"	2'34"
average conversation time	min. sec.	1'58"	2'34"
CEMETERY LIGHTING - COMMERCIAL/FAULT TOLL-FREE NUMBER (Areti)			
total calls received	no.	119,995	117,942
total answers	no.	90,838	93,705
service level (% of answers to calls received)	%	75.7%	79.5%
average waiting time before answer	min. sec.	2'06"	2'02"
average conversation time	min. sec.	4'04"	5'56"
WATER SERVICE			
COMMERCIAL TOLL-FREE NUMBER (Acea Ato 2 – Rome and province)			
total calls received	no.	708,034	812,026
total answers	no.	624,678	733,409
service level (% of answers to calls received)	%	88.2%	90.3%
average waiting time before answer	min. sec.	1'34"	0'53"
average conversation time	min. sec.	5'14"	5'12"
FAULT TOLL-FREE NUMBER (Acea Ato 2 – Rome and province) (*)			
total calls received	no.	352,388	595,195
total answers	no.	332,211	576,670
service level (% of answers to calls received)	%	94.3%	96.9%
average waiting time before answer	min. sec.	1'57"	0'47"
average conversation time	min. sec.	3'33"	3'10"

COMMERCIAL TOLL-FREE NUMBER (Acea Ato 5 – Frosinone and province)			
total calls received	no.	192,588	225,363
total answers	no.	150,154	199,023
service level (% of answers to calls received)	%	78.0%	88.3%
average waiting time before answer	min. sec.	1'40"	1'11"
average conversation time	min. sec.	4'15"	4'17"
FAULT TOLL-FREE NUMBER (Acea Ato 5 – Frosinone and province)			
total calls received	no.	120,832	154,160
total answers	no.	99,233	122,656
service level (% of answers to calls received)	%	82.1%	79.6%
average waiting time before answer	min. sec.	1'14"	1'48"
average conversation time	min. sec.	3'55"	3'32"
COMMERCIAL TOLL-FREE NUMBER (GESESA – Benevento and province)			
total calls received	no.	10,297	24,945
total answers	no.	10,147	23,703
service level (% of answers to calls received)	%	98.5%	95.0%
average waiting time before answer	min. sec.	0'55"	1'21"
average conversation time	min. sec.	1'23"	1'43"
FAULT TOLL-FREE NUMBER (GESESA – Benevento and province)			
total calls received	no.	2,689	16,514
total answers	no.	2,406	15,198
service level (% of answers to calls received)	%	89.5%	92.0%
average waiting time before answer	min. sec.	0'50"	0'49"
average conversation time	min. sec.	2'00"	2'04"
HELPDESK COUNTERS			
ELECTRICITY SERVICE			
ACEA ENERGIA – COUNTER FOR MORE PROTECTED MARKET			
tickets issued	no.	128,232	109,519
customers served	no.	111,430	102,079
service level (% customers served/tickets issued)	%	87.0%	93.0%
average waiting time	min. sec.	49'34"	30'23"
average service time	min. sec.	14'37"	14'20"
ACEA ENERGIA - COUNTER FOR FREE MARKET (energy, gas and offers)			
tickets issued	no.	52,132	52,707
customers served	no.	43,397	47,778
service level (% customers served/tickets issued)	%	83.0%	91.0%
average waiting time	min. sec.	59'23"	34'28"
average service time	min. sec.	16'19"	15'20"
WATER SERVICE			
ACEA ATO 2 (Rome - head office helpdesk counter)			
tickets issued	no.	55,641	61,256
customers served	no.	54,841	60,936
service level (% customers served/tickets issued)	%	99.0%	99.0%
average waiting time	min. sec.	22'58"	4'45"
average service time	min. sec.	12'22"	11'10"
ACEA ATO 5 (4 helpdesk counters in Frosinone and province)			
tickets issued	no.	72,843	71,112
customers served	no.	68,570	64,786
service level (% customers served/tickets issued)	%	94.0%	91.0%

ACEA ATO 5 (4 helpdesk counters in Frosinone and province)			
average waiting time	min. sec.	1h3'17"	39'48"
average service time	min. sec.	9'24"	10'40"
GESESA (1 helpdesk counter in Benevento and province)			
tickets issued	no.	12,548	18,341
customers served	no.	12,350	18,250
service level (% customers served/tickets issued)	%	98.0%	99.5%
average waiting time	min. sec.	1'05"	0'56"
average service time	min. sec.	9'00"	8'00"

(*) Calls handled by the automatic system or terminated by the customer during navigation within the interactive voice responder are also considered as answers.

COMMUNICATION, EVENTS AND SOLIDARITY

LAUNCHED NEW ACEA BRAND

acea

Uniamo le forze, moltiplichiamo i risultati:
THE INFORMATION CAMPAIGN ON SAVING WATER AND REQUALIFICATION OF THE INFRASTRUCTURES

ACEA FOR SCHOOL 2017: OVER **5,000** CHILDREN ATTEND
Io mi impegno per l'Ambiente!

13,000 VISITORS TO THE ACEA SPACE OF **MAKER FAIRE ROME**

COMMUNICATION

The definition of the **communication policies** and development of the image of Acea Group is carried out and managed by the **External Relations and Institutional Affairs Department**, set up in the Parent Company during 2017[68]. By means of appointed organisational Units, this Department draws up, steers and coordinates the initiatives of communication and institutional, journalistic and commercial information.

In particular, for the main activities of outbound communication the **Advertising, Brand Image and Events Unit** was entrusted with valorising the brand, management of the Group's corporate identity, the realisation of institutional, advertising and commercial campaigns and the organisation of public or institutional events, including the annual Shareholder's Meeting; the **Media Relations and Digital Unit** coordinates, in coherence with Group strategic guidelines, the process of development and management of the internet website and the activities of the Press Office and **Social Communication Unit**, so as to strengthen the connection between Acea Group and the context within which it operates, promote and realise special environmental education projects, of social worth and active citizenship.

Following the digitalisation of the services supplied by the Group, the need arose to **re-design a new brand, consistent with the innovation implemented in the contact channels**. A "digital corporate" was created, a computerised central management of the Group's brand to protect and capitalise the Brand value, which allowed, in a very short time, **the alignment of all the communication** between the Companies interested by the rebranding, also in terms of outfitting corporate spaces, plants, contact points with the public and supports for communication used by staff. **A "pin" was chosen** for the creation of the new trademark, this is a sign which joins the physical world to the digital world. The symbols of a water drop, a bulb and a leaf, which recall the core business water, energy and environment, together with the "pin" and the "a" of Acea, gave life to the new symbol which identifies the completed transformation, breaking it down into the three macro areas in which the Group Companies operate.

Furthermore, two communication campaigns promoted awareness of the "digital evolution" of the group. The first, on air in February 2017 had the objective of spreading awareness of the new website, launched in December 2016; the second chose to use the "**Connessi al tuo mondo"** [Connected to your world] pay-off.

[68] The External Relations and Communication and Institutional Affairs Functions and the internal Communication Unit merged into the Department.

THE CONCEPT OF THE NEW BRAND

Another important institutional communication campaign was launched in August 2017, following the exceptional drought which hit Italy and the consequent situation of scarce water which also risked affecting the Capital. The **Acea campaign** was characterised by the claim ***"Uniamo le forze, moltiplichiamo i risultati" [we join forces and multiply the results]***, with the dual purpose of **providing punctual and constant information** about investments and the **interventions in progress in the water area** by Acea Ato 2, aimed at fighting the emergency and making procurement safe (see also paragraph *Quality delivered* and *Relations with the environment*), and **involving citizens in the adoption of conduct aimed at avoiding waste in the use of water**. All the phases of the institutional campaign - concept, production and media planning - were realised by internal Acea professionals, which involved, as "testimonial", the employees of the water area; for this purpose the **Acea Communication** was created (see dedicated box), the internal communication agency which today manages the entire development, photos, visuals, text, media planning, informatory and advertising campaigns for Acea.
Lastly on 28 November 2017, during the presentation of the Acea Group Business Plan 2018-2022, to the analysts and national and international press, which took place in Milan at the Italian Stock Exchange, the institutional campaign ***Costruiamo oggi un domani migliore [building a better tomorrow today]*** was launched, which illustrated some of key points of the Business Plan: **Resilience, Smart services, Sustainability, Land**.

ACEA COMMUNICATION: THE GROUP'S IN-HOUSE COMMUNICATION AGENCY IS BORN

During 2017, Acea established **Acea Communication**, a **communication and media planning agency**, which serves the Group and is **formed exclusively of internal resources**.

The agency is engaged in the concept, production and channelling of institutional, advertising and commercial campaigns; it is formed of managerial and creative professionalism: strategy manager, analyst, photographer, art director, graphic designers, copywriter, media planner.

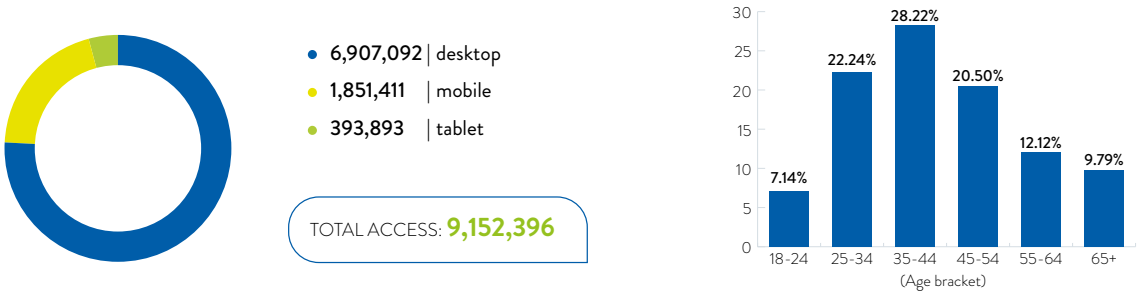
There are several activities of competence: realisation of **multimedia products**, creation of logos and **visual identity**, image advice and communication campaigns having the purpose of strengthening the bond between the Group and the Land.

The strong points of Acea Communication are respect of the Brand Identity, knowledge of corporate procedures and the external operating context, the valorisation of internal know how and involvement of Group employees and, lastly, the speed of execution and notable reduction of production costs. ***Uniamo le forze, moltiplichiamo i risultati*** was the first institutional campaign by Acea Communication.

The **Media Relation and Digital** Unit manages the development and management of the internet website www.acea.it, which went online on 19 December 2016. The portal was developed on the basis of superseding the websites of the water and energy sale operating companies to merge into **one sole Group platform**. During 2017 there was **chart alignment of the whole portal**, consistent with renewing the brand identity. The activities were then focussed on **updating the content**, management and maintenance of the various sections in the website. Entire sections were completely updated, such as those dedicated to **Suppliers, Sustainability, Careers, Customers, for the out of court settlement ADR**, which is now fully online. During the year the **"Acea Scuola" section was created**, dedicated to the Acea educational program which is directed at pupils and teachers of the second cycle of primary and

secondary schools in Rome. The purpose of the project is to transmit information and contents concerning the water cycle, the energy sector chain and waste to energy in respect of a sustainable development compatible with the environment. Ample visibility was also given to each initiative, press release or communication, on the corporate website www.acea.it, in the dedicated section **Media and events**.
New technologies were also implemented to make the website more complete and accessible, such as **direct streaming**, used during the presentation of the Business Plan 2018-2022 and bidirectional communication able to enrich the relationship between company and citizen by means of the geolocation of the Water Houses.
As the new Group website, as mentioned, superseded the websites of the single operating companies[69] upon its launch in December 2016, **the statistical data 2017 related to www.acea.it are not comparable with previous years**.
36,708,357 pages were displayed during the year, equal to **9,152,396 accesses** to the website. The **connection methods** were 75.5% via desktop, 20.2% via mobile and 4.3% via tablet. The age group with the highest percentage of accesses is that from 35 to 44 years of age, with 28.22% of the total visits.

CHART NO. 25 – ACEA WEBSITE 2017: ACCESS METHODS AND AGE GROUPS



Among the **events** published online in 2017, particular importance was given to the presentation of the **Business Plan 2018-2022**, the participation of Acea at **Maker Faire**, the most important innovation exhibition and to **Ecomondo**, to the **International Summit on Water and Climate**, held in Rome (see *Corporate identity*, paragraph *Strategy and sustainability*), the convention ***All'ombra di Giano***, organised by Acea on the matter of the water resource and to events of particular significance, sponsored by the Group, such as the **Rome Marathon, Festa del Cinema and Alice nella Città**. Also highlighted were initiatives undertaken in the year by the **Social Communication Unit** (also see *Events and solidarity* and chapter *Staff*, paragraph *Diversity and equal opportunities*).

The **News on the website** outline news and initiatives linked to Group activities on innovative technologies, energy saving, eco-sustainability, reducing environmental impact and territorial protection. **Developed and published** during the Shareholders' Meeting held in late April, were **the websites dedicated to the Consolidated Sustainability Report** and the Sustainability Report which can be consulted interactively, with some open data and multimedia content.
For some years the data related to emissions have always been available on the website, these 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.

The methods of communication adopted by Acea with regard to **national and local media** have always pursued objectives of **rapidity, efficacy and transparency**, with the purpose of transmitting, by means of information, the correct corporate image and placement of the Group.
During 2017, through the circulation of **press releases** and, at times, with the organisation of **press conferences**, the **results achieved by the company** were disclosed together with information of public interest related to the managed services. In harmony with the appointed functions, such as Investor Relations, Legal and Corporate Affairs and Administration Finance and Control, **the economic-financial communication was managed on the occasion of corporate appointments** such as the Shareholders' Meeting, approval by the Board of Directors, of the financial results and circulation of news classified as "price sensitive".
Thanks to the interaction with competent operating functions and the preparation of daily papers willing to publish the company's replies, the Press Office **provides answers to the main disruption reports channelled by newspapers**. Other reports are received by post and direct telephone contacts and are promptly answered.

The Press Office is particularly committed to overseeing and growing relations with national, international, local and sector media, with a view to mutual respect of roles, transparency and correct collaboration; it was also engaged in developing and managing activities related to the **national and local press release** which is made **available daily via the corporate intranet**; information concerning business activities is also highlighted daily by means of **constantly monitoring press agencies and the web** (web news, social media and blogs).

Some particularly engaging moments from the year follow:
- the **press conference launching the new brand identity** and initiation of the related campaign;
- the **management of communication during the serious water crisis** which, consequent to the exceptional drought, involved the areas in which the company operates and the whole country. Apropos, the Press Office constantly informed the media, at national and local level, **so as to ensure continuous updating and correct reporting on the progress of the crisis**; maximum visibility was given to the presentation of the plan

[69] With the exception of Areti, the company managing electricity supply, which maintains its own website in compliance with the provisions of the Authority of reference.

to combat the water emergency by the operating companies and the water saving awareness campaign was valorised, as mentioned above;
- the **press conference for the presentation of the Memorandum** of Understanding signed with Open Fiber to define the terms and conditions for initiating a strategic business partnership aimed at realising an ultra-broadband electronic communication network in the area of the Municipality of Rome;
- the **press conference for the presentation of the Business Plan 2018-2022**, which was amply publicised in the national and international media, thus promoting the Group's new development strategy.

Moreover, the routine and proactive collaboration with corporate Functions and Group Companies took place for the valorisation of initiatives of particular importance, such as the **LED artistic lighting projects for important archaeological and historical sites in the Capital** (the Palatine Hill, Cestia Pyramid and Porta San Paolo, the basilica of San Marco Evangelista al Campidoglio, in Piazza Venezia), presented during a joint **press conference** with the Municipality or Rome in December 2017 (see also paragraph *Quality delivered*), and **highlighted other events and exhibitions**, also channelled via the website. Great attention was dedicated to social initiatives, such as activities realised in relation to the ***Acea per la Scuola*** project, which were presented during the **Festival dello Sviluppo Sostenibile - *Disegniamo Il Futuro. Cambiamo Il Presente*** organised by the Italian Alliance for Sustainable Development (ASviS) in relation to the European Week for Sustainable Development (ESDW), or **the solidarity lunches** on the Epiphany and Easter with the homeless in the Capital, organised together with the **Sant'Egidio community** (see, hereunder, *Events and solidarity*).

EVENTS AND SOLIDARITY

The **economic value distributed to the community** in 2017 is equal to **2.4 million Euros**[70] (2.9 million Euros in 2016). Of which about 1.7 million were allocated to sponsoring cultural, social and sporting events.
The appropriations as **donations** to associations for social purposes and to ONLUS were equal to **229,000 Euros** (277,000 in 2016).

Each year, 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. These services are known as **"technical sponsorships"** and in **2017 generated an overall economic counter-value of approx. 117,000 Euros** (this was 193,000 Euros in 2016).

As usual, in 2017, **Acea welcomed visitors to its plants**, relying on the availability and competence of its employees; in particular, **during 31 visits, 1,133 people were received above all students**, coming from Italy and overseas. Moreover, **about 5,000 youngsters and 500 teachers** involved in the ***Acea per la scuola*** project, were in turn accompanied on a visit to some Group plants (see explanatory box).

ACEA PER LA SCUOLA 2017: OVER 5,000 YOUNGSTERS AT *IO MI IMPEGNO PER L'AMBIENTE!*

Acea per la Scuola is the **environmental education program** proposed by Acea by means of the concept and realisation of didactic-educational initiatives for students and teachers of primary schools (second cycle) and Secondary Schools (first grade) of Roma Capitale and Città Metropolitana. Active for some years and run by the social *Communication Unit*, the initiative foresaw, for **scholastic year 2016/2017 an educational offer**, at no cost to the participants, entitled ***Io mi impegno per l'Ambiente!*** [I am committed to the Environment!] in which **5,049 students and 508 teachers were involved**.
At the "La Fornace" Congress Centre, the three topical courses took place of *Io mi impegno per l'Ambiente!* which concerned the **water cycle, the energy sector chain and waste to energy**. Overall, between March and May 2017, **54 hours of didactic activity** took place **over 18 days of training** - which also envisaged visits to some plants - conceived to bring the students closer and **make them aware of the environmental issues**, teaching them about the actions taken by Acea and the technologies it uses to supply the services with attention to territorial protection.
Acting as teachers, Acea employees chose interactive methods to stimulate the active participation of the youngsters in learning and gave simple and concrete examples of actions that can be taken every day to adopt a sustainable lifestyle and consumption.
An integral part of the project was the Listening Campaign, *La scuola si apre al territorio* [the school is open to the land], which allowed all the participating classes to **propose initiatives for social inclusion and small redevelopment interventions** to be realised in spaces/areas belonging to the scholastic institution of origin. This initiative also met with a great response, with 36 participating schools and 63 presented projects. Among the received proposals, twelve institutes were awarded a cash prize up to a maximum of 5,000 Euros, which Acea made available for the realisation of the winning projects.

The initiative *Acea per la Scuola*, sponsored by Istituto Superiore di Sanità and the Department for People, Schools and Joint Community and promoted by the 11th Permanent School Council of Roma Capitale, was also presented at the first 'Festival of Sustainable Development 2017, organised by ASviS to explore the various topics associated to NU Sustainable Development Goals (Agenda 2030).

As mentioned, every year Acea participates in multiple events linked to the companies of reference and sustains, also by means of sponsorships, initiatives considered as of cultural, social and sporting importance, having the objective of valorising the areas in which it operates (see also general boxes at the end of this section). Amongst the most relevant events in 2017:

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

the participation of Acea in *Ecomondo*, international showcase of the recovery of matter and energy **and in the technological fair *Maker Faire Rome***, where the company presented some of its most innovative projects (see explanatory box); the *International Summit on Water and the Climate* and the ***All'ombra di Giano*** convention, organised by Acea in collaboration with institutional partners. This concerned a meeting at international level between personalities of high technical and scientific profile aimed at tackling the topic of managing the water resource in the Mediterranean basin (see dedicated box).

ACEA'S TECHNICAL EXCELLENCE ON SHOW AT THE MAKER FAIRE ROME

Acea participated as a sponsor for the third year running at the Maker Faire Rome, the event took place from the 1st to the 3rd December at the Fiera di Roma exhibition centre, to present the most innovative projects applied to water and energy infrastructures. A family-friendly event such as the Maker Faire, rich in inventions and creativity, is where specialised companies, makers, startuppers and passionate people of all ages and backgrounds met to share their own projects and knowledge. Acea's stand had an exceptional influx of the public (about 13,000 visitors). Never ending queues to try out the *smarthelmet*, an interactive multimedia helmet, used by Areti, which allows first person experimentation of the functions and potential of increased reality to gain information and instructions specific to the equipment or to realise a virtual journey within the plants of Acea Ambiente, find out about the applications used by technicians for safely monitoring water and electricity networks and lastly the Smart home solutions launched by Acea Energia. A survey by the *Il Messaggero* newspaper **showed that the Group's stand was among the first 3 most enjoyed and visited**.

ALL'OMBRA DI GIANO: SCARCE WATER, CHALLENGES AND INITIATIVES

In November 2017, Protomoteca Room in Campidoglio hosted the Convention named *All'ombra di Giano - Scarsità Idrica: sfide e opportunità*. The meeting organised by Acea in collaboration with the FAO and the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) intended to stimulate a debate at international level, also involving other countries overlooking the Mediterranean basin, about the issue, of common interest, of managing the water resource.
Representatives from national institutions and international bodies, such as the Ministry of the Environment and the Protection of Land and Sea, the Municipality of Rome, FAO, UN, the World Bank, CIHEAM, the Global Framework on Water Scarcity, the Milan Centre for Food Law and Policy, together with Acea and representatives from other countries overlooking the Mediterranean such as Egypt and Tunisia, shared experiences and perspective related to safeguarding the water resource, ranging from infrastructures to geopolitical views. In its capacity as historical operator of the integrated water service for the Capital and first water operator at national level, Acea was able to share its wealth of competencies on this occasion, representing an efficient and advanced management model for water networks.

Among the main exhibitions sponsored or organised during the year, we point out *Acea Rome Marathon*, now of international importance, *Acea-Volley Scuola Trophy* and the third edition of ***Acea Camp***. Indeed, this is the third consecutive year that Acea has realised at **Parco del Foro Italico**, a summer camp dedicated to youngsters from 6 to 14 years old to make them socialise and practice sport. The initiative, sponsored by CONI and realised with the active participation of the Municipality of Rome, envisages the possibility to play twelve sports - basketball, volleyball, rugby, football, baseball, fencing, tennis, athletics, swimming, dance, judo and softball -, at a very small entry fee (equal to 50 Euros) with medical assistance and insurance cover and the possibility to exploit preferential access for families under financial hardship; in 2017, in particular, some peripheral districts of the Capital were involved; again this year, there was the participation of Carlton Myers, former captain of the Italian Basketball Team and technical director of the Camp, with other champions from the world of sport.
Among the initiatives having impact on the land, managed by the **Social Communication Unit**, as well as the mentioned exhibitions involving schools, we outline the event of the **relighting**, after 13 years, **of the lights on Palatine Hill and the archaeological site overlooking the Circus Maximus**, during the night of **New Year 2018**. This new permanent lighting, designed by Acea professionals in collaboration with the Ministry of Cultural and Environmental Heritage, State Superintendence and Capital Superintendence, combines a high energy saving obtained with improved light quality and technological innovation. With a view to sustainability, the **Christmas lights in via del Corso were also later transformed into 22 water tanks** (1,200 kg of plastic) with a capacity of about 3,000 litres, consigned to the local communityal Civil Protection for the populations hit by the earthquake in the Amatrice area.

Acea also underlined, once again, its commitment during occasions such as the **national prevention campaigns for women** - Nastro Rosa (Pink tape) and Ottobre rosa (pink October) - offering technical sponsorships, by lighting the Colosseum and the Lazio Region headquarters building and, during the Race for the cure, at the Circo Massimo, supplying water and electricity; it also projected the words ***Never Again*** onto the facade of the Head Office during the world elimination of violence against women day (see *Staff*, paragraph *Diversity and equal opportunities*).

The following boxes describe the **main events supported by the Acea Group in 2017**, through sponsorships or donations, subdivided according to their purpose and specifying the companies participating.

2017: ACEA FOR CULTURE

Silver sponsor of the **Festival dell'Acqua**, [Festival of Water] 4th Edition, which took place at "Aldo Moro" University in Bari from the 8th to 11th of October 2017. The Festival envisaged conventions involving various subjects, enterprises and institutions of the water segment (Utilitalia Servizi srl)
Sponsor of the 5th edition of ***Maker Faire***, the most important European event dedicated to digital manufacturing, which was held in Rome in December 2017 (Innova Camera)
Official partner of the **Tribute to William Kentridge** event, which took place in Rome on 22 April 2017 along the Lungo Tevere [Tiber River] in the section between Ponte Sisto and Ponte Mazzini (Associazione Tevereterno)
Sponsor of **Cybertech Europe**, on computer safety, 27 and 28 September 2017 at the Convention Centre La Nuvola di Rome (Cybertech)
Main sponsor of the study seminar dedicated to **Social Finance**, which was held in May 2017 at the Museum of Ara Pacis di Rome (Zetema)
Sponsor of the **La Razza Nemica**, [the Enemy Race] on anti-Semitic propaganda perpetrated by Nazism and fascism, at Casina dei Vallati, Rome from 27 January to 7 May 2017 (C.O.R.)
Sponsor partner in the organisation of the 9th edition of the ***International Jewish literature and culture festival***, held in Rome from 9-13 September 2017 (Artix)
Main sponsor di **Estate al Maxxi**, the summer exhibition full of events, took place in Rome between June and September 2017 in relation to the Roman Summer (Fondazione Maxxi)
Sponsor of the event ***Cento Città in Musica***, an initiative which took place in the area of Rome and province with planning of cultural events and shows with free entrance or at a low price (Associazione Culturale Europa Musica)
Partner sponsor of the 12th Edition of **Festa del Cinema di Roma**, which took place between 26 October and 5 November 2017 (Fondazione Cinema per Rome)
Partner sponsor of ***Alice nella Città 2017***, an independent and parallel section of the Festival del Cinema di Roma, which contributes to the promotion of cinema towards new generations (Associazione Culturale Play Town)
Sponsor of the exhibition **Notti di cinema a Piazza Vittorio**, which took place between July and 10 September 2017 (Agis Lazio srl)
Partner sponsor of ***Gay Village 2017***, the exhibition took place in Rome, at Parco del Ninfeo dell'EUR, between 8 June and 2 September (Gavi E20 Srl)
Sponsor of the **Festival Internazionale del Cinema dei Castelli Romani - Human Rights** which took place from 15 to 17 December 2017 and promotes cultural initiatives in the defence of human rights (Fondazione Punto e Virgola)
Sponsor of the 4th of the ***Isola della Sostenibilità Acea***, [Acea Sustainability Island realised between 30 November and 2 December 2017 and promoted by the Università degli Studi Rome Tre university to develop "sustainable ideas" (Jera srl)

2017: ACEA FOR SOLIDARITY

Contribution to the Municipality of Norcia to realise a **recreation centre**
Contribution for the 15th edition of ***Fiaba Day*** during the national day for breaking physical, cultural, psychological barriers and spread the culture of equal opportunities
Contribution to the twentieth year of the Associazione A**ndrea Tudisco Onlus**, which protects babies suffering serious illnesses and their families
Technical sponsorship for the ***Accendi l'oro***, campaign, promoted by **Associazione Peter Pan Onlus** for the prevention of infantile tumours. Acea was a sponsor of the initiative lighting gold in the Fontana del Tritone
Technical sponsorship for the ***Race for the cure***, initiative, which took place in Rome between 19 and 21 May 2017 at the Circus Maximus. This is an exhibition which includes a solidarity race of 5 km and other sport and wellbeing initiatives, organised by **Susan G. Komen Italia**, to support the fight against breast cancer and promote women's health (Susan G. Komen Italia)
Technical sponsorship, lighting the Palazzo della Regione Lazio palace in pink for the whole month of October 2016. This was the symbol of the ***Ottobre rosa*** [pink October] initiative, aimed at incentivising women to join breast cancer prevention programmes (Regione Lazio)
Technical sponsorship, lighting the Colosseum pink, for every weekend of October, in relation to the ***Nastro rosa 2017*** [pink ribbon] (LILT – Lega Italiana to fight cancer)

2017: ACEA FOR SPORT AND YOUTH

Title sponsor of the **2017 edition of the traditional sporting event, *the Rome city Marathon***, certified with the "IAAF Road Race Gold Label", this is the most participated competitive event in Italy, which took place on 2 April 2017, starting from via dei Fori Imperiali (Atielle Rome Srl)
Partner sponsor of the 1st edition of the ***Rome Half Marathon Via Pacis***, which was held in Rome, starting from Piazza San Pietro on 17 September 2017. 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)
Official supplier of the **A.S. Rome and S.S. Lazio** football teams for sporting season 2017/2018 (A.S. Rome SpA and Infront Italy Srl)
Gold sponsor of the 7th edition of the **San Valentino Marathon**, a race initiative of special recreational value for the entire district of Terni
Title sponsor of edition 2017 of the ***Torneo Volley Scuola–Trofeo Acea***, [*Acea School Volleyball Tournament*] dedicated to the secondary schools of Rome and province and run by Fipav Lazio (Fipav Lazio)
Main sponsor of the 3rd edition of ***Acea Camp***, for students between 6 and 14 years old, belonging to the schools of Roma Capitale, to learn of and spread the practice of 12 sporting disciplines. The exhibition took place in Rome between June and July 2017 (Beside Management Srl)
Contribution to sporting activity for season 2016/2017 of **S.S.D Santa Lucia**, a **wheelchair basketball** company, active in the Roman sporting panorama since the 60s (S.S.D. Santa Lucia Srl)
Contribution to ***ASD La Boracifera*** to support young teams
Contribution to **ASD Virtus Basket Aprilia**, for edition 2016/2017 of the ***Differenzio anch'Io!*** [I make a difference too!] aimed at youngsters in years 4 and 5 of the Primary Schools in the municipality of Aprilia (about 1,300 estimated pupils) but also families, teachers and the entire population
Contribution to the Myricae volunteers Association for the 3rd edition of ***Miranda Trail***
Sponsor of the show ***Saved***, a message against injustices on students in secondary and high schools

SUPPLIERS

594 MILLION EURO THE VALUE OF THE 2017 CONTRACTS: APPROX. **2,000** CONTRACTS STIPULATED WITH OVER **1,000** SUPPLIERS

IN LAZIO **36%** OF THE GOODS/ SERVICES VALUE ORDERED AND **59%** OF THE WORKS VALUE ORDERED

766 REQUESTS FOR ENROLMENT IN THE REGISTERS/ QUALIFICATION SYSTEMS RECEIVED **529** REQUESTS APPROVED

MANDATORY IN ORDER TO REGISTER IN THE **Qualification Systems** (SINGLE REGULATIONS FOR GOODS, SERVICES AND WORK) A SELF-ASSESSMENT QUESTIONNAIRE THAT INCLUDES THE ASPECTS OF SUSTAINABILITY

THE «**Safety Team**» PERFORMED APPROX. **8,900 safety inspections at the work sites** OF THE SINGLE CONTRACTS OF NETWORK MAINTENANCE AND WATER AND ELECTRICAL SERVICES

CONSOLIDATED EXTERNAL COSTS

In 2017, the Group's **consolidated external costs** totalled about **1.76 billion Euros**, substantially unaltered compared to 2016. The highest costs amongst these, equal to about 1.31 billion Euros (1.35 billion in 2016), concern **purchase of energy, gas and fuels** and secondly the costs for **services** affect for about **252 million Euros** (approx. +16.7% compared to 2016).

The rest of this section describes the **procurement of goods, services and works** managed by several companies in the Group, by the **Purchases and Logistics Function** of the Holding. As regards the scope subject matter of the analysis, including all the companies representing the Group's activity and consistent with past disclosures, such procurements had a value in 2017 of about **594 million Euros**.

PURCHASING POLICIES

The **Purchasing and Logistics Function** of the parent company ensures ***"the definition of policies and guidelines and centralised management of the procurement of goods, services and works for the Group"***. Its goal is to rationalise the procurement process and increase its efficiency, through the valorisation of the technical

skills of the buyers, an approach focusing on the logic of managing categories of goods, a close synergy with the Companies/Functions in the Group which require procurement services ("internal customers") and transparent relations with the suppliers.
The **Logistics Unit** manages the operations of the **Group's central warehouse** and the **peripheral warehouses** of the main operating companies. After the transfer, completed in 2016, of the Group's central warehouse to the newly built **Logistics Centre in Santa Palomba** and **at the state of the art from the technological viewpoint, in 2017 the activity was fully operational** and the first important economic and operational benefits were perceived. The new logistics structure, in fact, allowed an efficiency of **over 3 million Euros/year** thanks to lower lease costs, better hire rates for equipment and transport to the peripheral warehouses of the Group. Loading/unloading times were notably reduced thanks to the presence of loading bays with direct access to the warehouse, and allowed daily operations to be faster.

DEALINGS WITH SUPPLIERS AND PROCUREMENT MANAGEMENT

Article 16, paragraphs 1-7 of the **Group's *Code of Ethics***[71] recalls the principles of correctness, **transparency and protection of competition as well as the valorisation of aspects of sustainability** - the observance of conditions of protection and safety or the workers, quality of goods and services, respect of the environment, pursuit of energy saving - placing them at the basis of **relations between Acea**, in its capacity as contracting company **and its suppliers**: contractors and subcontractors. The *Code of Ethics* must be **signed in acceptance**, as an **essential condition to participate in works, goods and services tender procedures**, under penalty of exclusion therefrom and, in the case of violation of the principles contained therein, downstream of due assessments, **exclusion from the tender or invalidation of the award is contemplated**. (art. 16, paragraphs 6 and 7).

GROUP CODE OF ETHICS (ED. 2012): SUSTAINABILITY IN THE SUPPLY CHAIN

The *Acea Group Code of Ethics*, article 16, paragraph 2:
"Acea undertakes to promote, as part of its supply activities, respect for the protection and safety conditions of its employees, a focus on the quality of goods, services and performances, respect for the environment and the pursuit of energy savings, in accordance with the principles outlined in this Code of Ethics and the law. In supply contracts with at-risk countries, defined as such by recognised organisations, contractual clauses have been introduced that involve: self-certification by the supplier of the compliance with specific social obligations (e.g. measures that guarantee employees respect for their fundamental rights, the principles of equal treatment and non-discrimination, protection against child labour); the possibility of carrying out monitoring activities at production units or operating sites of the supplier company in order to verify the fulfilment of these requisites".

Recourse to calling a tender is the prevalent **method applied for identifying a supplier** and the award procedures are based on **criteria of transparency**, ensuring **centred management of contract tenders**. The Purchasing Function fulfils, for all the companies of the Group within the scope of "centred purchases", the obligation[72] of **disclosing on the corporate website** of Acea (www.acea.it) **all of the documentation containing all information concerning the purchases made in the framework of the Code for Tenders**[73].
In 2017, about **70% of the total procurement** was awarded through **tender**; this is an increase compared to 52% of the previous year.
Operators who are interested in participating in tenders **can access directly and free of charge the portal hosting the qualification systems** and the **portal hosting the online completion of calls for tenders** - in **the 'Suppliers" section of the company website** www.acea.it - where the required forms and information are available. The web portal enabling tenders to be managed online 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.

All tenders for the awarding of works and a considerable number of tenders for the purchase of goods and services **require UNI EN ISO 9001 certification of the quality management system** as a **prerequisite for participation. UNI EN ISO 14001 certification of the environmental management system** is also needed for certain product categories (such as waste management). For some of the tenders awarded on the basis of the most economically advantageous bid, the score is also impacted by the possession of the **SA8000 certificate**.
As in 2016, **also in 2017**, in some tenders for **water, electrical and civil engineering works** awarded on the basis of the most economically advantageous bid, **rewards were introduced** concerning: the number of skills **trained on safety matters** for work carried out in specific environments and conditions (for example at heights or in confined spaces), the **availability of ecological tools** and **the joint possession of UNI EN ISO 9001 and 14001 certifications**, and also the **OHSAS 18001** standards on health and safety in the workplace.

In compliance with the law[74], for tenders for works, goods and services that fall within **special water and energy business areas**, Acea issues open, restricted or negotiated procedures also between companies registered in the Qualification systems. For tenders in special areas **involving amounts below the EC threshold** – established every two years by EC Regulation – Acea applies **Internal Regulations** in accordance with the principles of the EC Treaty for the protection of competition. With regard to awards falling within ordinary business areas, **open, restricted or negotiated procedures** are issued in compliance

[71] The Code of Ethics of the Group (2012 edition) is available online on the new website www.acea.it, Governance section.
[72] 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).
[73] Legislative Decree no. 163 dated 12 April 2006 - Code of public contracts
[74] Part II, Section VI, Chapter 1 – Legislative Decree no. 50/2016.

with the law[75]. Furthermore, for tenders that do not fall within the scope of application of the Code on Tenders (so-called "extraneous or private law"), selection procedures are used which, although not regulated by Legislative Decrees no. 50/2006 and subsequent amendments, comply with the **principles of free competition, equal treatment, non-discrimination, transparency and proportionality**.

In 2017 the companies in the Acea Group subject of this analysis **entered into almost 2,000 contracts** with **about 1,000 suppliers, which is in line with the 2016 figure** (see Table no. 34)
For contracts pertaining to the scope of application of the Public Contracts Code and having as subject matter works and services with high manual labour content, Acea, in compliance with the provisions under art. 50 of Legislative Decree no. 50/2016 **in the matter of social clause**, added the obligation, as a priority, to absorb staff already operating as employees of the outgoing contractor into the awarded company's staffing structure, compatibly with its organisation.

GREEN PROCUREMENT

Following on from previous years, Acea inserted **in the tender documents, as binding parameters or reward schemes, the regulatory references to the Minimum Environment Criteria** (CAM) adopted by Decree of the Ministry for the Environment and Protection of Land and Sea, in compliance with that envisaged by the **Action plan for the environmental sustainability of consumption in the Public Administration sector** (i.e. the National Action Plan on Green Public Procurement **NAP GPP**)[76].
In 2017, for example, the **new tender** for the "Management of cleaning and sanitisation services of local Offices, production Plans and detached Centres" of the Group was drawn up, with the **obligation to observe the CAM for chemical products used for cleaning**.
In the new tender for supplying **paper for multifunction printers, apart from ecological paper**, guaranteed by the possession of labels certifying the origin of the cellulose glue from certified forests and the absence of pollutant substances during the whitening process, **recycled paper was introduced**. This could contribute to the reduction in volumes of RSU management, one of the most pressing environmental problems in the land.
Moreover, in the second half-year, the foundations were laid for an ambitious and challenging project, to be realised in the next few years, which intends to extend, where compatible with the nature of the goods and services acquired and according to the used award procedures, the **approach of the CAM to other categories in the products tree of Acea, not covered by specific Ministerial Decrees**.

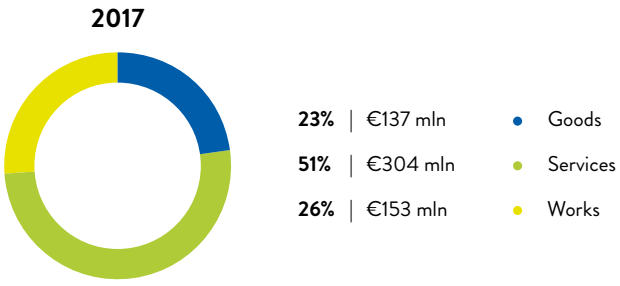
PROCUREMENT OF GOODS, SERVICES AND WORKS

SCOPE OF REFERENCE

The information given in the paragraph concerns all companies included in the scope - see *Disclosing sustainability: Methodological note* – with the exception of Gesesa. This guarantees the substantial comparability with data from the previous year.

Tenders for the supply of **goods**, the performance of **services** and the completion of **works** were managed, at centralised level, for the companies included in the disclosure. Contracts awarded in the year had a **comprehensive economic countervalue** of almost **594 million Euros**[77], approx. 16% more compared to the 510 million in the previous year. The increase in amounts, in absolute value, was mainly recorded for items services and works (see la Table no. 33 for data comparison).

CHART NO. 26 – VALUE OF PROCUREMENT OF GOODS, SERVICES AND WORKS AND PERCENTAGE ON TOTAL (2017)



NB The figures are rounded off to the nearest unit

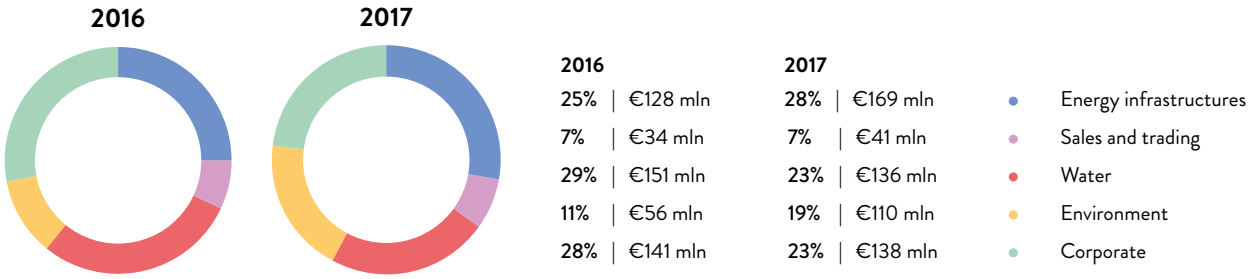
[75] Part II, Sections III, IV and V – Legislative Decree no. 50/2016.

[76] The GPP NAP was recommended by the European Commission in 2003 and adopted by Italy with Law 296/2006, article 1, paragraph 1126 and Ministerial Decree dated 11 April 2008 (MATTM). The Ministry for the Environment defines the "Criteri Ambientali Minimi" (CAM) (Minimum Environmental Criteria), which act as a national benchmark for Green Public Procurement; they may be used by the contracting authorities to enable the Action Plan on Green Public Procurement to maximise economic and environmental benefits. "GPP" (Green Public Procurement) is defined by the European Commission as *"(...) the approach by which Public Authorities integrate environmental criteria into all stages of their procurement process, thus encouraging the spread of environmental technologies and the development of environmentally sound products, by seeking and choosing outcomes and solutions that have the least possible impact on the environment throughout their whole Lifetime"*.

[77] The amount refers to tenders awarded during the year, without any distinction between investments and operating cost, annual and multi-annual contracts. Almost all commodity purchases are excluded.

It can be seen that the value of procurement in the main business macroareas[78] - **commercial and trading** (sale and call center), **energy infrastructures** (generation and networks), **water** (within which Acea Elabori was also considered for services carried out for the sector), **environment** (waste to energy and environmental services) and **corporate** (Acea SpA) - the energy infrastructure segment absorbs, over the year, the greatest percentage out of the total (28%), followed by the water segment and corporate (both 23%) and, with regard to data 2016 (reclassified according to 2017 incorporations to guarantee comparability for the two-year period), outlined, in particular, are the increases of imports in orders for the Environment Area, both works and goods and services, and for the energy infrastructure area (see chart 27 and Table no. 34).

CHART NO. 27 – ORDERS (GOODS, SERVICES, WORKS) BY BUSINESS AREA (2016-2017)



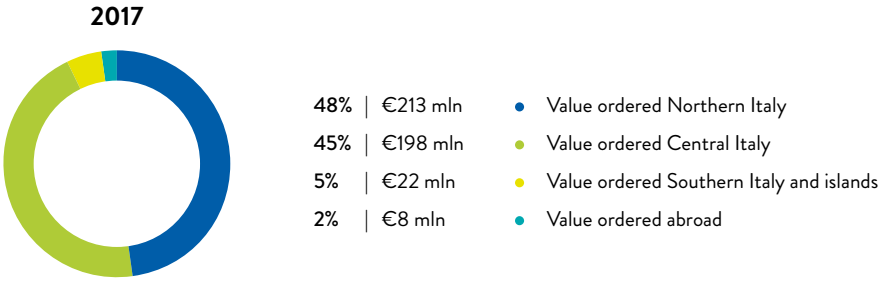
NB Figures are rounded off to the nearest unit. The **energy infrastructures** segment includes: Areti (within which merged the activities of Acea Illuminazione Pubblica), Acea Produzione and Ecogena. Included in **commercial and trading** are: Acea Energia and Acea8cento. The **water** segment includes: Acea Ato 2, Acea Ato 5 and Acea Elabori (the latter organisationally in the Engineering and services area, was incorporated in the water segment, as in 2016 for services it carries out for the sector; the value of orders for Acea Elabori is equal, in 2017 to about 20 million Euros). The **environment** area includes: Acea Ambiente and Aquaser. Present in the **corporate** area is only Acea SpA. The data for 2016 were reclassified to ensure comparability.

During 2017 the Group companies included in the scope had a demand which translated into **2,073 Purchase Orders**, in line with the amount for last year (1.981 Orders) and involved **1,069 suppliers** (1,005 in 2016). About 90% of the Purchase Orders had award amounts below the EC threshold. The **first ten suppliers of services and works** respectively absorbed about **42%** of the total value of contracted works, whereas the **first ten suppliers of goods** about **38%** of the total value of procured goods, percentages all proving to be more contained compared to 2016 (see Table no. 33).

The slight increase in the total number of suppliers in 2017 (approx. 60) took place in a proportionate manner in terms of geographic components (both expressed in macro regions and focussing on Lazio). **Geographical distribution of the suppliers was in line with previous years, with more than 90% being concentrated in the central-northern area**, whereas the **number of suppliers in Lazio retains a consistent percentage** equal to about 46% of the total (44% in 2016, see Table no. 34).

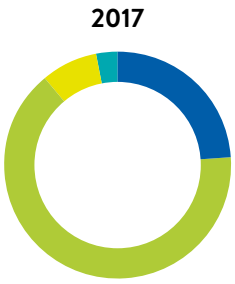
The **geographical distribution of the amounts**, among the macro regions, is quite constant in terms of goods and services, whilst showing **greater variations for works**: increasing, in fact, is the percentage of the value of works completed by companies in northern Italy, decreasing, albeit keeping a high value (equal to 65%) is the percentage attributable to central Italy - and for the larger component in Lazio (59%) - whereas affirmed at very low are the values referred to "South and islands" and those of the "Abroad" component.

CHART NO. 28 – GEOGRAPHICAL DISTRIBUTION OF THE AMOUNTS USED FOR THE PURCHASE OF GOODS AND SERVICES IN ITALY AND ABROAD (2017)



[78] During 2017 there was a reorganisation in the macro structure of Acea SpA, which led to a different allocation, compared to 2016, of the companies included in the scope of the business areas. To give an example, Acea Produzione, previously included in the Energy area, in 2017 moved to the responsibilities of the energy Infrastructures business Area. So as to ensure comparability in the data for the last two-year period, the data for 2016 related to business areas were reclassified according to the reorganisation 2017.

CHART NO. 29 – GEOGRAPHICAL DISTRIBUTION OF THE AMOUNTS OF WORKS AWARDED IN ITALY AND ABROAD (2017)



24%	€37 mln	Value ordered Northern Italy
65%	€99 mln	Value ordered Central Italy
8%	€12 mln	Value ordered Southern Italy and islands
3%	€5 mln	Value ordered abroad

TABLE NO. 33 - SOCIAL INDICATORS: PROCUREMENT DATA (2016-2017)

	u. m.	2016 (*)	2017	Δ% 2017/2016
VALUE OF CONTRACTS				
goods	€/m	132	137	4%
services	€/m	245	304	24%
works	€/m	133	153	15%
total	**€/m**	**510**	**594**	**16%**
GOODS, SERVICES AND WORKS AS A PERCENTAGE OF TOTAL ORDERS				
goods	%	26	23	-12%
services	%	48	51	6%
works	%	26	26	-
VALUE OF ORDERS BY BUSINESS AREA (**)				
Energy infrastructures	€/m	128	169	32%
Commercial and trading	€/m	34	41	21%
Water	€/m	151	136	-10%
Environment	€/m	56	110	96%
Corporate	€/m	141	138	-2%
NUMBER OF PURCHASE ORDERS MANAGED				
POs for goods, services and works	no.	1,981	2,073	5%

(*) 2016, compared to corporate scope for 2017, included data related to Acea Illuminazione Pubblica (which were transferred to Areti in 2017), Acea Gori Servizi (in 2017 no longer consolidated using the step by step method), Crea Gestioni, Elgasud (later renamed Acea Liquidation and Litigation) and Acea Energy Management. Note that, for the comparison of the two-year period, the total amount for the orders of the latter 4 companies, was equal to 1.3 million Euros in 2016.

(**) To ensure comparability in the two-year period, data for 2016 were reclassified consistently with the reorganisation of the business areas 2017. Acea Elabori, organisationally 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.

NB All the figures in the table are rounded off to the nearest unit.

TABLE NO. 34 - SOCIAL INDICATORS: PROCUREMENT NATIONWIDE (2016-2017)

	u. m.	2016 (*)	as % of total/year	2017	as % of total/year
NUMBER OF SUPPLIERS OF GOODS, SERVICES AND WORKS NATIONWIDE					
suppliers in northern Italy	no.	340	34%	356	33%
suppliers in central Italy	no.	579	57%	620	58%
suppliers in Lazio	*no.*	*445*	*44%*	*489*	*46%*
suppliers in southern Italy and islands	no.	70	7%	74	7%
suppliers abroad	no.	16	2%	19	2%
total suppliers	**no.**	**1,005**	**100**	**1,069**	**100**

TOP 10 SUPPLIERS OF GOODS, SERVICES AND WORKS (amounts awarded)					
TOP 10 suppliers of goods	€/m	74	56% (on total amounts of goods 2016)	23	38% (on total amounts of goods 2017)
TOP 10 suppliers of services	€/m	127	52% (on total amounts of services 2016)	51	42% (on total amounts of services 2017)
TOP 10 suppliers of works	€/m	75	56% (on total amounts of works 2016)	26	42% (on total amounts of works 2017)
GEOGRAPHICAL BREAKDOWN OF AMOUNTS FOR GOODS AND SERVICES					
value of orders northern Italy	€/m	210	56%	213	48%
value of orders central Italy	€/m	152	40%	198	45%
value of orders Lazio	*€/m*	*125*	*33%*	*160*	*36%*
value of orders southern Italy and islands	€/m	11	3%	22	5%
value of orders abroad	€/m	4	1%	8	2%
total value of orders for goods and services	**€/m**	**377**	**100**	**441**	**100**
GEOGRAPHICAL BREAKDOWN OF AMOUNTS FOR WORKS					
value of orders northern Italy	€/m	9	7%	37	24%
value of orders central Italy	€/m	110	82%	99	65%
value of orders Lazio	*€/m*	*107*	*80%*	*90*	*59%*
value of orders southern Italy and islands	€/m	14	11%	12	8%
value of orders abroad	€/m	0	0%	5	3%
total value of orders for works	**€/m**	**133**	**100**	**153**	**100**

(*) 2016, compared to corporate scope for 2017, included data related to Acea Illuminazione Pubblica (which were transferred to Areti in 2017), Acea Gori Servizi (in 2017 no longer consolidated using the step by step method), Crea Gestioni, Elgasud (later renamed Acea Liquidation and Litigation) and Acea Energy Management. Note that, for the comparison of the two-year period, the total amount for the orders of the latter 4 companies, was equal to 1.3 million Euros in 2016.

NB All the figures shown in the table are rounded off to the nearest unit. The "northern Italy" geographical area includes Valle d'Aosta, Piedmont, Lombardy, Veneto, Trentino-Alto Adige, Friuli Venezia Giulia, Emilia-Romagna and Liguria; "central Italy" includes Tuscany, Umbria, Marche, Lazio, Abruzzo and Molise; "southern Italy and islands" includes Campania, Basilicata, Puglia, Calabria, Sicily and Sardinia.

SELECTION AND EVALUATION OF SUPPLIERS

Acea has implemented and regularly updates various **Qualification systems for suppliers of works, goods and services**. The unit responsible for **Supplier Qualification**, in respect of the principles of **correctness and equal treatment**, sets up **Qualification systems** of European significance[79] and **Suppliers' Lists** for so-called "below threshold" or private tenders, coordinating workgroups to **identify the qualification requirements** and drawing up the **Qualification Regulations**. The Unit is also responsible for processing individual qualification applications, checking the possession of the requirements and managing communications with the supplier concerning: admission measures and rejection or suspension from the Lists. Lastly, the unit supervises the **monitoring activities** of suppliers through direct controls and/or with the support of qualified auditors[80].

The product tree shared among the Group companies includes, as at 2017, **465 product groups** and as at 31 December 2017 the responsible Unit had managed 101 **qualification Lists/Systems**.
A supplier qualification portal is active in Acea, fully **integrated with the suppliers' details**. Companies intending to be qualified **insert their qualification application online** for the product groups of interest, accessing the **Vendor Management (VM) portal** directly **from the Acea institutional website** (www.acea.it, Suppliers section). For **registration in the qualification Lists/Systems**, possession of **standard requirements** – these include requirements of a **moral nature envisaged by the laws in force** in the sector – **and specific requirements** is necessary, with reference to the product group or groups included in each Suppliers' List.

In some cases, the **specific requirements** include holding certain Authorisations and/or certifications, for example:

- possession of UNI EN ISO 9001 certification (binding requirement for all the "works" product groups and for almost all the "goods and services" qualification systems");
- possession of ISO 14001 certification (for example for registration in the Qualification System for special non-hazardous waste);
- possession of Registration to the National Environmental Operators' Register or authorisation to manage a plant for the recovery/disposal of waste (for example for registration in Waste Management Systems);
- possession of OHSAS 18001 certification (for example for registration in the Qualification system for the electro-mechanical maintenance of industrial plants).

[79] Pursuant to art. 134 of Legislative Decree no. 50/2016 as amended.
[80] Until 30 September 2017, the responsibility for control activities referred to the supplier Qualification Unit. As from 1 October 2017, following organisational changes, this moved to the integrated certification Systems Unit. The information given in the paragraph refers to activities carried out during the entire year in question.

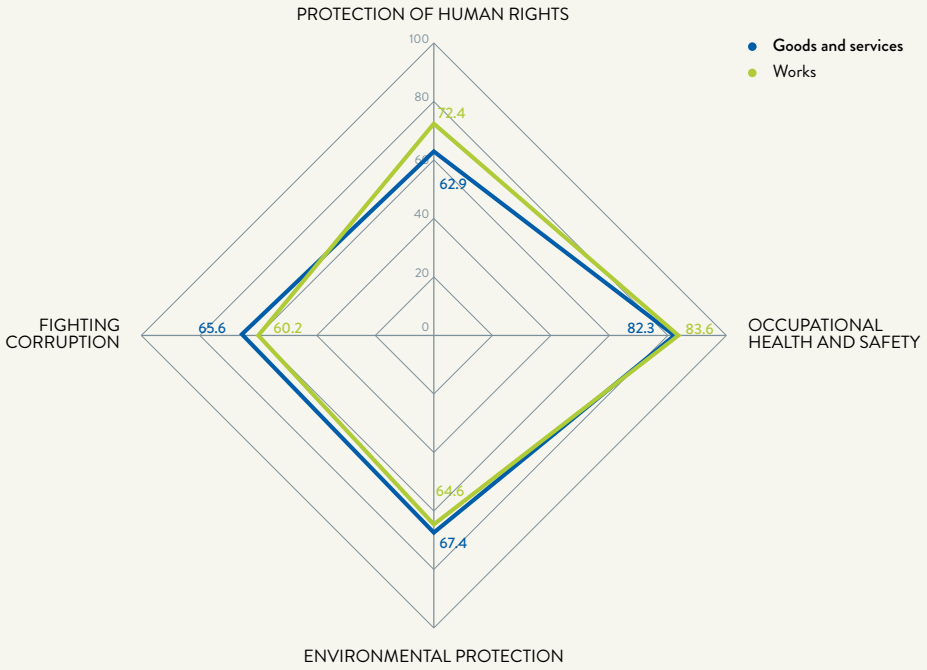
For admission to the qualification systems **of Community-wide significance, lastly**, companies wishing to qualify must declare their availability to undergo an **inspection visit at the administrative head office**, aimed at assessing the truthfulness and adequacy of the documentation provided, and **at the operating plants** or product warehouses, in order to assess the implementation and application of the active management systems.
In 2017 a total of **766 applications for registration in the qualification lists/systems** were processed, **amounting to 529 successful applications.**
In detail:

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

The evaluation of suppliers involves different types of checks which are activated according to the list in question and the different "status" (in the qualification phase, qualified, or qualified with tender ongoing) acquired by the supplier with regard to Acea.
During the qualification phase, up to June 2017, Acea **asked suppliers for information about the Quality, Safety and Environment systems and aspects related to sustainability**, by means of **two different tools**: the mandatory completion of the **QAS self-assessment questionnaire** for registration in the Qualification Systems for water and electrical works and the mandatory completion of a **self-assessment questionnaire concerning sustainability performance** called **"TenP"** (with reference to the ten Global Compact principles of the United Nations)[81] for the registration of Qualification systems for water and electricity Works and for registration to the new qualification Systems for Goods and Services. **Since July 2017**, Acea decided to become independent from the "TenP" platform, managed by Global Compact, **integrating the topics of sustainability** (Social responsibility/environmental management) **into a self-assessment questionnaire managed directly on the vendor Management platform**, used for qualifying suppliers, which is accessed from the institutional website (www.acea.it). The management of the self-assessment questionnaire on the Vendor Management platform guarantees greater flexibility and efficiency respect to the use of an external platform. Completion of the self-assessment questionnaire is **compulsory for registration to the Qualification systems pertaining to the Single Regulations for Goods and Services and Works** (78 Qualification systems as at 31/12/2017). Summary data, progressively analysed, shall be available as from 2018.
Lastly, following on from recent years, **Purchasing and Logistics sent a sample of suppliers – 104 in 2017 – questionnaire prepared *ad hoc* on social and environmental topics, in conjunction with the Corporate Social Responsibility Unit**, to obtain more details on the level of spreading of sustainability along the supply chain, **obtaining replies from 55 suppliers** (48 in 2016) (see the relevant explanatory box).

FIRST HALF-YEAR 2017: TENP QUESTIONNAIRE DATA

For the first half-year 2017, before integrating information on matters of sustainability in a self-assessment questionnaire managed directly by the Vendor Management platform accessible from the institutional website, **Acea continued to rely on the platform managed by Global Compact**, asking its suppliers, during the qualification phase, to mandatorily complete the **TenP questionnaire**. Between **December and June of 2017**, it was therefore possible to extract summary data from such platform: a total of **286 Acea suppliers** completed the TenP questionnaire, among those registered in the Works list and the Goods and Services list. From the processing of questionnaire data, **average adequacy**, respect to the questions to be answered, was around **70 points/100** with a slight difference between the two lists taken into consideration.



AVERAGE SCORE OF ACEA SUPPLIERS BY SELF-ASSESSMENT FRAMEWORK

[81] As from 2014, in fact, Acea has been a partner of the *Sustainable Supply Chain* Work Group of the Fondazione Global Compact Network Italia – together with A2A, Ansaldo STS, Edison, Eni, Italcementi, Nestlé Italia – and contributed to the management of the "TenP" questionnaire as well as the activation of a dedicated platform managed by Global Compact Network Italia.

THE ACEA QUESTIONNAIRE FOR MONITORING SOCIAL AND ENVIRONMENTAL TOPICS ALONG THE SUPPLY CHAIN

2017 was the third consecutive year that Acea submitted an ad hoc questionnaire to a panel of suppliers of the Group to investigate their commitment to **environmental and social topics. The sample 2017 included 104 suppliers** (58 representing the product category goods and services and 46 for works), these counted 102 in 2016, and **55 companies answered the questionnaire** - 48 in 2016 - (27 for goods and services and 28 for works).
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. As regards **social topics**, such as the adoption of tools to promote ethics and integrity, employment protection and the respect of health and safety at the workplace, **the analysis of the information provided shows** that, with reference to the **topic of ethics and integrity, 42% of the suppliers adopt tools for the promotion of virtuous behaviour**, including the Code of Ethics, the Organisation, Management and Control Model pursuant to Legislative Decree no. 231/01 and anti-corruption guidelines; as regards **employment protection**, it emerged that **76% the workforce of the suppliers is employed under permanent contracts** and that trade unions are present in 42% of the companies; with regard to **health and safety at the workplaces** it emerges that **53% of the suppliers have safety management systems** (for example OHSAS 18001), 56% have provided safety-related training courses for more than 50% of their staff and **91%** of the suppliers working for Acea **had no injuries** to their staff.

Once **qualified**, a supplier may be subjected to a **second stage Quality Environment and Safety Audit** and since 2017, also an **Energy and Social Responsibility Audit (QASER)**, to verify, at the supplier's seat, the application of certified Management Systems and the procedures for managing important areas for sustainability. The check lists for compliance with the requirements taken into consideration (Management systems, Energy and social Responsibility) were reviewed and adapted during 2017 and the QASER assessment bands were increased within which to place the total score, creating greater diversification in the assessment (Excellent - Very Good - Good - Satisfactory - Sufficient - Poor - Critical - Inadequate). The audit activities were carried out by **qualified Acea SpA internal auditors** belonging to the Units supervising the Integrated Certification Systems, Supplier Qualification and Corporate Social Responsibility, so that all contexts subject matter of attention are covered. **23 audits** were performed which produced the following appraisals: 1 Good; 7 Satisfactory; 7 Sufficient; 6 Poor; 2 Critical. **Whereas on topics of Quality, Environment and Safety** already the subject matter of audit in past years, **the average scores obtained from the audited suppliers fell into the Satisfactory-Good bands** (Satisfactory for Quality and Very Good for Safety), **the appraisals on newly introduced topics were not as good** (Inadequate for Energy, Critical for Social responsibility), **highlighting opportunities for Acea to proceed with further awareness campaigns in the supply chain**.
The results of the feedback were aggregated on the system and each **supplier was sent feedback** by which they were notified of the QASER appraisal band resulting from the completed audit and a **brief report** outlining, apart from strong points, the aspects for which improvement/correction is recommended. The supplier was contextually sent a data sheet of the most significant Findings and a request to give the reasons for non-compliance and propose corrective actions.

The Parent Company's supplier Qualification Unit also coordinated a **residual** and limited number of **worksite inspections**, upon closure of contracts existing with the three Accredit certified worksite audit companies activated in late 2015. This concerned **16 audits**, performed using a check list to establish the requisites of safety, environment and quality of the works, in compliance with the provisions contained in the contractual documents. The subject matter of such checks was also a census of the skills and work tools present at the worksite at the time of inspection. During the 16 audits, **612 parameters were found to comply out of the 699 applicable** parameters, with a compliance index equal to about 87.5%. The parameters subject matter of measurement did not lead to suspensive measures from the works List related to failed observance of laws in force on the matter of Environment and/or Safety.

The majority of worksite audits is instead correlated to **works subject matter of Single Tenders for the maintenance of networks and services, in the water and electricity areas**, awarded in 2015 and 2016 and is carried out by the **"Safety Team", operational in Acea Elabori**. The Safety Team manages **Safety-related issues during the Executive phase**, with the aim of **ensuring compliance with the highest safety standards** and the laws in force on safety in the workplace[82], also checking the compliance of the relevant documents produced during the bidding phase[83]. Activities are differentiated between works requiring Safety Coordination during the Executive phase and works in which the safety standard adopted is assessed and verified through sample inspections. In 2017, the Team intervened through the following figures:

- **15 Safety coordinators in the Execution phase** (CSE), designated to specific worksites from time to time;
- **15 Safety inspectors**, assigned to performing random inspections;
- **Safety Managers**, appointed for each lot of the Tenders managed by the Team, with the task of coordinating CSE activities;
- **Planners**, ensuring the planning and monitoring of the interventions within the land and the process supervised;
- **Technical Safety Auditors** providing the Works Managers of each tender with the support required for completing the Verification of Technical Professional Suitability of the Contractor provided under the law in force.

During the year, the Safety Team performed **technical and professional checks on 74 companies** (19 contractors and 55 subcontractors) and a positive opinion of the execution of the works and services contracted was given for 73 companies (19 contractors and 54 subcontractors). It also carried out **Safety Coordination in the Executive phase for 112 work orders and carried out about 8,900 inspections relating to worksite safety** (62% more than the 5,500 inspections in 2016), **reporting on compliance with the laws in force** on Health and Safety in the Workplace **or deviations from these laws (non-compliances)**, according to four categories established beforehand in the contractual documentation: compliant or

[82] Legislative Decree no. 81/08 "Consolidated Act on Safety", as amended.
[83] Safety and coordination plan for the worksite/ DUVRI/ Safety Operating Plan.

not applicable, breach of a minor entity (in general corrected on the spot), breach of a medium or serious entity.
A score is associated to each non-compliance encountered and is deducted from the annual score set out in the tender documents, of which each contractor avails. **Corrective actions** and **fines** are associated to non-compliances, and **breaches of a serious nature may imply the suspension of the works**. During the course of about **8,900 inspections**, the Team **encountered a total of 733 non-compliances, 500 a "minor entity", 164 a "medium entity" and 69** in the **"serious entity"** category.
During the audits completed on the staff of contractor companies, lastly, it is also **ascertained that the employer has provided both basic training** and, where applicable, **specific training**, as provided by the law in force on the matter of safety.

Despite the attention given to this topic, it must be reported that during the year in relation to activities assigned by certain Group companies to contractors, there were **22 accidents, of which 3 fatal** during the year. With the maximum collaboration of Acea, investigations are in progress by the Judicial Authority and to date no actions have been formalised against the three contracting companies of the Group or the related executives or supervisors.

Pursuant to the **Memorandum on Water Tender Contracts** signed on 6 June 2012 by Acea SpA and Acea Ato 2, the Trade Unions and Industry Federations **held a series of meetings** in 2017 **as part of the Joint Committee set-up for the purpose**. The operations of the Single Tender for the maintenance of networks and the services of the integrated water service has contributed, in recent years, to reducing the criticalities originally reported by the Trade Unions concerning matters of safety and organisation of the work regarding staff from the firms engaged in Acea contracts and to generating benefits in terms of efficiency, work organisation and resources, traceability and transparency of information. During 2017 the Parties met on three occasions and Acea undertook to arrange for, during calls to tender for the award of services, the **insertion of a specific clause to promote occupational stability for staff used in the contracts**.

In 2017 **Acea Energia** continued with **monitoring the quality of the sale service provided by the Agencies for door to door sales and/or teleselling** in the "domestic" and "micro business" segments of the free market. The **Agency Agreement** requires **mandatory training for staff members** who operate on behalf and in the name of Acea to **ensure that they provide accurate information to the customers**, with **fines also being applicable** (starting from 1,000 Euros) in the event of unfair commercial practices. During the year, Acea **provided training programmes for 631 sellers**, for a **total of 3,978 hours of training**. With **146,945** newly acquired supplies (electricity and gas), **62 complaints** received from customers were **analysed and investigated** and **30 instances of improper conduct were sanctioned**.

During the year, **Areti** organised 5 informatory meetings with contracting companies concerning Preventions of the electricity risk in activities under contract on low voltage public lighting plants; in the meetings, lasting 4 hours each, a total of 47 persons participated for a total of 188 hours of training given on the topic. Furthermore, the Company, since 2008, uses a **Vendor rating model** for works in the energy sector, focused on **142 quality, safety and environmental parameters**. The system envisages worksite inspections and the preparation of merit rankings based on the reputation of the contractors and also the possibility of applying fines and suspending the activities of the contractors: **during 2017, 12 worksites were temporarily closed due to safety "non-compliances" against a total of 1,176 inspections. The average reputational index** found in the year, **equal to 97.02, is constantly increasing (it was 95.78 in 2016)**, and it confirms the good level of reliability of the operators.

DISPUTES WITH SUPPLIERS IN 2017

The dispute between the company and suppliers mainly concerns litigations due to **failure to pay invoices** for goods, works and services and legal action concerning **tender contracts**. In 2017, following on from previous years, the number of disputes arising is still contained. With regard to the failure to pay invoices, there were **19 cases** (15 in 2016). In general, there are injunctions concerning invoices that were not paid for reasons of a formal nature and were quickly resolved by settlement proceedings; in fact 9 of the latter were settled during the same year of 2017.

As regards legal action concerning **tender contracts**, 6 proceedings were brought in 2017, there were 8 in 2016 and in this case too, the reduction in litigations is confirmed compared to trends for previous years (12 cases in 2015 and 15 in 2014).
We point out, moreover, that 11 disputes were lodged of an administrative nature on the matter of **calls to tender**, 5 of which are already settled.
As at 31 December 2017 the total number of **pending disputes with suppliers equal 76** (in line with the value for 2016, where – on equal terms of reporting scope 2017 - there were 72 litigations), including disputes already pending and net of the 21 cases settled in the year. The decreasing trend is thereby confirmed (the total in the two-year period 2014-2015 was about 86 pending disputes). In detail, this concerns 18 appeals to the local court on the matter of awards and 57 proceedings brought at the ordinary magistrate's court which mainly concerning registrations of reserves by the contracts, contract termination and compensation of damages.

STAFF

96.5% OF ACEA'S EMPLOYEES HAVE AN OPEN-ENDED EMPLOYMENT CONTRACT

207
INCOMING EMPLOYEES IN 2017

WOMEN REPRESENT **33%** OF THE CORPORATE GOVERNANCE BODIES

SICURI DI ESSERE SICURI?
ACEA ORGANISES THE SAFETY WEEK:
3,000 WORKERS ENGAGED

INJURIES AND INJURY INDEXES ARE DROPPING: **10.87**
FREQUENCY INDEX, **0.43**
GRAVITY INDEX

A TOTAL OF **91,996** TRAINING HOURS CARRIED OUT (CONVENTIONALLY, EXPERIENCE-BASED AND E-LEARNING)

ACEA'S EMPLOYEES

The workforce included in the report[84], which includes the companies consolidated according to the net assets method **suitable for representing the operations of the Group, totals 4,692 persons**. By analysing the evolution by areas of business and corporate, there is a more significant increase in the staff of the Environment Area (+16.5%), consistent with the increasing commitment to the activities of reference, and lower for both the Water Area and Corporate (both 3.6% and considering the Water Area less the companies no longer included in the 2017 perimeter). The decreases in the number of employees of the Energy Infrastructures area and the Commercial and Trading area are marginal. Relative to the geographic location of the employees, considering both the registered office of the companies and the operating locations, almost all of them are concentrated in Lazio, with a residual number in Campania, Umbria and Tuscany.

TABLE NO. 35 - EVOLUTION OF THE EMPLOYEES BY MACRO-AREAS (2016-2017)

BUSINESS AREA	2016 (*) (No. employees)	2017 (No. employees)
Water	2,029	2,011
Energy infrastructures	1,370	1,362
Commercial and trading	449	437
Environment	247	288
Corporate (Acea SpA)	573	594
Total	**4,668**	**4,692**

(*) To permit a complete comparison, the 2016 data was combined, by reporting scope of the relative financial year, taking the reorganisation of the business areas into account that took place in 2017. Please remember that the 2016 data included, in the Water Area, also 88 employees of Acea Gori Servizi and Crea Gestioni no longer included in the 2017 scope. Acea Elabori, organisationally included in the Engineering and Services Area, is also included in the Water Area, for the services provided to the sector, with a total of 233 employees in 2016 and 270 in 2017.

[84] See also *Methodological Note*. The total workforce, for all the companies within the consolidation, was 5,625 during the year (4,968 in 2016). The perimeter ensures the comparison of the data with the preceding year.

COMPOSITION AND TURNOVER

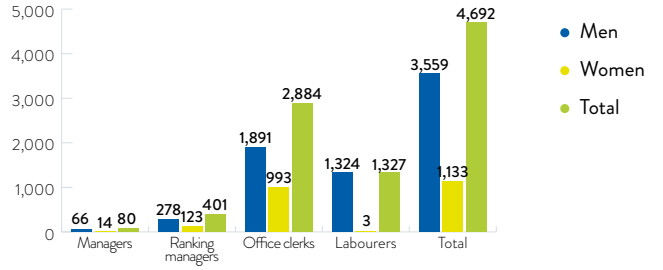
The **Human Resources Management Department** of Acea SpA handles, serving and on behalf of the subsidiaries, **the administrative management of their staff**. Therefore, the following information and data covers the entire scope of the Balance Sheet (see the Methodological Note) and ensures an adequate comparison with the preceding year[85].

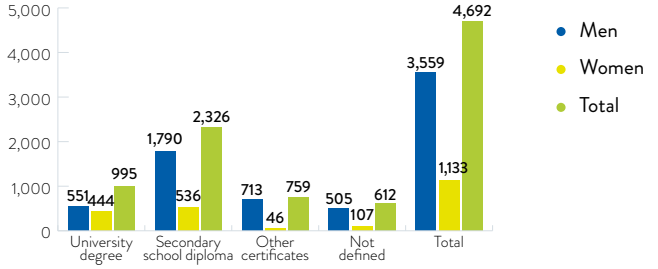
Of the **4,692 people who work in the Group** (there were 4,668 in 2016), **61.5%** were classified as **clerical workers, 28.3%** as **workmen, 8.6%** as **managers** while **executives** represent **1.7%**.

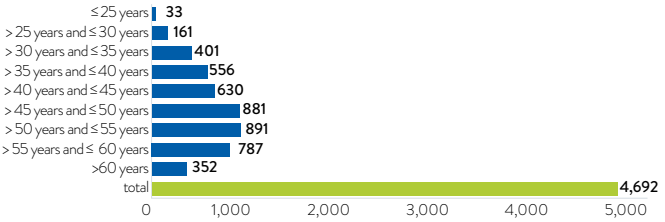
In terms of education, we confirm the trend of a slight, constant increase in employees with **bachelor's degrees, which rise to 21.2%** (19.3% in 2016 and 18.5% in 2015), and the **basic stability of graduates** at **49.6%** (it was 49% in 2016). There was a slight decrease in the percentage of employees with other degrees, 15.3% compared to 16.5% in 2016.

The **age of the employees** is consistent with the preceding year: approx. **62% of the staff are over 45 years of age, 34% are between 30 and 45 years** and **4% are under 30**. Even the **average age** remains stable at **47.7 years** (for all the aforementioned data please see chart no. 30 and Table no. 36).

CHART NO. 30 - COMPOSITION OF THE STAFF: CLASSIFICATION, GENDER, LEVEL OF EDUCATION AND AGE (2017)



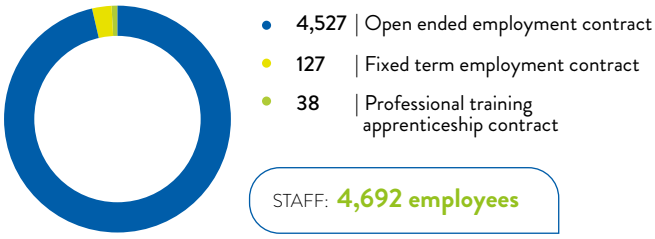


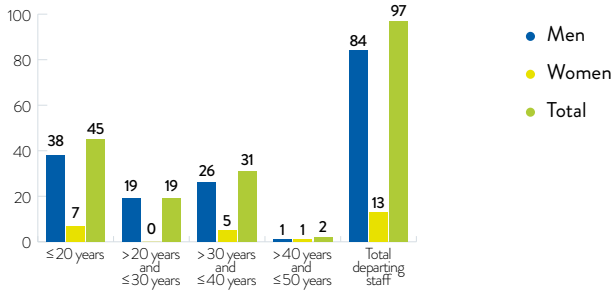


The percentage of staff employed in the Group with an **open-ended contract** remains **very high: 96.5%**, or **4,527 employees**, even though slightly down compared to the 98.5% in 2016.

The **length of the employment relationship**, relative to the employees who every year leave the company, still indicates the **stability of the employment**: during the year, 46.4% of the employees leaving worked for the Group up to 20 years and **51.6% for a period of between 20 and 40 years** (see chart no. 31 and Tables no. 36 and 38).

CHART NO. 31 - THE TYPES OF AGREEMENTS AND THE LENGTH OF THE EMPLOYMENT RELATIONSHIP (2017)





In 2017, the **rate of turnover was 6.5%** (5.9% for men and 8.1% for women), the **incoming rate** rises to 4.4% (3.6% for men and 6.9% for women) and the outgoing drops to 2.1% (2.4% for men and 1.1% for women) (see Table no. 37).

In fact the trend, already registered during the preceding two years, is confirmed in the **increase in incoming staff: the 207**

[85] The 2017 perimeter of the Sustainability Report includes the following companies: Acea SpA, Acea Ambiente, Aquaser, Acea Energia, Acea8cento, Areti, Acea Produzione, Ecogena, Acea Ato 2, Acea Ato 5, Gesesa, Acea Elabori. See *Disclosing Sustainability: methodological note*. The 2016 perimeter included the Acea Illuminazione Pubblica (Public Lighting) company, the activities of which were predominantly transferred to Areti at the end of 2016, therefore their employees are merged with the companies included in the 2017 perimeter. In 2016, Acea Gori Servizi (62 employees) were also included, which in 2017 was no longer consolidated using the full consolidation method, and Crea Gestioni (26 employees). The difference in the scope therefore, involves the data relative to 88 individuals.

entries during the year, of which **128 men and 79 women**, are 33.5% higher compared to the 155 of 2016 (in turn a 14% increase compared to the preceding year). The entries are mainly the result of 150 hires from the external labour market and 52 stabilisations (see chart no. 32 and Table no. 37).

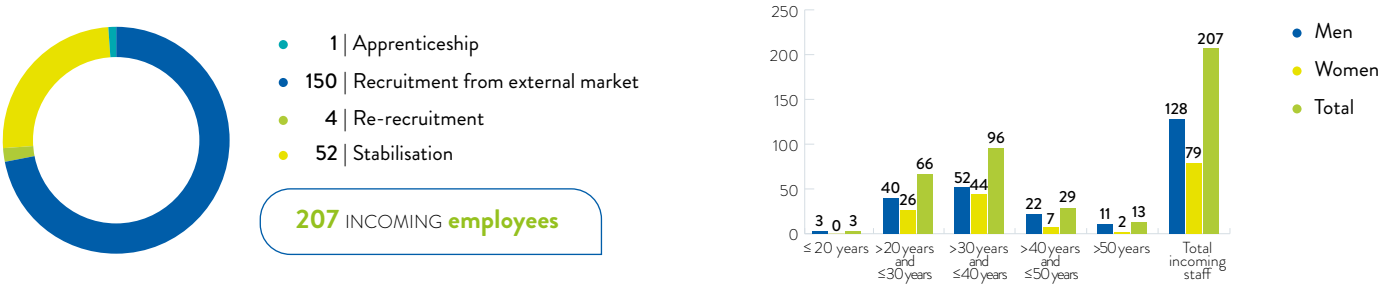
Acea has improved the **selection and insertion processes of young people with professional profiles and strong digital skills** and new graduates in technical subjects by initiating numerous recruitment channels from Universities, Research Centres and Start-up Incubators (see box on the **Graduate Program**).

SELECTION AND INSERTION PROJECT: GRADUATE PROGRAM

During 2017, Acea concluded the transversal selection and insertion project, **Graduate Program**, through which it hired 12 **"Millennials"** with a view to providing momentum and support to the **Business Transformation**. The new hires were entered in an internal development path, through various Job Rotation experiences and training initiatives, with the objective of building and enriching transversal skills and building the core ones in **Digital, Engineering & Operations, ICT and Business Intelligence**.

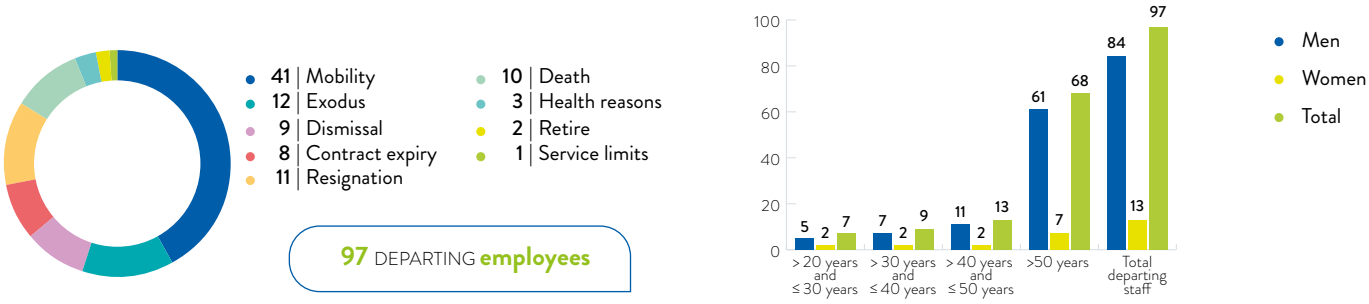
The companies most affected by the incoming flow of staff were Acea Ato 2 and Acea SpA with 65 and 29 new employees respectively (between new hires and stabilisations), followed by Aquaser, with 24 hires. Overall, in 2017, **42% of entries were concluded with open-ended contracts** (down compared to the 51.6% of 2016) and 32% of the incoming staff is **between 20 and 30 years of age**.

CHART NO. 32 - THE REASONS FOR THE ENTRIES AND AGE OF THE STAFF (2017)



There were 97 people who left the company during the year, of which 84 men and 13 women, a **decrease of 40% compared to the 163 employees who left in 2016**. In particular, **41 employees were laid off**, a form of subsidised voluntary early retirement and **12 employees** were involved in the **facilitated voluntary retirement plans**, with the agreed and subsidized early termination of the employment agreement with the company (chart no. 33 and Tables no. 37 and 38). Approx. **70%** of the **outgoing staff was over 50 years of age**.

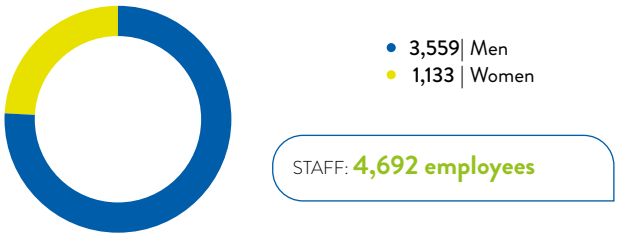
CHART NO. 33 - THE TYPES OF EXIT AND AGE OF THE STAFF (2017)

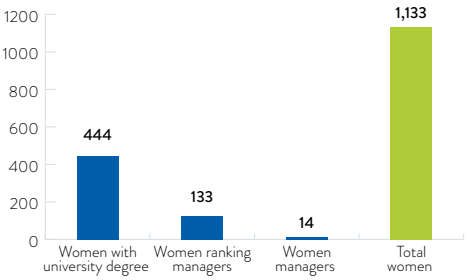


THE FEMALE PRESENCE IN ACEA

There were 1,133 female workers in Ace in 2017: **24.2% of the workforce**. The figure increased by one percentage point compared to the preceding year (23.2%). The smaller presence of female workers in the Group compared to the male workers can be related to the operational nature of the processes managed: to date, in fact, in Italy, professional positions of a technical-specialised nature are still predominantly held by men (chart no. 34).

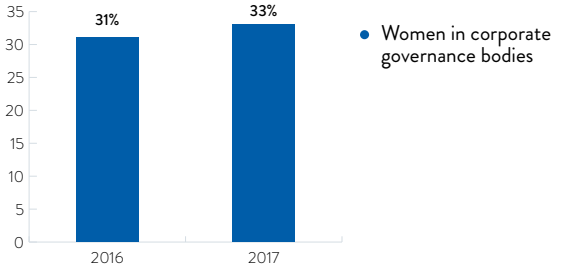
CHART NO. 34 - THE DISTRIBUTION OF THE STAFF FROM A PERSPECTIVE OF GENDER (2017)





During the year, the **presence of women executives remained unchanged** (14 out of 80, equal to 17.5%) and female managers remained stable (123 out of 401, or 30.2%). The **percentage of female graduates increased by one percent** of the total graduates on the workforce (444 out of 995, or 44.6%). With the renewal of the corporate governance bodies, which took place during the year, at 31.12.2017 **were 49 women in the corporate governance** of the companies included in the reporting perimeter (Boards of Directors, Boards of Statutory Auditors and Supervisory Bodies), or **33% of the total** number of members (in 2016 in comparison, women in the governance bodies totalled 46: 31%). The women included on the Board of Directors of the Parent Company come to 33.3%: 3 out of 9 members, in full compliance with Law no. 120/2011. In particular, we report that every one of the internal board committees includes one or more women and the Chair of the Control and Risks, Appointments and Remuneration, Ethics and Sustainability Committees is assigned to a female Director.

CHART NO. 35 – PRESENCE OF WOMEN IN THE CORPORATE GOVERNANCE BODIES (2017)



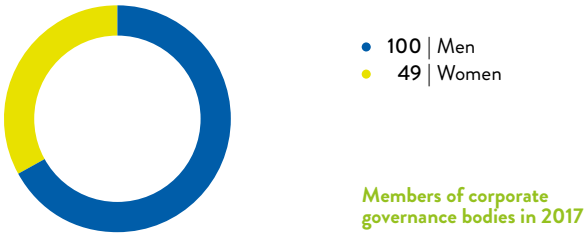


TABLE NO. 36 - SOCIAL INDICATORS: GENERAL DATA ON THE STAFF (2016-2017)

			2016 (*)			2017
COMPOSITION OF THE STAFF						
number	men	women	**total**	men	women	**total**
Executives	67	14	**81**	66	14	**80**
Managers	271	117	**388**	278	123	**401**
Clerical workers	1,892	953	**2,845**	1,891	993	**2,884**
Workmen	1,351	3	**1,354**	1,324	3	**1,327**
Total	**3,581**	**1,087**	**4,668**	**3,559**	**1,133**	**4,692**
WOMEN IN ACEA						
%						
Women out of the total workforce			23.3			24.2
Female executives out of total executives			17.3			17.5
Female managers out of total managers			30.2			30.7
Female graduates out of total graduates			43.4			44.6
LEVEL OF EDUCATION OF THE STAFF						
number	men	women	**total**	men	women	**total**
University graduates	511	392	**903**	551	444	**995**
High school graduates	1,768	522	**2,290**	1,790	536	**2,326**

			2016 (*)			2017
LEVEL OF EDUCATION OF THE STAFF						
Other degrees	723	47	**770**	713	46	**759**
Not defined	579	126	**705**	505	107	**612**
total	**3,581**	**1,087**	**4,668**	**3,559**	**1,133**	**4,692**
AVERAGE AGE OF THE STAFF						
age	men	women	**total**	men	women	**total**
Average corporate age	48.2	44.7	**47.4**	48.6	44.9	**47.7**
Average age of executives	53.5	49.8	**52.9**	54.1	50.8	**53.6**
Average age of managers	50.4	47.8	**49.6**	51.0	48.6	**50.3**
Average age of clerical workers	48.1	44.2	**46.8**	48.4	44.3	**47.0**
Average age of workmen	47.5	48.7	**47.5**	48.0	49.7	**48.0**
AVERAGE SENIORITY OF THE STAFF						
age	men	women	**total**	men	women	**total**
Average corporate seniority	18.9	15.5	**18.1**	19.3	15.4	**18.3**
Average seniority of executives	19.5	17.7	**19.2**	19.0	18.7	**19.0**
Average seniority of managers	20.8	18.0	**19.9**	21.4	18.3	**20.5**
Average seniority of clerical workers	20.0	15.1	**18.4**	20.4	14.9	**18.5**
Average seniority of workmen	16.8	27.0	**16.8**	17.3	28.0	**17.3**
TYPE OF CONTRACT OF THE STAFF						
number	men	women	**total**	men	women	**total**
Permanent staff with open-ended contract	3,531	1,068	**4,599**	3,456	1,071	**4,527**
(of which) part-time staff	*25*	*83*	***108***	*27*	*99*	***126***
Fixed-term staff	23	14	**37**	69	58	**127**
Staff under apprenticeship contracts	27	5	**32**	34	4	**38**
total	**3,581**	**1,087**	**4,668**	**3,559**	**1,133**	**4,692**

(*) For a full comparison of the 2017 and 2016 data, remember that, in 2016, 88 employees of two companies (Acea Gori Servizi and Crea Gestioni) were also included and are no longer included in the year in question.

TABLE NO 37 - SOCIAL INDICATORS: MOVEMENTS OF THE STAFF (2016-2017)

			2016			2017
INCOMING STAFF: CONTRACT TYPE						
number	men	women	**total**	men	women	**total**
Open-ended	60	20	**80**	59	26	**85**
Fixed-term	26	15	**41**	58	52	**110**
Professional apprenticeship contracts	24	5	**29**	11	1	**12**
Business branch acquisition	4	1	**5**	0	0	**0**
total	**114**	**41**	**155**	**128**	**79**	**207**
(of which) acquisition of staff from Public Entities	*0*	*0*	***0***	*0*	*0*	***0***
OUTGOING STAFF: REASONS						
number	men	women	**total**	men	women	**total**
Lay-off	81	16	**97**	39	2	**41**
Early retirement	8	2	**10**	10	2	**12**
Retirement	4	0	**4**	2	0	**2**
Dismissals	18	6	**24**	9	0	**9**
Other reasons(*)	24	4	**28**	24	9	**33**
total	**135**	**28**	**163**	**84**	**13**	**97**

	2016	2017
TURNOVER, INCOMING AND OUTGOING RATES (**)		
%		
Turnover rate	6.8	6.5
Incoming rate	3.3	4.4
Outgoing rate	3.5	2.1

(*) The item, for 2017, includes: 10 deaths, 11 resignations, 2 disabilities, 1 limits of service and 9 contract termination.

(**) 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. Below please find the **2017 data divided by gender and, exits and hires, as well as by age groups**: Turnover rate of women is 8.1%, men 5.9%; incoming rate is 3.6% for men, divided into the following age groups: 0.08% <=20 years, 1.12% >20 years and <=30 years, 1.46% >30 years and <=40 years, 0.62% >40 years and <=50 years and 0.31% > 50 years, and 6.9% for women (2.29% >20 years and <=30 years, 3.88% >30 years and <=40 years, 0.62% >40 years and <=50 years and 0.18% > 50 years). The exit rate is 2.4% for men (0.14% >20 years and <=30 years, 0.20% >30 years and <=40 years, 0.31% >40 years and <=50 years and 1.71% > 50 years) and 1.1% for women: (0.18% >20 years and <=30 years, 0.18% >30 years and <=40 years, 0.8% >40 years and <=50 years and 0.62% > 50 years).

TABLE NO. 38 - SOCIAL INDICATORS: AGE GROUPS, LENGTH EMPLOYMENT CONTRACT (2016-2017)

			2016			2017
number	men	women	**total**	men	women	**total**
AGE GROUPS OF THE STAFF						
≤ 25 years	33	2	**35**	31	2	**33**
> 25 years and ≤ 30 years	87	61	**148**	98	63	**161**
> 30 years and ≤ 35 years	266	136	**402**	257	144	**401**
> 35 years and ≤ 40 years	374	187	**561**	361	195	**556**
> 40 years and ≤ 45 years	506	173	**679**	461	169	**630**
> 45 years and ≤ 50 years	715	218	**933**	665	216	**881**
> 50 years and ≤ 55 years	716	161	**877**	726	165	**891**
> 55 years and ≤ 60 years	683	120	**803**	644	143	**787**
> 61 years	201	29	**230**	316	36	**352**
total	**3,581**	**1,087**	**4,668**	**3,559**	**1,133**	**4,692**
AGE GROUPS OF THE INCOMING STAFF						
≤ 20 years	1	0	**1**	3	0	**3**
> 20 years and ≤ 30 years	49	22	**71**	40	26	**66**
> 30 years and ≤ 40 years	36	16	**52**	52	44	**96**
> 40 years and ≤ 50 years	13	3	**16**	22	7	**29**
>50 years	15	0	**15**	11	2	**13**
total	**114**	**41**	**155**	**128**	**79**	**207**
AGE GROUPS OF THE OUTGOING STAFF						
≤ 20 years	0	0	**0**	0	0	**0**
> 20 years and ≤ 30 years	4	0	**4**	5	2	**7**
> 30 years and ≤ 40 years	7	2	**9**	7	2	**9**
> 40 years and ≤ 50 years	17	3	**20**	11	2	**13**
> 50 years	107	23	**130**	61	7	**68**
total	**135**	**28**	**163**	**84**	**13**	**97**
DURATION OF THE EMPLOYMENT CONTRACT OF THE OUTGOING STAFF						
≤ 20 years	44	6	**50**	38	7	**45**
> 20 years and ≤ 30 years	23	4	**27**	19	0	**19**
> 30 years and ≤ 40 years	66	17	**83**	26	5	**31**
> 40 years and ≤ 50 years	2	1	**3**	1	1	**2**
total	**135**	**28**	**163**	**84**	**13**	**97**

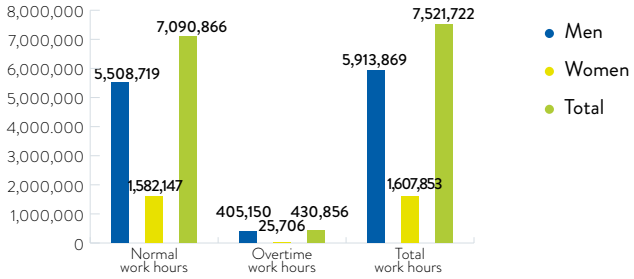
HOURS WORKED, SALARY AND PENSION FUNDS

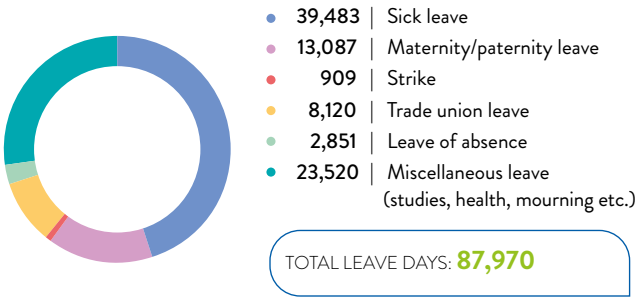
HOURS WORKED IN ACEA

The total number of hours worked during the year, **regular and overtime**, excluding executives, comes to **7,521,722**, 87.6% of which attributable to the male staff.

Days of absence came to 87,970, a 5% decrease compared to the preceding year (92,901 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. 36 and Table no. 39).

CHART NO. 36 - HOURS WORKED BY THE STAFF AND ABSENCES (2017)





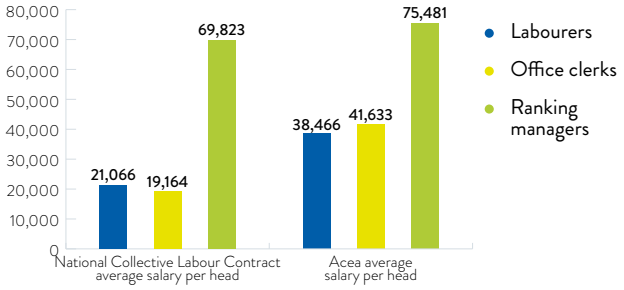
The employees can take **various types of leave** and **forms of flexibility** such as, for example, part-time, which in 2017 involved **2.8% of the staff**, and the **independent schedule** for **managers** and the **stage three workers**, which permits a "customised" management of the work schedules, in compliance with the work duties anticipated by the contract. For employees who do not use the independent schedule, **arrival and departure flexibility** is anticipated, and, lastly, they are the workmen have a **total number of monthly hours of leave** available to collect during the times established.

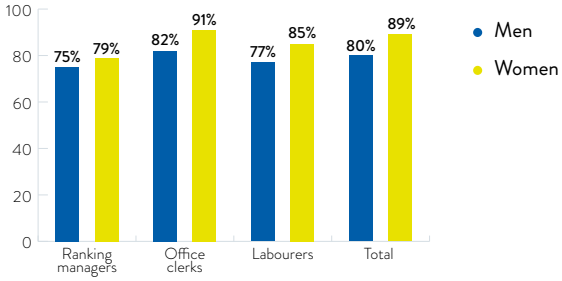
COMPENSATIONS

The wages of the employees are determined in application of the **National Collective Bargaining Agreements** of reference, excluding the executives and top management. The remuneration policy adopted by Acea increasingly applies **merit-based principles** to the operations on the fixed and variable components.

In 2017, **gross average salaries per capita increased by more than 4 percentage points for all the professional categories**. The **total gross average salary per capital increases 4.6%** and comes to **Euro 43.6 thousand** (it was Euro 41.6 thousand in 2016); by including the executives as well, it comes to **Euro 45.8 thousand** (it was Euro 43.8 thousand in 2016) (see Table no. 39).

CHART NO. 37 - AVERAGE SALARIES AND RELATIONSHIP BETWEEN BASE SALARY AND REMUNERATION (2017)





Looking at the data from the **point of view of gender**, it can be noted that the **relationship between the "base salary" and the gross actual remuneration** - including the "additional" elements which contribute to determining the total amount of the salary - in 2017 **comes to 89% for female staff and 80% for male staff**, both unchanged compared to 2016. **The activities remunerated with a greater additional compensation**, such as on-call, shifts, allowances, overtime, **are in fact mainly held by male staff** (for example the work performed by the emergency services technicians who rotate in 24 hour shifts).

PENSION FUNDS AND DEFINED CONTRIBUTION PLANS

The principal supplemental pension funds for the employees of the Group are: **Previndal**, reserved for management, and **Pegaso** for non-management staff, to whom the CCNLs apply signed by Utilitalia for the companies of public utility of the electrical and gas-water segment.

The Pegaso fund is managed equally by Utilitalia - the Federation that unites the Companies operating in public services of water, the environment, electricity and gas - and the trade organisations of the workers Filctem-Cgil, Femca-Cisl, Uiltec-Uil which established it.

In 2017, there were **2,447 employees** of the Group **belonging to the Pegaso Fund** (2,434 in 2016). Acea paid approx. Euro 4.67 million of TFR and Euro 1.46 million of supplemental corporate contribution to the fund. The economic value committed by Acea for TFR and other defined benefit plans i Euro 108.4 million. By analysing the distribution by gender of the Acea members in the Fund, **78.2% are men and 21.8% are women** (see Table no. 39).

The net assets of the fund destined for benefits reached **Euro 987 million** in 2017 (Euro 915 million in 2016), an increase of approx. 8%. The *Balanced*, *Dynamic and Guaranteed* segments increased, respectively by 2.81%, 4.69% and 0.55%. The performance of the TFR, used as benchmark of the Guarantee segment, was 1.74% in 2017. The Balanced segment, which includes 82% of the capital, has had a cumulative "compound" return in the last 15 years of 91.86% (average annual compound return of 4.44%). During the same period, the accumulated revaluation of the TFR was 42.54% (average annual compound return of 2.33%).

PERFORMANCE OF THE PEGASO FUND RELATIVE TO THE EMPLOYEES OF THE ACEA GROUP

During its first 18 years, the Pegaso Fund disbursed services (redemptions, pension funds, advances and transfers) in favour of the Acea employees for a total of Euro 17.6 million, of which approx. **Euro 2.5 million in 2017 alone**. Euro 1.6 million was disbursed during the year for advances, motivated by personal requirements, to pay for medical expenses, purchase or renovation of first house or for children, in response to 147 requests, and Euro 860 thousand for redemptions/benefits against 39 requests, and lastly Euro 88 thousand for three transfer requests.

At 31.12.2017, the capital managed by the Fund for the Acea members totals approx, Euro 85 million. The contribution withheld and paid in 2017 for the Acea employees totalled **Euro 7.9 million**. The distribution of the asset allocation among the various segments of the Pegaso Fund shows that 86% of the capital of the Acea members in invested in the Balanced profile, with an investment portfolio characterised by an average bond component of 30% and stock component of 70%.
It must be pointed out that the supplemental pension fund was subject to significant changes introduced by the 2017 Sustainability Law. Among these, for example, is the possibility of using the pension fund in the form of an RITA (Rendita Integrativa Temporanea Anticipata [Early Temporary Supplemental Income]), in order to use the pension fund in the most favourable way in terms of taxes prior to leaving the company and reaching the maturity of the pension requirements.

NB The data and information relative to the Pegaso Fund are prepared with the cooperation of Andrea Mariani, Director General of the Fund.

TABLE NO. 39 - SOCIAL INDICATORS: HOURS WORKED, ABSENCES, COMPENSATION AND MEMBERS OF THE SUPPLEMENTAL PENSION FUND (2016-2017)

			2016			2017
HOURS WORKED BY THE STAFF						
hours	men	women	**total**	men	women	**total**
regular	5,628,514	1,572,229	**7,200,743**	5,508,719	1,582,147	**7,090,866**
overtime	435,101	36,531	**471,632**	405,150	25,706	**430,856**
Total hours worked	**6,063,615**	**1,608,760**	**7,672,375**	**5,913,869**	**1,607,853**	**7,521,722**
TYPE OF ABSENCES						
days	men	women	**total**	men	women	**total**
illness	29,087	12,392	**41,483**	29,181	10,302	**39,483**
maternity/paternity	1,663	12,735	**14,398**	1,148	11,939	**13,087**
strike	62	8	**70**	777	132	**909**
Trade union leave	6,924	924	**7,848**	7,069	1,051	**8,120**
Leave of absence	1,919	794	**2,713**	1,706	1,145	**2,851**
Miscellaneous leave (study, health, bereavement and general reasons)	17,535	8,854	**26,389**	15,035	8,485	**23,520**
total days absent (excluding holidays and accidents)	**57,190**	**35,711**	**92,901**	**54,916**	**33,054**	**87,970**
GROSS AVERAGE COMPENSATION BY GRADE						
Euro			**2016**			**2017**
managers			71,968			75,481
clerical workers			39,985			41,633
workmen			36,804			38,466
AGE GROUPS AND GENDER OF THE EMPLOYEES ENROLLED IN THE PEGASO FUND						
			2016 (*)			**2017**
number	men	women	**total**	men	women	**total**
≤ 25 years	1	0	**1**	10	1	**11**
> 25 years and ≤ 30 years	24	8	**32**	27	10	**37**

AGE GROUPS AND GENDER OF THE EMPLOYEES ENROLLED IN THE PEGASO FUND

			2016 (*)			2017
number	men	women	**total**	men	women	**total**
> 30 years and ≤ 35 years	99	33	**132**	96	29	**125**
> 35 years and ≤ 40 years	173	55	**228**	156	62	**218**
> 40 years and ≤ 45 years	245	71	**316**	217	60	**277**
> 45 years and ≤ 50 years	414	132	**546**	374	130	**504**
> 50 years and ≤ 55 years	430	107	**537**	452	101	**553**
> 55 years and ≤ 60 years	414	95	**509**	377	110	**487**
> 61 years	112	21	**133**	206	29	**235**
total	**1,912**	**522**	**2,434**	**1,915**	**532**	**2,447**

(*) The 2016 data includes the Pegaso members of Acea Gori Servizi (33 employees), Crea Gestioni (11 employees), Sogea (9 employees), companies not included in the 2017 perimeter.

LABOUR-MANAGEMENT RELATIONS

Within the Human Resources Management Department of the parent company there is the **Labour-Management Relations Unit** which is assigned the task of monitoring the corporate policies regarding trade union relations.
Labour-Management Relations are conducted within the framework of industry-level defined rules and provisions, by national bargaining (CCNL). A second negotiation level is anticipated between the company and the internal worker representatives, in which agreements are defined adapted to the specific corporate requirements.

The **Single Contract of the Electrical Industry**, renewed on 25 January 2017, and the **Single Contract of the Gas-Water Industry**, renewed on 18 May 2017 apply in Acea. **All the workers** are therefore covered by **national collective bargaining agreements**.
In 2017, unionisation was **70.1%**. There are **323 employees who hold management or trade union representation positions**; of these, **22 hold positions of Workers' Safety Representatives** (RLS), designated following trade union agreement.

The agreements reached during the year by the Labour-Management Relations Unit with the Trade Union Organisations (OO.SS.) concerned certain profiles of trade union dialogue: contractual, financial and of a corporate nature.

In particular, effective March 2017, the **contractual change was defined of the employees of Acea8cento** from the preceding Corporate Collective Agreement to the Collective Agreement of the Electrical Industry, with the alignment on the same date of the nominal value of the ticket according to the values established for the "historical" companies of the Group.

With reference to the contractual provisions relative to **rate subsidies on consumption of electricity**, in order to prevent the critical issues resulting from the decision of the Servizio Elettrico Nazionale (SEN) company to no longer apply the rate discount effective 1 October 2017, **Acea stipulated a Trade Union Agreement** which anticipated **retaining the benefit for those entitled to it, in alternative ways**, defined in the same agreement (see in-depth box).
Furthermore, with specific focus on the subject of the **continuing education of the employees**, as fundamental instrument for the professional development and growth, Acea has signed an **Agreement regarding financed education**, through the National Inter-professional Joint Fund for Continuing Education of the Service Industry - Fondo For.Te., for the benefit of all the workers and with particular regard to operational positions.

AGREEMENT STIPULATED REGARDING RATE SUBSIDIES ON CONSUMPTION OF ELECTRICITY

In 2017, Acea stipulated a Trade Union Agreement aimed at preserving, for those entitled, the benefits related to the previous rate subsidies on energy consumption (no longer offered by the Servizio Elettrico Nazionale [National Electrical Service], using them through other means.
The Agreement anticipated the possibility of using the benefit both on the open market and on the managed service. Those entitled to the subsidy, in fact, can receive the benefit by direct acknowledgement of the rate discount on the invoice, after **signing a special offer on the open market of Acea Energia**; or, should they decided to remain in the managed service, through the **disbursement, quarterly, of an amount equivalent to that of the benefit**, by submitting a specific request to Acea and providing the **documentation certifying the consumption**.
The Agreement is particularly significant because it's impacts **an audience of around 1,300 people, including workers employed and retired (as well as surviving spouses)** of the companies of the Group to which the Electrical Industry CCNL applies.

Regarding the organisation of the work, we report that during the year the Agreement stipulated between Aquaser and the Trade Unions, which regulates macro-themes - work schedules of travelling staff, of temporary workers and the use of geolocation instruments - pertaining to the particular category of "Drivers", incorporated into Aquaser, following the merger by incorporation of ISA Srl, which took place in the last quarter of 2016.
Through second tier bargaining, agreements were stipulated on the Performance Related Pay - Indicators of Productivity for 2017 established, for many companies of the Group.

In addition, a meeting phase was launched with the OO.SS. connected to the **extraordinary operation of a corporate nature**, consisting in the transfer of the company branch coinciding with the Asset and Facility Management Unit of Acea Elabori SpA and Acea SpA.

Lastly, we report the Agreement stipulated with the Trade Unions, towards the end of the year which, **in implementation of the commitment made by the National Parties** at the time of the renewal of the **Electrical Industry CCNL** of 25 January 2017, **anticipated**

the activation of a life insurance policy. It becomes effective in the event of death due to illness, excluding the causes already covered by insurance, in favour of its employees regulated by the Electrical Industry contract, with an annual per capita premium of Euro 70 and insured principal increasing depending on the particular conditions of the family nucleus of the beneficiaries. The Agreement, of particular importance, **applies to an audience of approx, 2,840 workers** of the companies of the Group.

As regards water, by virtue of the **Protocol on Water Tenders**, signed in 2012 by Acea Ato 2 and Acea SpA, the Confederation Trade Organisations and the Trade Federations held meetings also during 2017 regarding the Joint Commission on the subject of the evolution of the Single Tender to maintain the networks and services of the integrated water cycle, also anticipating the possibility of including in the tender bids a clause connected to occupational protection (see also the chapter *Suppliers*).

As regards the **information notice to the employees regarding possible organisational changes or corporate reorganisations that effect employment relations**, the company takes different positions, depending on the different cases explained below:

1. **organisational changes:** In the event of establishment of new Units or changes in assignments or responsibilities, the Human Resources Management Department issues an Organisational Provision, sends a communication to the competent facilities which arrange to post it on the bulletin board and publish it on the company intranet. Usually, if there are organisational changes that affect the staff, special information is given to the trade union representatives. Should it affect a single employee (for example change in workplace, schedules, etc.) a special communication will be delivered to the employee by the Human Resources Management Unit of the home Company;
2. **Corporate reorganisations:** in the event of reorganisation, as a result of significant organisational and production changes, with effects on working conditions and employment, the methods of informing the employees, as well as the Trade Union Representatives, are regulated by the CCNL applied in the Group and by the Labour-Management Relations Protocols;
3. **Corporate transformations** (such as alienations, mergers, acquisitions, transfers of company branches): in cases of corporate transformation, the notices to the employees are regulated by the legislation in force[86] which anticipates obligation that allows them to verify the business reasons for the operations, the correct methods of the process as well as the consequences on the employment relations.

THE DISPUTE WITH THE EMPLOYEES AND THE TRADE UNIONS

The procedures filed by the employees against Acea concern, mainly, disputes regarding **dismissals, classification reviews, differences in compensation, allowances not received** (for example: hourly pay of the shift workers), **demotion and harassment**.
In 2017, there were 45 new lawsuits regarding employment, while the total of the disputes still pending - including that of previous years - total 116 cases.

During the year, 36 rulings were issued (2 initiated during the same year). In detail, 17 of them closed with a favourable outcome for Acea, 6 yielded a favourable result for the plaintiff, while 10 positions were settled amicably.
It must be pointed out that, in 2017, an urgent appeal was filed for anti-union behaviour by the provincial coordination of Rome of the USB against Acea Ato 2, for presumed failed reintegration of some representatives of that trade union, following the dismissal which was declared illegal and their transfer without prior authorisation of the pertinent union. The judge of the urgent proceeding rejected the appeal of the USB that filed the objection to the rejection order: current the ordinary judgement is pending.

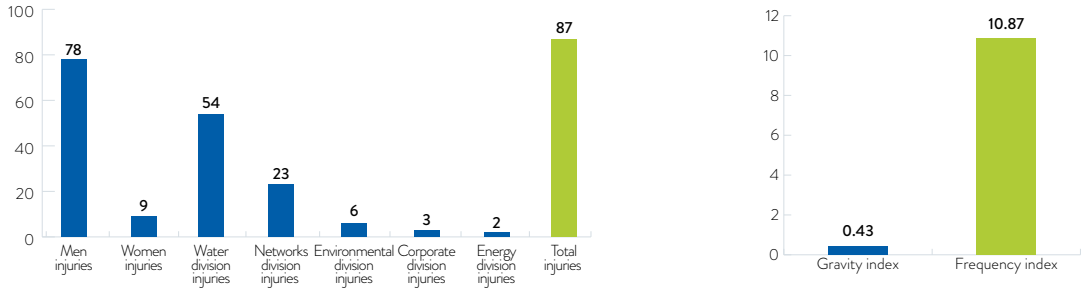
OCCUPATIONAL HEALTH AND SAFETY

Regarding health and safety, the **coordination and direction activities** are the responsibility of the **Safety, Protection and Certification Systems Department** of the parent company, which monitors the companies on the application of the guidelines and policies issued and the alignment to the legislation of reference. **Every company of the Group is also directly responsible for the management of safety**, in compliance with the legislation in force (Italian Legislative Decree no. 81/08 as amended).
Most of the companies of the Group have implemented **Certified Management Systems** (OHSAS 18001) **regarding occupational health and safety** (see also *Corporate Identity*, *Corporate Governance and Management Systems* chapter).
Every company takes care independently, in compliance with the legislation, of the assessment of the **risks to the workers**, the relevant **training** and the **monitoring of accidents**, preparing the **Risk Assessment Document** (DVR). Following these activities, the **Occupational Safety Unit**, part of the Safety, Protection and Certification Systems Unit, **drafts annually on a central basis**, the **accident report** for the companies of the Group. The analysis method of the accidents follows the **Guidelines for the classification of accidents**, prepared by Federutility (today merged into 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).

The number of accidents decreased in 2017: In fact, 87 **accidents occurred during the performance of the work activity** - compared to 110 in 2016 - **and 28 incidents *in itinere***, which occurred during the home-work journey (compared to 37 in 2016). The days of absence, related to the accidents which occurred during work dropped to 3,463 (they were 4,524 in 2016) and **both the frequency index**, which goes from 13.88 in 2016 to **10.87 in 2017**, a**nd the severity index**, from 0.57 in 2016 to **0.43 in 2017** decreased (see chart no. 38 and Table no. 40).

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

CHART NO. 38 – ACCIDENTS AND INDICES (2017)



NB The accident indices divided by gender are: **Male severity index 0.40 and female severity index 0.03, male frequency index 9.75 and female frequency index 1.12.**

By observing **the distribution of the accidents** (excluding those *in itinere*) **from the perspective of gender** it emerges that: 78 **accidents** (101 in 2016), equal to 90% of the total, involved **male staff** with workmen duties (57), employee (28) and manager (2), while **9 accidents** (9 also in 2016), equal to 10% of the total, involved the **female staff** with clerical work duties (9).

The distribution of the accidents by company, aggregated into business areas, consistent with the new corporate organisation, shows, compared to the previous year data - reclassified to permit a complete comparison -, a stability of the accidents in the **Water Area and in the Corporate Area** (respectively 54 and 3 accidents, in both years) and a decrease in the **Energy Infrastructures Area** (23; there were 44 in 2016), in the **Environment Area** (5 accidents, 6 in 2016) and in the **Commercial and Trading Area** (2; 3 in 2016) (see chart no. 38).

Most of the accidents are confirmed in the two operating companies in the Water and Energy Distribution area - Acea Ato 2 (45 accidents) and Areti (23 accidents) -, which physiologically have greater exposure to the risk of accidents because of the type of activity performed.

During the year, consultation meetings were held regularly with the **Workers' Safety Representatives** (RLS), guaranteeing the involvements of the workers, as provided by Art. 35 of Italian Legislative Decree no. 81/08.

In addition to correct and adequate **training of the operating staff**, focused on the prevention and reduction of the risks **the constant awareness activities on the subjects of occupational health and safety is fundamental**, which Acea continues to develop. After the positive experience of Safety Day, organised in 2016, **in April 2017** the Holding Company, together with the companies of the Group, organised a **Safety Week**, involving approx. **3,000 workers** (see specific box).
To favour prevention, Acea furthermore has established, starting on the day of 8 March 2017, that all the employees, 35 years of age and up, can take every year "paid medical leave" for pap test and mammogram.

ONE WEEK DEDICATED TO HEALTH AND SAFETY - ACEA'S SAFETY WEEK

In 2017, Acea SpA, supported by the companies of the Group, organised a **Safety Week** at the **Acea "La Fornace" Convention Centre**. The initiative, focused on the **disclosure and sharing of a culture of safety** in the company, understood as **inescapable part of the understanding and implementation of the operating process**, involved approx. **3,000 workers** in 10 sessions carried out over one week.

The meetings, which included speeches and video projections, **were handled, in terms of content and presentation, by the Managers of the Prevention and Protection Department of the Group**, also involving various Employers; therefore, numerous companies of the Group - including Acea Produzione, Areti, Ecogena, Acea Elabori, Acea Ambiente, Acea Energia, Acea8cento - played an **active indispensable part in the design and realization of the initiative**. Particularly effective was the "emotional" awareness video, called Sure of Being Sure, with the employees in the role of cast members, and was circulated also outside the company through social channels and industry portals. Acea received the **Aretè Prize - Responsible Communication** for this video.

All the companies arrange to provide the **general and specific training of the workers**, and the supervisory staff, **regarding occupational health and safety** in compliance with the legislation in force (see also the paragraph *Staff training and development*). Among the many activities undertaken during the year we point out, purely as an example, that:

- **Acea Elabori** designed a specific training course for new hires, contextualising the subject of safety as part of the unique activities and also scheduling simulations in the areaof the engineering and laboratory activities. They also developed specific training courses on biological risk, on confined spaces and environments suspected of being polluted;
- at **Acea Produzione and Acea Energia** the training courses were focused mainly on safety in compliance with the legislation. For example, training was created on the updating/new designation of the employees assigned to the implementation of the fire prevention, evacuation of the workplaces measures in case of serious and immediate danger and, in general management of the emergency in the production sites or in the corporate facilities. Furthermore, **Acea Produzione**, company where the "zero accidents" objective has already been achieved for some years, arranged **in all the production bulletin boards** where the principal **provisions regarding safety** and conducted, during the year, **an investigation on the stress factors related to performance**

of the job, requiring all the personnel on the staff to fill out a questionnaire and creating three specific focus groups;

- **Acea8cento** created specific training modules for the "low risk" workers;

- in **Areti**, a structure continues to be operational dedicated to the **education, information and training** activities on occupational health and safety: the **Training Camp**. It is a space inside a service building of the Collatina primary cabin, which permits, in addition to the implementation of the theoretical training sessions, practical training, for example **safely lifting/lowering medium and low voltage electrical lines on supports**; safely ascending/descending on extensible **portable ladders; safe access to underground confined spaces;** practice in the **use of work/safety instruments** (for example the cable switch, the cutters, gas/oxygen detector) and the **implementation of joints, training** for emergency in dangerous environment. The Training Camp is also the place where **new hires** acquire the basic concepts on safety, fundamental for inclusion in the activities. The space is made available to the operating staff of Areti and the other companies of the Group - during the year, approx. 1,900 hours of training were provided - and, upon request, to external companies/entities. In particular, in 2017, it was used to demonstrate and analyse the typical characteristics of the Areti operating activities regarding safety to the youth incorporated with the Alternating School Work Projects (see the paragraph *Cooperation with the university world and high schools*), for training sessions directed at contracting companies, 47 people involved for a total of 188 training hours (see chapter *Suppliers*), and for a "Qualification for Electrical Work" course given to 10 people, for a total of 240 hours of training for the Fondazione Policlinico Universitario A. Gemelli;

- **Acea Ato 5** carried out courses on first aid and emergency management, courses focused on the risks and the operating and management procedures, courses on how to correctly drive the company vehicles. Still on the subject of **driving the vehicles** in the performance of work activities, Acea Ato 5 also monitored the routes, through the analysis of the data acquired and tracked by the GPS installed on the vehicles, and this made it possible to identify areas of improvement relative to the health and safety of the workers, such as the assessment of the **risks from exposure to vibrations and noise**. Particular attention was then paid to the staff assigned to the Front End who, from the perspective of continuous improvement, reviewed and updated the operating procedures and implemented a training and continuous information system through digital interface;

- **Gesesa** developed the basic training course on health and safety, training for the first aid employees and the fire prevention employees;

- **Acea Ambiente** organised two days of safety training at temporary and mobile work sites, in which the Manager of the Prevention and Protection Department (RSPP) of **Aquaser** also took part. Acea Ambiente, after having undertaken, in 2016, a process of continuous improvement through the adoption, at the company level, of the OHSAS 18001:2007 safety management system, during 2017, following the audit process of its conformity (performed by RINA), taking into account the incorporation, which took place at the end 2016 of the SAO, Kyklos and Solemme companies, **achieved the certification of the safety management system with multi-site formula**, for the production sites (plants) of Terni, San Vittore del Lazio, Orvieto and Aprilia. Likewise, Aquaser also reviewed its integrated management system for Quality, the Environment and Safety, following the incorporation by merger of ISA Srl and because it had assumed, in addition to the role of waste intermediation, also that of carrier, with registration in the National Register of Environmental Operators (see specific box and the paragraph *Management Systems* in *Corporate Identity*).

COMPLETE UPDATE OF THE OHSAS 18001:2007 SAFETY MANAGEMENT SYSTEM FOR ACEA AMBIENTE AND AQUASER

The **Acea Ambiente** company, into which the companies SAO, Kyklos and Solemme were merged in December 2016, had already achieved the adoption of the OHSAS 18001:2007 safety management system. During 2017, following the verification of conformity, it obtained **the certification with multi-site formula. Therefore, at the end 2017** the Registered Office of Terni and the following plants are **OHSAS 18001 certified**: Local Unit 1 Terni, Local Unit 3 San Vittore del Lazio, Local Unit 4 Orvieto and Local Unit 7 Aprilia, while the certification activities of Local Units 5 Monterotondo Marittimo and 6 Sabaudia, involved in significant revamping operations, were deferred to 2018. In order to obtain the multi-site formula, many preliminary activities were performed:

I. The complete redefinition and standardization of the Risk Assessment Document (DVR);
II. The redefinition and standardization of the DUVRI (Single Document on the Assessment of Risk from Interference);
III. The rationalisation of the duties and the definition of the new job descriptions;
IV. The update of the healthcare protocol;
V. the definition of the QASE Management System Manual;
VI. The definition of the transversal safety procedures valid for all the Local Units;
VII. The definition of the specific site operating instructions;
VIII. The definition of a single program of internal audits;
IX. The definition of a single Plan of Objectives;
X. The implementation of best practices common to all Acea Ambiente (for example: design procedure and relative controls; redefinition of the accident indices; introduction of contractor control check lists).

A similar procedure to the one described above, aimed at completely updating the safety management system, was pursued during the year also by **Aquasar**, by virtue of the merger by incorporation (completed in 2016) of ISA Srl and for the fully operational implementation of the transport activities.

TABLE NO. 40 - SOCIAL INDICATORS: HEALTH AND SAFETY (2016 - 2017)

number	2016 (*)	2017
INJURY DISTRIBUTION BY INDUSTRIAL AREA AND GEOGRAPHICAL AREA		
Water area accidents (Lazio and Campania)	54	54
Energy infrastructure area accidents (Lazio)	44	23
Commercial and trading area accidents (Lazio)	3	2
Environment area (Lazio, Umbria and Tuscany)	6	5
Corporate area (Lazio)	3	3
total	**110**	**87**
Total days of absence	4,524	3,463
Frequency index (FI) (number of accidents per 1,000,000/working hours)	**13.88**	**10.87**
Severity index (SI) (days of absence per 1,000/working hours)	**0.57**	**0.43**

(*) The distribution of companies within the industrial areas takes into account the new organisational structure that was implemented in 2017. The 2016 data was re-classified accordingly to ensure the full comparability of the two-year period. Additionally, it should be noted that the 2016 scope included the companies Acea Gori Servizi, Umbria Energy and Crea Gestioni, which were not included in 2017 (see *Methodological Note*), although the number of accidents attributable to those three companies during the year was zero.

NB The Water area includes 4 companies, the Energy infrastructure area 3, the Commercial and Trading area 2, the Environment area 2 and the Corporate area 1. The data in the table does not include accidents currently being assessed.

HEALTH MONITORING

Health monitoring is assigned to an **internal structure** that operates in compliance with current legislation (Art. 41 of Italian Legislative Decree No. 81/08) and in **cooperation with external professional experts**. Staff health is monitored with the support of formally appointed competent doctors, who submit employees to the following types of check-ups:

- Pre-appointment;
- Preventive or in case of a change of duty;
- Periodic, based on the risk assessment plan;
- At the request of the worker;
- In the event of termination of employment, where stipulated by current legislation;
- Before resuming work, following an absence due to ill health lasting more than sixty consecutive days.

Workers exposed to specific risks are included in a **targeted medical check-up programme**.
Competent doctors work with **employers** and **officers from the Risk Protection and Prevention Service, assessing the risks** to which employees are exposed, **which is necessary for the preparation of the health monitoring plan**.
During the year, a total of **2,657 check-ups** were completed, the related costs of which amounted to **€245,940**[87].
The presence at the head office of a **First Aid Medical Area** also ensures that staff and visitors have a first line of intervention, in case of an illness for which a hospital visit is not necessary.

Health monitoring includes the **prevention of occupational diseases** that workers may contract during the performance of their duties, 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 2017, in Acea, **there were no reports of suspected occupational diseases**.

VALUATION OF HUMAN RESOURCES AND COMMUNICATION

Human capital, expressed by the competences of human resources that work in Acea, is at the centre of the Group's growth and development process. During the year, Acea has established the **Human Capital Development Department** and has implemented several **people engagement** initiatives, adopting the model for ongoing improvement referred to as the **"Model of Execution,"** focussed on **team spirit** and the **active and responsible participation of staff in the actual improvement of operational and management processes** (also see the *Group Profile* chapter in *Corporate identity*).
Additionally, a benchmark value and behaviour model has been defined, referred to as the **"Leadership Model,"** to ensure the achievement of **strategic objectives** (see the dedicated box) defined in the Business Plan 2018-2022.
The Acea Group Leadership Model and details of the Business Plan were the subject of specific detailed meetings in which all staff were involved.

[87] The health monitoring plan managed by Acea includes the following companies that fall within the scope: Acea Ato 2, Areti, Acea Produzione, Acea Energia, Acea8cento, Ambiente, Aquaser and Acea Elabori, with a total of 2,470 check-ups and costing approximately €220,000. Data relating to Acea Ato 5 (150 check-up and costing approximately €16,500) and Gesesa (37 check-ups and costing €9,440) was provided directly by the companies.

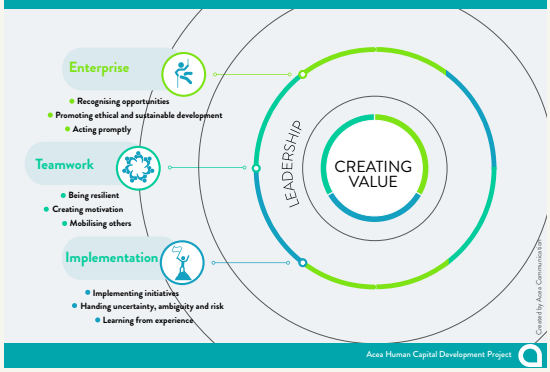
THE LEADERSHIP MODEL

In December 2017, the new **Leadership Model** of the Acea Group was presented, aimed at ensuring a solid programme for growth of employees and achieving strategic objectives.
By acting on the **values** on which the new Leadership Model is founded, each employee is invited to become a **key player** in the achievement of the common objectives. This model involves all companies in the Group and **all employees** of the company and is based on **widespread and distributed leadership**. All employees are invited to take on the role of "Acea Leader" within the sphere of the responsibilities connected to their role. Leadership conceived in this way is achieved by acting on the following values:

- **resourcefulness:** recognising opportunities and promoting ethical and sustainable development.
- **teamwork:** mobilising others and generating motivation and resilience.
- **achievement:** taking the initiative, managing uncertainties, ambiguities and risks, and learning from experience.

To **provide an awareness of the model**, the HR department has organised **introductory meetings**, and has provided a **dedicated page** called **Jamp** on the corporate social network, **illustrating** it and enriching it with content that make it easier to understand the behaviour to be assumed.

LEADERSHIP MODEL OF THE ACEA GROUP



Among the engagement initiatives already started in 2017, the **"Ride with the Pilot"** project worthy of mention. Thanks to that project, employees who have asked to take part have been able to support colleagues involved in daily tasks in the **area**, thus directly experiencing the scale of operations in relation to the territory. The initiative started in October 2017 and involved approximately 50 employees working as observers and as many "pilots" or displaced staff. As well as having the objective of observing how technology supports operational activities in the **area** and how the service reaches the public, the project has allowed the company to compile a number of interesting observations in order to improve processes.

STAFF TRAINING AND DEVELOPMENT

The Acea Group has recently created a programme to radically innovate all the main IT systems, involving the adoption of new working methods that have a profound **impact on the way staff work**. The **training provided** in 2017 was therefore aimed at consolidating these changes, **updating employees' technical skills** and, at the same time, intervening with regard to **the soft components** of work performance. Individual variables such as **motivation** and **job satisfaction** are considered decisive in achieving excellent performance and ongoing improvement, which are central factors for encouraging the achievement of the Acea Group's business objectives.

The **Training Unit** within the Human Capital Development Department of Acea S.p.A. defines policies, guidelines and tools relating to training activities for companies in the Group, centrally managing: **managerial** training, related to the development of management skills and techniques, organisational behaviour and leadership; training in the **area** of **corporate regulations and policies**, related to providing extensive training on the legislation and corporate provisions associated with the various business areas of the Group; training in **processes and systems**, aimed at providing extensive training with regard to the processes and systems linked to the duties required by the roles performed in the company. Each company **independently** manages **technical and specialist training and safety training**. The former is aimed at acquiring the specific skills and abilities of the business of reference; the second is determined by training related to technical and operational duties and by the regulatory obligations required by the legislator. The courses, which are part of these two types of training, constitute the annual corporate training plan. The training courses included in the plans of the Parent Company and other Companies are identified following the **analysis of training needs** that is performed electronically on the Group's e-learning platform, referred to as **Pianetacea**.

The training provided to staff is also **financed** through membership to inter-professional organisations that provide ongoing education. The main companies of the Group have joined **the Fund for You**. (National Inter-professional Joint Fund for Ongoing Education in the Tertiary Sector), which has financed five projects presented by the parent company. Acea Ambiente, Aquaser and Gesesa also belong to FONDIMPRESA, which provides funding for the development of employee skills and the growth of competitive abilities.
In particular, the Human Capital Development Department provided multiple training projects in 2017, in an experience-based format, characterised by the direct involvement of participants in practical activities and aimed at acquiring new knowledge and skills through direct experience, whether of a traditional format, such as classroom training, or of a non-traditional format, such as online training.
The experience-based format was used to strengthen and sustain the changes that occurred, triggering dynamics of comparison and exchange between the various operating entities. For example, staff that play the role of "Team Leader" in the **various companies**

of the Group have been involved in the ***Comprehensive training for team leaders*** training course, aimed at sharing a common working method in all the companies, while employees of Acea Elabori have been involved in a specific project, called ***Engineers 2.0***, aimed at supporting the integration of staff operating in Industrial Engineering and Services.
In addition to experience-based courses, activities of interest across the Group were organised on the subject of corporate legislation and policy, with a particular focus on Legislative Decree no. 231/01 (see the in-depth learning box), Antitrust rules and unfair commercial practices. The Safe Driving training course that was held in previous years has continued, aimed at the Group's displaced staff (see the box for more in-depth information).
In the second half of 2017, **planning** commenced for the training to be held in 2018, with a focus on three main projects: the ***Acea Managerial Academy***, the ***School of Professional Skills*** and ***Ideas&Action***.
In particular, during the year, the vision, mission, manifesto and competences of the ***Acea Managerial Academy*** were defined, in cooperation with the companies in the Municipality of Rome Ama and Atac, **which for the first time worked together to define a managerial development training project**. The project includes the "Elios" programme for senior managers and the "Aurora" programme for new recruits. In 2018, courses will start that will involve employees of the three companies in mixed classrooms.

The **foundations** were also **laid for the implementation** of the School of Professional **Skills** project, aimed at sharing and enhancing the Group's technical knowledge, starting with so-called "critical" knowledge, that is to say, knowledge of particular value to the company and held by a minority of employees or staff who are close to the age of retirement, and for the Ideas&Action project. The latter is an **Alternating School-Work** programme that will involve 13 Technical Institutes located in the different regions in which the Group operates. Its aim is to integrate the knowledge of over 280 students within the context of work and facilitate transition of that knowledge from one generation to the next.

Lastly, the **e-learning platform** of the "Pianetacea" Group was **graphically updated** in order to make bring it in line with the new *corporate identity structure*. That update was accompanied by the launch of a new online course on the subject of **unfair commercial practices**, performed in collaboration with the **Permanent Observatory on the Application of the Rules of Competition** of the Faculty of Law of **the University of Trento**. Additionally, **compulsory training modules** were provided to employees on the corporate provisions and policies adopted, such as the **Code of Ethics**, the **administrative responsibility of the institutions, privacy** and unbundling, basic training **on safety in work and safe driving**, and the **Quality, Environment, Safety and Energy Management System - QASE** (see the dedicated boxes).

SAFE DRIVING

The protection of health and the physical and mental integrity of people is a constant commitment for the Acea Group. Consistent with awareness-raising activities under way in the Group, it was considered particularly important to focus on the safety of those assigned to drive vehicles in their daily work activities. The **Safe Driving** course, launched in 2016 in partnership with the **ACI Vallelunga Safe Driving Centre**, saw the **involvement of 529 participants in 17 sessions** in 2017 and mostly targeted displaced staff, due to the extensive use of corporate vehicles. The course, which will continue in 2018, has enabled participants to strengthen their driving skills, thanks to practical exercises carried out with the support of expert trainers.

LEGISLATIVE DECREE NO. 231/01 AND THE ORGANISATION, MANAGEMENT AND CONTROL MODEL

In 2017, a training course was launched with the aim of ensuring the **adequate knowledge, understanding and application of Legislative Decree No. 231/01 and the Organisational Management and Control Model**, and highlighting the main types of alleged offences related to the environment and occupational safety for the purposes of the related prevention of accidents.
The course was divided into **classroom meetings** addressed to **all managers of the Group** and **e-learning training** for all **executives** and **employees**. The classroom training involved 63 participants in two sessions and helped to increase the understanding of the importance of the application of the Organisation, Management, Control and Management Systems Model in relation to environmental and occupational safety, dealing with topics with an application-based approach and referring to analyses of real cases and experience-based testimonies. The training path will also continue in 2018.

COLLABORATION BETWEEN ACEA AND THE PERMANENT OBSERVATORY ON THE APPLICATION OF COMPETITION RULES

In 2017, Acea started a training programme, in partnership with the Permanent Observatory on the Application of Competition Rules of the Faculty of Law of the University of Trento, on the subject of Antitrust and unfair commercial practices. The aim of the course is to develop and strengthen **a shared culture, within the Group, of compliance with antitrust rules and consumer protection**, within the regulatory and legislative context of the sector.
In particular, the training project aims to raise awareness in relation to the issue of unfair commercial practices and compliance with antitrust regulations, increase the level of knowledge regarding the relevant legislation, and raising awareness of the risks and consequences for the Company in the event of any breach of the law.
The training course is divided into two different e-learning modules: one on Antitrust (to be provided in 2018) and one on Unfair Commercial Practices, starting in October 2017 and continuing the following year. Approximately 3,000 people followed the module between October and December 2017.

Among the training initiatives undertaken by the companies, it is noted that **Gesesa** has focused **managerial training**, addressed to managers, executives and their staff, on a ***Team alignment course***, aimed at strengthening the accountability and involvement of employees in business choices and facilitating communication. It has also organised two sessions of an **experience-based training course**: the cooking day ***We taste together***, engaging employees in a pleasant activity such as preparing a dinner, supervised by a chef and a head waiter, and at the same time a demanding and responsible activity, by providing a dinner, at the end of the preparation, that will actually be served to corporate guests and business managers. This kind of experience, while involving tasks outside the work context, reproduces the same business dynamics and stimulates the adoption of operating methods that facilitate the achievement of good results, i.e. the sharing of objectives, cohesion, teamwork, concentration, the ability to troubleshoot problems and deal with unexpected events, results orientation, and the correct management of available resources.

As part of **managerial training, Aquaser and Acea Ambiente** have allowed certain employees who work as **managers** to attend the Master's Degree in ***General Management of SMEs***, organised by the SDA Bocconi School of Management. The course provides participants with the specific models and tools that are needed to generate growth within the company. Additionally, for **technical and specialised training** given to staff with specific skills, they have allowed employees to attend modules of the Master's Degree in the ***Handling of Waste between Law and Technique***, organised by Eda Pro, aimed at providing an in-depth study on the subject.

Acea8cento has focussed training courses on **new IT applications and the development of digital processes**, to support the activities managed. 142 employees of the company have taken part in the training, which is equivalent to 90% of the workforce. Moreover, a training and in-depth study on the subject of **compliance and corruption** was conducted at **Acea8cento** and at **Acea Energia**, aimed at promoting the dissemination of a culture of legality, focussed on an awareness of the correct behaviour to be assumed in order to prevent any risk of corruption offences, both required by Italian Legislative Decree no. 231/2001 and to prevent passive corruption. In the case of both companies, training has continued for employees who work in **customer care**, with **experience-based training** held at the Alitalia Training Academy, with the objective of **facilitating customer management**.

Among its various activities, **Acea Elabori** has provided training on the safety requirements of tenders, with the aim of guaranteeing a model for the guidance, control and implementation of the most integrated security measures and training on Legislative Decree No. 50/2016, again on the subject of tenders, with a view to environmental and energy sustainability in the integrated water sector.

Acea Ato 5 has taken care, specifically, with training activities on the System for the Integrated Management of Quality, the Environment, Safety and Energy.

Acea Ato 2 has increased training on environmental subjects (13 dedicated courses during the year), and in particular on **waste, management systems** and **sustainability**. Some courses have provided an in-depth understanding of aspects related to the ***Traceability of waste, and New eco-friendly rules of public tenders***, involving approximately 130 employees in the company and extending access to employees of other companies in the Group.

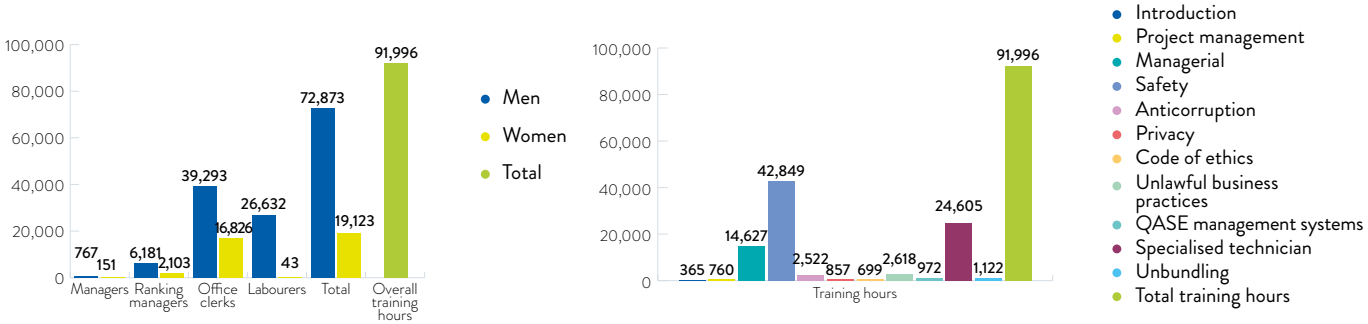
Traditional and **experience-based training activities** have involved a total of **536 courses** (compared to 600 in 2016), with **1,203 sessions** (they were **1,732** in 2016). Additionally, **9 courses** have been organised via the **e-learning platform** and **3,580 people** have taken part in those courses, of which 29% were women.

The total training hours provided are **91,996** (in traditional, experience-based and e-learning training formats). Their contraction, compared to approximately **153,926** hours in 2016, is mainly due to the lower number of sessions provided to support the new management and work performance systems (WFM) introduced in the last few years (see graph No. 39 and table No. 41).

The **total training hours per capita**[88] **are 19.6**. More specifically, when analysing data from a gender perspective, the hours of training per capita provided to male staff amounted to 20.4 and those provided to female staff amounted to 16.9.

The **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 2017, to **€1,382,865** (table No. 41).

CHART NO. 39 - TRAINING HOURS: DISTRIBUTION BY TYPE OF TRAINING AND BY QUALIFICATION (2017)



NB The breakdown by qualification of training hours per capita is as follows: 11 hours for managers, 21 for executives, 19 for employees and 20 for other workers.

TABLE NO. 41 - SOCIAL INDICATORS: TRAINING (2016-2017)

TRADITIONAL AND EXPERIENCE-BASED TRAINING COURSES AND THEIR COSTS

Course type (*)	courses (no.)		sessions (no.)		training (hours)		costs (euros)	
	2016	2017	2016	2017	2016	2017	2016	2017
Insertion	24	10	40	12	3,002	365	6,240	6,670
Managerial	17	9	66	37	31,374	14,627	431,645	669,620
Safety	102	231	288	536	31,688	40,965	311,628	375,508
anti-corruption (Italian Legislative Decree no. 231/2001)	1	3	9	8	232	226	0	13,913

[88] The indicator was created by comparing the number of hours of attendance (91,996 in 2017) to the total number of employees (4,692 in 2017).

TRADITIONAL AND EXPERIENCE-BASED TRAINING COURSES AND THEIR COSTS

Course type (*)	courses (no.)		sessions (no.)		training (hours)		costs (euros)	
	2016	2017	2016	2017	2016	2017	2016	2017
specialist technician	456	283	1,329	610	84,802	24,605	457,171	317,154
total	**600**	**536**	**1,732**	**1,203**	**151,098**	**80,788**	**1,206,684**	**1,382,865**

COURSES AND COSTS OF TRAINING PROVIDED WITH THE PIANETACEA E-LEARNING PLATFORM

Course type	courses (no.)		training (hours)		costs (euros)	
	2016	2017	2016	2017	2016	2017
project management	1	1	112	760	360	450
Managerial	2	0	29	0	720	0
Safety	2	2	334	1,884	720	450
QASE management systems	1	1	693	972	360	450
anti-corruption (Italian Legislative Decree No. 231/01)	1	1	716	2,296	360	1,039
Privacy Code (Legislative Decree. No. 196/03)	1	1	397	857	360	1,037
Code of Ethics	1	1	373	699	360	1,037
unfair commercial practices	0	1	0	2,618	0	16,410
unbundling	1	1	174	1,122	8,000	1,037
total	**10**	**9**	**2,828**	**11,208**	**11,240**	**21,910**

BREAKDOWN OF TRAINING HOURS BY QUALIFICATION AND GENDER

qualification	2016			2017		
	men	women	**total**	men	women	**total**
managers	1,370	221	**1,591**	767	151	**918**
executives	7,825	3,036	**10,861**	6,181	2,103	**8,284**
employees	61,276	31,637	**92,913**	39,293	16,826	**56,119**
workers	48,382	179	**48,561**	26,632	43	**26,674**
total	**118,853**	**35,073**	**153,926**	**72,873**	**19,123**	**91,996**

(*) The types of traditional courses have been simplified for presentation purposes and re-incorporated for the two-year period. It should be noted that the "specialist technician" item includes courses provided on the subject of corporate regulations and policies, processes and systems, linguistics and IT.

NB The 2016 scope includes the companies Acea Gori Servizi and Crea Gestioni, which are no longer included in 2017, for which a total of 16 hours of training were provided. The two employees involved attended two different sessions of one course.

COLLABORATION WITH UNIVERSITIES AND HIGH SCHOOLS

Acea develops **partnerships and cooperation with universities**, participates study and research activities, is available for **meetings between companies and students** and stipulates **agreements** for the promotion of internships and apprenticeship training.
During 2017, the main initiatives were:

- **Luiss Career Day, "Young People and Work" - 21st edition**, an event aimed at facilitating the matching of work supply and demand, providing students with the tools to combine the knowledge acquired at the end of university studies with real opportunities offered by the jobs market.
- **Job Meeting 2017**, an initiative organised by the Faculty of Engineering of the La Sapienza University of Rome, aimed at graduates and final-year students of all disciplinary areas, in order to create an opportunity for young people and important companies in the jobs, training and orientation sectors to meet.
- **Almalaurea "At Work - Rome" Career Day**, an event organised by the Almalaurea consortium, aimed at bringing together corporate human resources managers and university students.
- **"Campus & Leaders & Talents" Career Day**, the first "paperless" Career Day, with the exchange of CVs exclusively in electronic format. The initiative was held at the Faculty of Economics of the University of Rome Tor Vergata, with the aim of facilitating meetings between companies and young people in an event that encourages respect for the environment.
- **UniClamOrienta Placement**, an initiative organised by the University of Cassino to guide young people towards making appropriate work-related choices and to giving companies an opportunity to meet suitable candidates for internships.

In 2017, **Areti hosted the Alternating school-work programmes of two Technical Institutes**: the G. Galilei State Technical and Industrial Institute and the G. Armellini State Technical and Industrial Institute. A total of **90 students** enrolled on electro-technical and electronics courses took part in the programmes. The students had **11 days** of alternating between studying at school and working in the company, with a total of **4,045 hours and the support of 26 company tutors**.
Gesesa entered into **four agreements with secondary schools**, including one for the Alternating school-work programme, all included under the **H2SchOOl project** (see more detailed information in the Institutions and Company chapter). In particular, in the case of the P. Giannone secondary school and the Artistico Virgilio secondary school, both in Benevento, the project involved the creation, in synergy, of a comic book on saving water. In the case of the Guacci di Benevento teacher training institute (School of Languages), the project involved the creation of information panels on illuminated Gesesa monuments, in four European languages. Finally, the Alternating school-work programme was hosted with the Benevento Technical and industrial institute and included 30 hours of training (theoretical and practical).
Acea Elabori has accepted courses from the **Alternating school-work programme** of the Piaget-Diaz school and the Azzarita Scientific secondary school, involving a total of 28 students. All the students completed an alternating period of 30 hours. The company has also worked in partnership with the Faculty of Mathematical, Physical and Natural

Sciences of the La Sapienza University of Rome, welcoming 10 curricular internships each comprised of 80 hours.
Acea Ato 5 has signed agreements with the Sole 24 Ore higher education school and the Sant'Anna secondary school, taking part, with its own specialist experts working as teachers, in the **Master's Degree in Energy and the Environment** and in the University Level II Master's Degree in **Environmental Management and Control: Efficient Resource Management**; it then accepted 3 curricular internships.

The Acea Group has made an economic contribution to the Master's Degree in **Energy Resource Management** organised by SAFE, a centre of excellence for studies and training on subjects related to energy and the environment, through the provision of a **scholarship**. The Master's Degree is part of a **continuous training and education course on the subject of energy and the environment**. The company **Acea Energia** has been working in cooperation with it for many years, actively participating, on the one hand, in teaching, with senior specialist experts in the company working as trainers and educators, and on the other hand, following certain training modules with its junior employees. The Master's Degree attracts the interest of young graduates in technical disciplines and, in 2017, **several young engineers**, under the scope of energy and energy efficiency, **were employed by companies of the Group**. Additionally, Acea Energia and Acea Ato 2 organised the **SAFE DAY** at the EUR Water Supply Centre, a day dedicated to SAFE Master's students. The Acea business was presented to those students and, specifically, the subject of technological and digital development.
The SAFE Master's Degree has been included in the IRELP - IRENA Renewable Energy Learning Partnership, the platform dedicated to training for the International Renewable Energy Agency (IRENA).

Acea then joined the financing of the thirteenth edition of the **Master's Degree in Energy Management organised by** Business Integration Partners (BIP) and the Polytechnic of Milan (MIP), with an opportunity take on an intern for a six-month duration. The purpose of the Master's Degree is to train young professionals, providing the basic and specialised knowledge necessary for professional needs along the entire energy sector chain. In partnership with the ELIS Consortium, it has also supported **two scholarships** funded in partnership with Anas, Ferrovie dello Stato and A2A, for a two-year period at the Polytechnic of Milan (MIP) in relation to **Digital Engineering**.

Partnerships were also initiated with the academic world for certain relevant training activities and various research activities (see also the section on *Staff training and development* and the chapter on *Institutions and the Company*).
For example, in 2017, **Gesesa** entered into an agreement with the Faculty of Engineering and Economics of the **University of Sannio**. The multidisciplinary Project Work promoted by the Department of Law, Economics, Management and Quantitative Methods and by the Department of Engineering, in partnership with Gesesa, is related to the organisational models and technological systems adopted by the company. In the same year, again with the University of Sannio, the Department of Science and Technology entered into an agreement for the **study of endogenous resources**. Owing to its experience in the **area**, the company is also engaged as a speaker for the university master's degree and public conferences on the subject.

As mentioned above, the company utilises **the professional skills** of its staff in university master's degrees and courses, and under the scope of **technical projects**. In 2017, qualified **company staff** worked as teachers or with company testimonies under the scope of **university master's degrees**, dealing, in particular, with issues related to **energy** and the **environment**.
In 2017, the companies of the Group activated a total of **14 internships**, two of which were included in the Lazio Region Council tender Return immediately, to which Acea Elabori adhered, **and 13 curricular internships. During the year, three young people previously taking part in internships found stable work** with professional contracts.

INCENTIVE SYSTEMS AND STAFF EVALUATION

In accordance with the **remuneration policy** adopted by Acea, which aims to ensure **the application of the merit-based principle** in staff evaluation and, consequently, to seek the selectivity of fixed and variable remunerative interventions, there are two different incentive and evaluation systems: long-term (LTIP) and short-term (MBO).

The **long-term (three-year) incentive Plan (LTIP)** is reserved for **CEO and senior managers**, made up **of managers from the Group with strategic roles and responsibilities**.
The choice of this system's structure, which provides for the accrual 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** and triggering virtuous mechanisms for the creation of value for stakeholders.
For 2017, **the LTIP calculation system** remains calculated as a percentage of the Gross Annual Remuneration (GAR) and is subject to the 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). At the end of each three-year period of reference, the bonus is paid, if necessary, based on the degree of achievement of the economic and financial and profitability objectives.
The short-term (annual) incentive system, ***Management by Objectives* (MBO)**, is applied to senior and middle management (managers and executives). In order to create a synergistic link between strategy and operational management of the company, the **MBO** system requires the payment of variable remuneration based on the **achievement of individual objectives, related to the specific areas of activity performed, and of the Group**, assigned at the start of the year, as well as the **assessment** of the congruity **of organisational behaviour** with respect to the expected leadership model. Therefore, the incentive system in force in 2017 focuses on the **overall assessment of the person** (Performance and Leadership) and on the achievement of individual qualitative and quantitative objectives.
For the actual payment of the bonus, the mechanism connected to the MBO system provides a system of "access gates," consisting of **four Group objectives**, three of an economic and patrimonial nature and one linked to the qualitative aspects of the services provided (Gross Operating Profit, Net Profit, Net Financial Position and QUALITY AWARD).
In 2017, a catalogue of Group objectives was prepared containing a set of indicators to be assigned to managers to transform strategic lines into actual results.

The performance bonus is awarded annually to service staff working as 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 award criteria have been defined in the light of the merit-based principle, with the use of a system for **evaluating individual contributions** (achievement of the objectives assigned and behaviour adopted), and the financial amount is calculated based on the parameters of productivity, profitability and health and safety at work.

There are also some **benefits** for employees, including those with part-time, fixed-term contracts and apprenticeship contracts, such as **additional monthly payments, meal vouchers** (tickets), discount on electricity tariffs - only for staff hired before 9 July 1996, which that year was the subject of the trade union agreement (see the paragraph on *Labour-management relations*), the subsidies recognised through the Company Recreational Club (CRC), the **supplementary health insurance policy**, the Pension Fund for managers and the supplementary pension fund of the sector - the Pegaso fund - for employees. Additional benefits are provided to managers, such as the use of a company car and the reimbursement of fuel costs.

The Staff Management System provides an individual evaluation process (Performance Management) that measures the performance achieved, that is, the achievement of the assigned objective, leadership and the ability of each employee to be able to guide people and act favouring change, respecting the reference value system.
The process has the following purposes:

- Creating a culture increasingly based on merit, value and the involvement of the people who work in the Group;
- Increasing the awareness of the role and of individual contribution;
- Increasing motivation, stimulation and staff recognition;
- Aligning people with company values, making them share the goals and results achieved.

INTERNAL COMMUNICATION

Communication initiatives in the Acea Group, managed by the **Internal Communications Unit**, contribute to developing staff **knowledge on Group principles and values, and on strategic objectives**, to disseminate the corporate culture, promote and maintain a good internal climate and develop a sense of belonging in employees.

In 2017, the Internal Communication Unit included among its main objectives the growth and **enhancement of human capital**, as part of a renewed corporate culture, oriented towards **improving operations and implementing industrial guidelines**.
In line with the new and strong operational vocation of the organisation, the key **internal communication campaigns** related to the various businesses of the Group focussed in particular on **innovation** and **technological efficiency** in the four industrial areas, with a specific focus on **safety** issues **and environmental and social sustainability**.
To achieve of the above mentioned path, the Intragroup Social Collaboration platform **JAMP** was added during the year to the main communication tools that were previously used to target employees, such as newsletters, e-mails and the Intranet portal, and **live streaming links** were used for major organised events.
In order to make **the conveyed messages more emotional, effective and engaging, emotional videos** were also used, made possible thanks to the contribution and **involvement of the employees** acting as key players and direct ambassadors of the proposed initiatives.
Among the major theme-based events designed to stimulate the **intragroup involvement of employees and increase their sense of belonging**, the following are highlighted:

- ACEA NOVECENTO: A **permanent photographic exhibition** designed to enhance the professional skills of men and women who worked in the past and who now work in Acea, through the publication of photographs taken from the Company's invaluable historical archive and documents taken from some issues of the "Acqua e Luce" information magazine (1950/1960).
- **12. SAMPLES OF INFRAGROUP MOMENTS**: an event held during the Christmas holidays at the Acea Autoparco Industrial Space, with the dual objective of encouraging the **affiliation** of employees, thanks to the participation of most of the companies of the Group and combining **business and the territory** through the preparation of **food** and **wine corners** with typical foods from the local communitys of origin.

In line with the values of **innovation, quality and operational efficiency**, the Internal Communication Unit has also conducted campaigns to support certain projects designed to make the everyday **services and tools** used by employees **more interactive**, but at the same time sustainable:

- The campaign for the use of **the Eni Multicard in *Iperself* mode**, which has allowed more operational practicality and significant savings.
- The presentation **of the new corporate portal acea.it**, launched at the end of 2016, with the involvement of employees in the role of **ambassador** of the new features of the MyAcea section.
- The **launch of the Execution Model**, conceived with the aim of improving the core activities of the Group's business.
- The organisation of events aimed at the internal dissemination of **the Business Plan 2018-2022** at all Acea facilities.

To spread and promote the theme of **corporate well-being** in its various aspects, several internal campaigns were implemented to support ***Work Life Balance*** projects, such as the **smartworking and agile work** initiative given the name **"E.L.E.N.A."** executed in partnership with the Bocconi University of Milan, with its experimental phase completed in September, the **"MAAM - *Maternity as a Master*"** project, dedicated to enhancing neo-entrepreneurship, transforming it during managerial development, as well as projects implemented during the year to enhance differences and equal opportunities (see the paragraph on *Diversity and Equal Opportunities*).
The role of Internal Communication has also been to **not only actively involve employees, but also their families** in these internal **welfare and caring courses**.
The **promotion of solidarity** has characterised other **internal communication campaigns** organised also with the help the participating employees. Among the initiatives for solidarity taking place during the year, the following should be noted: the organisation of ***Acea Solidarity Monday***, with several days dedicated to **fund-raising**, attended by **non-profit associations** at the central office; the distribution of **Christmas Packages** containing **products from areas affected by the earthquake** that erupted in 2016 which, in addition to supporting the producers of those areas, **generated funding for the redevelopment of an area in the Roman suburbs; the purchase and distribution of panettone, with proceeds going to the Italian Red Cross**, during Christmas events.
As part of the **"Let's not generate waste"** campaign, organised in 2016, in partnership with the National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), and with reference to the subject of **environmental sustainability**, an **in-house video** was made in 2017 **on energy efficiency, thanks to the contribution of several employees**.
In 2017, for the second consecutive year, Acea received an important recognition for Responsible Communication from Aretè, thanks to its video ***Be Sure to be Safe***, conceived and created internally, with the aim of **promoting a culture of safety at work** and projected during **Safety Week** (see the dedicated box in the section *Health and safety protection at work*).

DIVERSITY AND EQUAL OPPORTUNITIES

In compliance with the provisions of the law[89], Acea employs and integrates staff in the company **belonging to protected categories** (disabled persons, orphans, etc.), guaranteeing them support services, thanks to the work of the National Association of Mutilated and Disabled Civilians (NAMDC), and offering them assistance and technical tools for support so they can perform the tasks they are assigned. Staff belonging to protected categories, as of **31.12.2017**, include **236 employees** (146 men and 90 women).

An Equal Opportunities Commission (CPO) has been planned for the company, in accordance with a *Regulation in force on the protection of the dignity of women and men* and for some years now a **Diversity Committee** has been set up[90], chaired by the Chairman of Acea S.p.A. The Diversity Committee, established in line with the principles expressed in the *Code of Ethics*, and in line with the provisions of the *Charter for the Management of Diversity*, has the task of promoting diversity management policies and involving the competent organisational structures and, directly, employees of the Group, in initiatives and projects aimed at preventing and not allowing discrimination within the company and making the most of employees' differences.

ACEA'S *CHARTER FOR THE MANAGEMENT OF DIVERSITY*

In November 2014, a Charter for the Management of Diversity at Acea was approved by the Board of Directors. It is currently in force in the Group and it sets out the company's position and commitments:

"Acea (...) intends to promote a culture of equal opportunities and the management and enhancement of diversity, aimed not only at preventing and combating all forms of discrimination (...) but at recognising, understanding and appreciating differences, and enhancing the individual aspects and skills of all people who work for the company.
(...) Considering diversity in an inclusive way means ensuring every worker is in a position to realise his or her full potential and, at the same time, transforming the diversity that exists in the organisation into added value. Developing a sense of belonging to a community that recognises the value of diversity has a positive beneficial impact on workers, the company and the economic and social system as a whole (...)".

During the year, the Head of the Acea Audit Department was among the winners of the 2017 edition of the Simpatia Prize, because of its *"profuse engagement in the promotion of a corporate culture based on the enhancement of diversity in an inclusive sense, on teaching mutual respect, and the fight against violence, stereotypes and prejudices, with a particular focus on equal opportunities and the empowerment of women."*
In December 2016, activities in the area of diversity and inclusion entered organically into the structures responsible for managing staff of Acea S.p.A., with the establishment of the People Care Unit. As a result of the **corporate reorganisation** process, in **September 2017**, the activities previously managed by the People Care Unit were merged within the newly established **People Involvement Unit**, in the Human Capital Development department.
During the year, Acea has implemented various initiatives, including:

- ***Peak viewing***: a survey conducted in January and involving all employees, with the aim of identifying needs and priorities in terms of organisational well-being, taking into account personal and family characteristics of the company's employees. The analysis of the responses received led to an **action plan** that was presented in April, in a kick-off meeting attended by the Executive Director of Parks - Liberi e Uguali, the Foundation that Acea joined in 2016.
- ***MAAM (Maternity as a Master)***: the initiative already mentioned and aimed at enhancing the experiences of both parents during the initial years of raising children. 55 female employees and 18 male employees joined the project and became part of a community in which it is possible to share experiences, following online coaching courses designed to capitalise on the skills that spontaneously arise during the experience of parenting, in order to enhance so-called "generative leadership," and exploiting the potential to improve skills such as emotional intelligence, listening and guidance skills, time management and creativity.
- ***Mentore and Telemaco*:** a project dealing with the subject of the age, making the most of people's differences. In a series of meetings that were held between April and September 2017, staff with a high level of experience within the company met with new employees, in order to generate a mutual exchange of approaches and knowledge and build an inter-generational bridge.
- ***Girls in Motion***: A project aimed at promoting the presence of women in technical roles. The project is part of the wider WIM - *Women in Motion* campaign, supported by the FS Italiane Group, with the involvement of a group of companies, including Acea, noted for their commitment to issues of equal opportunities. A group of 20 girls, selected from approximately 1,500 secondary school students from all over Italy, embarked on a journey from Milan to Naples, with stops along the route where they had an opportunity to visit some of the operating facilities of the companies taking part in the initiative. Acea welcomed them in April, allowing them to visit the water and electricity supply Dispatcher Rooms. The visit generated a huge interest among the girls, who wanted to broaden their knowledge with regard to aspects of the water cycle and the energy sector chain, as well as the use of new services and technologies for responsible and sustainable use of natural resources.

Additionally, to protect the equal parental opportunities and responsibilities between men and women, in March 2017, Acea introduced **a day of "compulsory leave"** for all new fathers, in addition to the two days provided by Article 1, paragraph 354, of the Law No. 232, of 11 December 2016, for the benefit of the new fathers, within five months of the birth of their child or of joining their family in Italy, in cases of national or international adoption or custody.
After concluding the **E.L.E.N.A. (Experiencing flexible Labour tools for Enterprises by engaging men and women)** pilot project in June 2017, Acea was able to analyse its outcomes and assess the **effects on individual productivity of the work-life balance policies** tested (see the dedicated box).

[89] Law No. 68/99.

[90] The Diversity Committee was established by the Board of Directors, together with the approval of the Charter for the Management of Diversity, at the meeting held on 10 November 2014.

THE RESULTS OF THE E.L.E.N.A. PROJECT IMPLEMENTED AT ACEA

The agile project work - ***smart working* - E.L.E.N.A.**, coordinated by the Department of Equal Opportunities of the Presidency of the Council of Ministers, with the scientific collaboration of Bocconi University in Milan, had **a 9-month duration** (September 2016 - June 2017) and **involved 200 people**, belonging to 9 companies of the Group, identified among a "sample" population with certain needs (such as dependent children under 3 years, other dependent family members, etc.). In addition to the 200 people who worked in smart working mode - see "Group of observers" - another 110 people were identified who worked in ordinary mode - see "Control group" -, in order to be able to evaluate, through comparison, the effects of the use of the agile working method. The results revealed that **"agile" workers have a guaranteed productivity of more than 3-4%**. The same employees had a **lower work absentee rate** than their colleagues who were always present in the office. On average, every "smart worker" has renounced an annual package of exceptional permission to leave, ranging from 1.2 to 4.8 days. **Satisfaction in terms of the balance between private life and work increased on average by 6.6%**.

The innovative scope of the project has a focus on the deconstruction of constraints connected to the work place and working hours, recognising the person's **autonomy** and **responsibility** in defining the working methods and **focussing** on the objective. The increased flexibility and autonomy given to agile workers has had positive impact on their work-life balance, increasing their **well-being**, which is also linked to productivity.
By positively evaluating the project's results, Acea intends to extend the possibility of working in smart mode, starting from 2018, to an increasing number of employees.

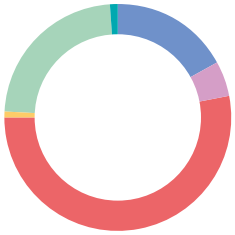
On the International Day for the Elimination of Violence Against Women, organised by the UN, **Acea projected the inscription "No More" on the façade of the main building**, to publicly testify its solidarity with all women and its stance against any form of violence or abuse. Furthermore, Acea has once again chosen to participate in the **Rome Pride 2017**, to broadcast its message of inclusion of diversity and opposition against all forms of discrimination.

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, the National Association of Mutilated and Disabled Civilians (NAMDC) and the Association of Christian Italian Workers (ACIW).
In 2017, the number of members enrolled in the Company Recreational Club (CRC), including managers, remained unchanged and amounted to 4,620 people. **The CRC was responsible for managing the company's crèche**, open to children of employees and children of residents of Municipality I, and accommodating 35 children in the first semester and 36 in the second semester of 2017.
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 authorise the deduction from the payroll of a small contribution that is allocated to the Fund.
The Company Recreational Club enters into agreements for employees and their families with institutions that offer health services, dental services, legal advice, etc. and active commercial agreements, including ticket sales service relating to sports, 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 organisation of meetings for families, also with the intention of creating a **support network** for employees. The association is also involved in **providing services** such as **mortgage and loan advice, school assistance** for children of employees attending lower- and upper-secondary schools, and various other initiatives benefiting employees, such as the organisation of language courses, and cultural and sports activities.

CHART NO. 40 - MEMBERS THAT HAVE USED CRC SERVICES (2017)



- 525 | Shareholders who have utilised tourism services
- 135 | Children of shareholders who have utilised summer programmes
- 1,615 | Shareholders interested in insurance instalments
- 28 | Shareholders interested in purchase instalments
- 697 | Shareholders who have utilised the so-called "dono della Befana" bonus benefits
- 36 | Shareholders who have utilised scholarships

SHAREHOLDERS AND FINANCIERS

Acea is a listed company that ensures 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 Company and 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 presentations and press releases uploaded on the Company's website, always respecting the fundamental principles of **correctness, clarity and equal access**.

Additionally, 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 **€133.9 million in dividends** as management profit for the year (they received €132 million in 2016), which correspond to € 0.63 per share, with a **payout of 74%** on net income, after allocations to third parties.

In the last trading session of 2017, **Acea shares** recorded a closing price of €15.40 (capitalisation: €3,280 million), with an **increase of 33.3%** compared to the previous year. In 2017, a maximum value of €17.08 was achieved on 30 November, while a minimum value of €11.30 was achieved on 1 February. Average daily volumes were marginally higher than €140,000 (compared with approximately €110,000 in 2016).

TABLE NO. 42 - PERFORMANCE OF STOCK EXCHANGE INDEXES AND ACEA SHARES (2017)

	variation % 31.12.17 (compared to 31.12.16)
Acea	**+33.3%**
FTSE Italia All Share	+15.6%
FTSE Mib	+13.6%
FTSE Italia Mid Cap	+32.3%

€ 89.3 million are destined to **financing** stakeholders (compared to € 128.8 million in 2016). The change significantly influences the reduction in interest on bonds compared to the charges incurred last year for the repurchase of two quotas of bonds and the further reduction in costs of medium/long-term debt and the cost of commissions for transferred loans. The average overall all-in cost of the Acea Group's debt on 31/12/2017 was 2.59%.

Regarding the composition of debt, on 31/12/2017 approximately 62.5% of the total amount was derived from transactions on the capital market (corporate bonds). Regarding the banking sector, Acea mainly targets those entities whose mission is to finance strategic infrastructures, such as the European Investment Bank (EIB, 19.8% of the debt) and the Cassa Depositi e Prestiti (CDP, 9.2% of the 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

TABLE NO. 43 - RATING 2017

agency	long-term rating	short-term rating	outlook
Moody's	Baa2		stable
Fitch	BBB+	F2	stable

Moody's confirmed last year's rating, underlining how the composition of Acea's assets is characterised by a **low risk profile**, owing to 80% of the EBITDA being guaranteed by regulated businesses with low exposure to price risk and volume risk. Therefore, despite the sovereign outlook being Baa2 negative, the agency estimates that the Acea Group may continue to meet the requirements of a stable outlook, because of the diversification of its business and its modest exposure to cyclical activities (20% of Ebitda).
Fitch confirmed Acea's rating and indicated how the new Business Plan (2018-2022), which confirmed the group's focus on regulated businesses, envisages an increase in the total investments included in the plan. It also positively highlighted the increased visibility of water service business, which contributes 40% to the Group's gross operating margin and the new 2016-2019 regulatory cycle in electricity distribution (40% of the EBITDA). Both items will guarantee more visibility of the Group's prospective flows.

FINANCIAL DISCLOSURE

During 2017, Acea organised and participated in **a number of meetings, extended presentations, roadshows and reverse roadshows, with approximately 160 equity investors, buy-side analysts, investors and credit analysts**.
The **roadshows**, organised in partnership with the main business banks, took place in the **most important squares in Europe**: In Rome, Milan, London and Paris. Additionally, **conference calls** were held in the market with **approximately 110 analysts/investors**, at the time of the approval of the annual and interim results, and the Business Plan 2018-2022.
The Company participated in several Utilities Conferences held by Borsa Italiana and leading brokers. In addition to direct relationships with analysts and investors, managed on a daily basis, economic and financial communications (price sensitive press releases, company presentations, credit ratings, stock performance, highlights, etc.) are constantly updated in **the Investor Relations area of the company website**.
Approximately 170 studies/reports on Acea shares were published during the year under review.
Seven **business banks** analyse Acea shares with a high level of continuity, five of which, as of 31 December 2017, express "positive" ratings and two of which express "neutral" ratings.

ESG ANALYSTS EVALUATE ACEA

Acea constantly cultivates **relations with finance operators** from Environmental, Social and Governance **(ESG)** and, in the year under review, found its position in the evaluations of analysts, ratings and benchmarks, as illustrated below.

oekom research

In 2017, **Oekom Research** confirmed the intermediate rating drawn up in the previous year by assigning a C+ rating (scale D-/A+).

CDP
DRIVING SUSTAINABLE ECONOMIES

The **Carbon Disclosure Project** (CDP), an international organisation supported by over 800 international investors, whose mission it is to ensure attention is being given to the management of the risks and the impact from climate change by major companies around the world, publishes a list each year illustrating the ranking of Italian companies committed to this cause. Acea, which has assessed to this regard for many years, has also received an excellent evaluation for 2017, **confirming its presence in leadership class (A-)** (for details see *Relations with the environment* and the paragraph on *Mitigation and adaptation to climate change*).

Acea has been included in the *Ethibel Excellence investment register* since January 2015. The analyst states that: "This selection by the Ethibel Forum indicates that the company operates better than the average for its sector in terms of corporate social responsibility."
Acea **shares** are present in some ESG investable universes, including Green Impact by **Kepler Cheuvreux**, which includes European companies that combine business exposure to environmental issues with positive management of the related impact in favour of mitigation of climatic effects, and the investable universe of **ECPI**.
Further opportunities for discussion and interaction between Acea and the sustainable and responsible finance operators occurred during the year, stimulated by requests for further explanations with regards to assessments and data models, with **Evalueserve (FTSE Low Carbon Economy) and Vigeo Eiris**.

INSTITUTIONS AND THE COMPANY

ACEA WITH THE INSTITUTIONS:
River Tiber
CONTRACT IN THE URBAN AREA

RESEARCH AND INNOVATION: PROJECTS AMOUNTING TO APPROXIMATELY
56 million Euros
IN THE YEAR

H2020 ATENA PROJECT FOR
cyber security
IN THE INFRASTRUCTURES AND IN THE INDUSTRIAL PLANTS

School-work alternating
PROJECTS AND COLLABORATION WITH UNIVERSITIES

Acea deals with interactions with the institutional key players and stakeholders of reference for the territories and the business in which they operate, according to a participatory logic and based on the culture of dialogue, with the aim of generating a shared advantage, to the benefit of all the parties involved, but primarily the community and the territories of reference.

RELATIONS WITH INSTITUTIONS

Relationships with the Institutions are focussed on the economic dimension (taxes and fees) and the social dimension (relationships with local institutions, sector authorities, dialogue with consumer associations and other civil representatives, professional and institutional partnerships, 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 2017 is **€96.5 million** (it was €143.5 million in 2016). The tax rate for the year is equal to 33.3% (it was 34.5% 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 2017, the total amount of this item was approximately €2.57 million, a slight increase compared to 2016 (€2.03 million). More specifically, approximately €1.56 million was paid to regulatory authorities (ARERA, AGCM, Consob and other public services authorities), €81,000 was incurred as a mandatory charge to the chambers of commerce and €934,000 was incurred for contributions to confederation bodies and for various membership fees (Utilitalia, Unione Industriali).

Public **institutions** represent privileged partners for the implementation of **initiatives useful for generating positive effects in the territory and in relation to the quality of life for citizens**, also in virtue of the essential nature of services provided by the Group and their impact on communities (see chapters on *Customers and the community*, *Staff* and *Relations with the environment*).
Acea interacts with the various institutions in compliance with the principles and rules established in the Group's **Code of Ethics**, which dedicates **Article 19** to relationships with institutions, public authorities and political and trade union bodies, establishing that:
"Acea does not contribute in any way to the financing of political and trade union parties, movements, committees and organisations, even if they have the legal status of an association or foundation with the same instrumental bodies, or their representatives and candidates.
Relations between the Company and the political and trade union organisations, with regards to matters of corporate interest, are inspired by mutual respect and collaboration.
Every relationship must be authorised by the structures in charge, paying particular attention to avoiding situations in which conflicts may occur between Acea's interests and those of the authorised collaborator on establishing relationships with political or trade union organisations.
In any case, Acea refrains from behaviour aimed at exerting direct or indirect pressure on politicians and trade unions in order to obtain benefits."

The management of relationships with institutions is defined by an organisational model that assigns specific skills and tasks to the various corporate structures:

- The **External Relations and Institutional Affairs Department** guarantees the unitary representation of the Group's positions in dialogue with local, national and international institutions and bodies, in order to promote and protect the Group's interests and respond to signs of evolution of the scenario of reference and the related potential impact on the business.
- The **Corporate Affairs and Services Department** ensures assistance for all legal aspects relating to Acea S.p.A.'s operations and the functioning of the Group, dealing with communications with the securities market **Supervisory Authorities** (Borsa and Consob), managing relations with the **regulatory bodies** in the relevant sectors, representing Acea positions in participatory regulatory training procedures, and ensuring coordination and guidance in the implementation of the Authority's resolutions, in order to minimise 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 - also through **consultation** with the various administrative, regulatory and control bodies.

INTERVENTIONS BY AUTHORITIES IN THE SECTOR IN RESPECT OF ACEA: INVESTIGATIONS, PREMIUMS AND PENALTIES

The Regulatory Authority for Energy Networks and the Environment has established a mechanism of **awards and penalties** for companies that manage the services regulated by said authority. In 2017, with reference to the management of the previous year, Areti was made to pay a penalty of approximately €941,000 relating to the regulation of the continuity of the electricity service for low-voltage users. Again with reference to the continuity of service in 2016, Areti has paid, as compensation to users and as penalties paid to the Energy and Environmental Services Fund (EESF), approximately €1.2 million with reference to prolonged and extended interruptions and approximately €101,000 for exceeding the pre-set standards for medium-voltage users.
Acea Ato 2 paid approximately €2.7 million in automatic indemnities to customers, the majority of which related to billing indicators, while, for any awards for the quality standards of the service provided during 2017, data was communicated in January 2018 to the Operative Technical Secretariat of the Management Body of the **area** of reference for the verification of the case.
As part of the appeal filed by Acea Energia for the cancellation of the sanction measure adopted in November 2015 by the **Competition and Market Authority (CaMA)**, upon conclusion of the PS9815 proceedings, on the subject of the activation of unsolicited contracts, the local communityal **Administrative Court of Lazio** - by order No. 2547 dated 17 February 2017, - decided to submit the preliminary questions raised by the company **to the Court of Justice of the European Union**. The questions are linked to the interpretation of Art. 27-bis, paragraph 1 of the Consumer Code, which essentially concerns the competence of the aforementioned Authority to sanction, under the scope of unfair commercial practices, conduct subject to specific regulatory provisions.
It should be noted that the CaMA initiated an investigative procedure in May against Acea and Acea Energia for an alleged breach of Art. 102 of the TFEU relating to abuse of a dominant position. The proceedings are ongoing and the deadline for their conclusion is set for June 2018.
Additionally, the appeal lodged by Acea Ato 2 against the fines imposed on it in the PS9916 proceedings are still **pending before the local communityal Administrative Court of Lazio** - inherent unfair commercial practices implemented in the performance of certain invoicing activities, the recovery of receivables and the management of complaints - and lodged by Acea Energia against the fines issued in the PS9354 proceedings - relating to the breach of the Consumer Code in the execution of certain invoicing activities and the recovery of receivables.
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*.

PARTNERSHIPS FOR THE PROTECTION OF THE COMMON HERITAGE

Acea, in synergy with specialist public institutions and with research bodies, deals with **initiatives and projects of a social, environmental and safety nature and with protection of common heritage**.

In 2017, the **multi-institutional committee for the treatment of drinking water sources** operating in Acea Ato 2 met during a special study and discussion session on the topic of the **Water Safety Plan**. The meeting took place in the protected area of the sources of the Acqua Vergine in the presence of the institutional representatives of reference (Rome City Council, Lazio Regional Council, the local communityal Agency for Environmental Protection (ARPA), Asl RM2, Asl RM6, the municipal police and Metropolitan City Authorities) which expressed their full willingness to cooperate with implementing the **"Safety Plans"** for the Ato 2 territory, with the coordination of Acea Ato 2, as manager of the Integrated Water Service - as required by the guidelines drawn up by the Italian Higher Institute of Health.
Acea Ato 2 is also among the signatories of the **"Tiber River Contract in the Urban Area of Rome"** - signed jointly with other public and private bodies for the economic development and use of the Tiber. In this context, the **monitoring of river water has continued and the construction of two new monitoring stations has been completed** (at Poggio Mirteto, located on the Tiber upstream of the city, and on the Aniene just before convergence with the Tiber), which have been integrated into the **Acea Ato 2 continuous monitoring network, currently formed of 6 automatic remote-controlled control units**. These will then be added to the Porta Portese station, which is currently being acquired by the Lazio Region under a special agreement. In the context of the Agenda Tevere initiative, the water company is also actively contributing to the collection and creation of an **infrastructural database** that can be made immediately available for initiatives that will be implemented in the coming months.
Again in the context of **institutional partnerships for the protection of drinking water sources**, the creation of a committee by Acea Ato 5 with the Local Health Authority of Frosinone should be noted, in order to initiate analyses and hypotheses for solutions relating to any problems that may impact on the quality of the water distributed in the territory as a result of emerging phenomena, such as the drought that was noted in the year in question.

Acea is involved in **safety** and the **prevention of risks and management of emergencies and critical situations**, sharing its technical and specialist competencies with high-profile institutional work **groups** and providing support, in **emergency situations**, to the **competent authorities in the area of public health, civil protection and public security**.
The most important issues for national security include **cyber threats to the information networks of services of general interest**, potentially capable of causing a malfunction or interrupting the provision of essential services such as energy and water.
In this context, the company participates permanently in the work of the **Computer Emergency Response Team (CERT)**, coordinated nationally by the Ministry of Economic Development (MoED) and, at the same department, has taken part in the launch of the **National Assessment and Certification Centre for the verification of the reliability of ICT components for critical and strategic infrastructures**, a body set up under the new **National Plan for cyber protection and IT security** adopted by the Italian Government in June 2017.
Thanks to the experience gained in partnership with the EU project **PANOPTESEC**, which has created a prototype applicable to the protection **of critical infrastructures, networks and sensitive data**, and in consideration of the innovations produced, **Acea was invited to participate in the advisory board of the H2020 ATENA project**. The aim of this project is to identify technological solutions and architecture to deal with possible cyber attacks on infrastructure and industrial plants managed by dedicated control systems.

Acea companies are committed to ensuring the **highest levels of security and continuity in the provision of managed services**, and have provided organisations, procedures and tools which, in case of critical events (unavailability of central systems, breakdowns, adverse weather conditions, peaks in demand and strains

on networks, etc.), allow **the timely restoration of the normal operating conditions of networks, equipment and systems**. In this regard, 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 Rome City Council**.

The **Areti Emergency Management Plan** is designed to deal with the occurrence of faults and unavailability of the network. It defines the different **states of activation** (ordinary, alert, alarm and emergency), according to the operational and environmental conditions, the **procedures** for activation (and subsequent return) to 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 specifically dedicated to the **management of security**, in the cases foreseen. The **detailed Operational Plans** indicate, in a timely manner, the methods for managing certain types of disruption (such as flooding, fires, disruptions to the remote-control network, inefficiencies in the power systems of important entities, etc.) and report, in relation to the case in question, the management procedures, materials, equipment and resources to be involved. The operational documents include the procedures, for example, for the **re-ignition of the electricity system in the event of a blackout** of the National Transmission Grid (NTG) or to **re-establish strategic utilities** (such as Parliament, the Government, the State of Vatican City, etc.). The master plan and detailed operational 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 is tested by means of exercise drills.

Plans for the management of emergencies, active similarly in **water companies** and shared with local institutions (as Governmental Territorial Offices, Local Health Authorities, Area Management Agencies) address, in a predefined and structured way and on the basis of possible risks and scenarios, abnormal conditions that compromise the **continuity and quality of the integrated water service** and, according to the classification of emergency levels, describe the preventive and remedial measures for the different types of unforeseen events, such as **damage to networks, pollution, water crisis and emergencies relating to the sewage and water purification service**.

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 minimise **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 through specific behavioural and evacuation procedures, checked on a yearly basis, and aspects related to the protection of the environment, identifying the emergency interventions to be performed in order to limit contamination of environmental media (air, water and soil). Permits by virtue of which the plants are operated also include provisions concerning the **communication of 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.

SOME PROJECTS FOR THE DEVELOPMENT OF THE TERRITORY

The **partnership between Acea and local institutions** aims to implement **initiatives for the development of the territory of reference** and promote a model of growth based on the sustainable use of water and energy resources (see *Relations with the environment*).
In 2017, Acea Ato 2, in partnership with the mayors of the municipalities falling within the managed territory of Rome and its Province, continued the **Case dell'Acqua** installation programme, reaching a total of **66 activated kiosks** (see *Customers* chapter, *The quality delivered in the water area* paragraph).
Specific areas of comparison between **Areti** and the **Municipality of Rome**, during the year, concern common in-depth training initiatives on topics related to **environmental sustainability and the resilience of the electricity grid**, in order to evaluate the possibility of partnerships in funded and innovative projects. The energy distribution company and Acea Ato 2 also continued to **collaborate with universities, research bodies and companies involved in the management of technological** and plant **infrastructure**, as part of **the Resilience Enhancement of the Metropolitan Area (RoMA) project**, co-financed by the Ministry of Education in the context of support actions for ***Smart Cities and Communities***, aimed at creating integrated technological systems that can increase the resilience of large metropolitan systems.
An area of **local promotion** that is particularly cared for and in constant development is the area that arises from the relationship with **schools in the territory**. There are a number of opportunities for interaction with the training institutes in the geographic areas served by Acea companies, under the scope of **partnerships that refer to the National Operational Programme, agreements for the Alternating school-work programme or curricular integration of educational programmes**.
For example, during the year, the alternating school-work programmes should be mentioned that were initiated by **Areti** and **Acea Ato 5** with several institutes, bearing witness to the attention given to the training of future technicians, as well as the **Gesesa** H2SchOOl project, (see the dedicated box and the *Staff* chapter, *Valuation of human resources and communication* paragraph).

GESESA'S H2SCHOOL PROJECT

School is an integral and determining part in the progressive resolution of problems connected to environmental matters, both because it is an institution committed to the adoption of specific policies of saving resources (energy, water, paper) and reduction of waste, and for the task that is specific to it of moulding young people to citizenship and addressing the development of students to a sustainable lifestyle. In this context is inserted the **H2SchOOl** project conceived by Gesesa for **teachers and pupils of the last three classes of Primary School and the entire cycle of grade I Secondary School of Benevento and Province**.

The initiative, in collaboration with **UNICEF** and sponsorship **by the Education Department of the City of Benevento**, has been conceived as an educational-pedagogical instrument to move students closer to and make them aware of the complexity of environmental issues, increasing their awareness and channelling information and content regarding the water cycle and the appreciation of waste, getting to know the actions, resources and technologies that Gesesa implements in order to preserve the territory in which it operates, respecting sustainable development.

The project is articulated, over a time frame of several years, in moments of growth and in-depth analysis, which take concrete shape in the form of meetings, theatrical spectacles, laboratories and competitions, on some topics of environmental interest linked to the sustainability which concern: the issue of waste, the conservation of water and resources, of the quality of life that is sustainable and therefore compatible with the environment that surrounds us. Finally, **UNICEF's Provincial Committee** - of which Gesesa has become the first "business friend" of Sannio – has illustrated the H2schOOl initiative in the annual meeting to present UNICEF projects with schools of the Benevento Province.

THE COMPARISON WITH THE REFERENCE CONTEXT

Acea participates in **Research Centres, Standard-setting Bodies and Industry Associations**, acting as promoter or contributing to specific study activities in the businesses in which it operates.

THE 2017 MEMBERSHIPS OF RESEARCH CENTRES, STANDARD-SETTING BODIES AND INDUSTRY ASSOCIATIONS

During the course of the year Acea has renewed and activated numerous memberships in organisations of interest, including:

- AGICI - Finanza d'Impresa;
- Aspen Institute Italia;
- Associazione Civita;
- Associazione Amici della Luiss (Friends of Luiss Association);
- Associazione Italiana di Illuminazione (Italian Lighting Association - AIDI);
- 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;
- Centro Studi Americani (Centre for American Studies);
- CDP;
- Conseil de cooperation econnomique (Economic Cooperation Board);
- Comitato Elettrotecnico Italiano (Italian Electro-Technical Committee - CEI);
- CSR Manager Network Italia (Altis);
- Distretto Tecnologico Nazionale sull'Energia S.c.ar.l. (Di.T.NE.);
- Elettricità Futura ("Future Electricity" formerly Assoelettrica-AssoRinnovabili);
- Energy and Strategy Group – Politecnico di Milano (Polytechnic of Milan) (ES-MIP);
- FAI Fondo per l'Ambiente Italiano (Fund for the Italian Environment);
- Federazione delle imprese ambientali, energetiche ed idriche (Federation of Environmental, Energy and Water Companies - Utilitalia);
- Federazione Italiana per l'uso Razionale dell'Energia (Italian Federation for the Rational Use of Energy - FIRE);
- Fondazione Global Compact Network Italia (Global Compact Network Italy Foundation);
- Fondazione Utilitatis (Study and Research Centre for Water, Energy and the Environment);
- I-Com (Istituto per la Competitività - Institute for Competitiveness);
- ISES Italia (International Solar Energy Society - Italian Section);
- Italian Association for Trenchless Technology (IATT);
- Istituto Unificazione Italiano (Italian Unification Institute - UNI);
- Laboratorio dei Servizi Pubblici Locali di REF-Ricerche (Local Public Services Laboratory of REF-Ricerche;
- World Energy Council (WEC);
- Unindustria Lazio.

Acea **participates in occasions for dialogue** between the business world and the scientific community on the **issues which are topical and of national and international importance and offers its own specialist contribution on the occasion of thematic conferences, forums and workshops** on topics linked to managed companies, also presenting publications and works of technical-scientific relevance.

Also in 2017 it participated in the ***Ecomondo*** trade show in Rimini, with an exhibition stand, presenting to the operators of the sector the activities and installations of the **Environment Area Group** and holding seminars on innovative technologies connected with the recovery of energy and from waste. In this context 3 innovative projects were presented connected, in particular, with minimizing sludge from purification, their efficient use in the perspective of the circular economy and the use of ash from the waste-to-energy process for the purposes of producing ceramic materials (see also the dedicated bow in the chapter *Environment Area – waste management*).

SMAU is another innovation and technology trade show of national relevance, at the Naples edition of which Acea participated by means of the company **Gesesa**. The project, presented by the Company in this context, concerned the efficiency, in terms of management and costs of processes, of the payment collection systems, privileging the use of ATMs and digital banking channels focused on the CBILL product, and it was one of the protagonists of the SMAU Innovation Prize.

Acea has also participated at the ***Make Faire – The European edition*** trade show in Rome with an exhibition stand, presenting to the operators of the sector innovative projects developed in the various areas of the Group such as 3D mapping, AR training system and drone experience.

Another topic, of emerging relevance, is that of the **Blockchain technology** applied to energy transmission networks. In consideration of the developments of this new technology and in order to investigate the potential thereof in the various divisions of electricity supply chain (generation, distribution, electrical mobility) there was created in 2017 by Eurelectric, EU electricity industry association, a **platform dedicated to study and dialogue regarding the technology** in question, in which a qualified a group of electricity companies from the Continent, including Areti, participate.

The collaborations between Acea and the academic world, both for the purposes of training and continuous updating of their technicians, and for the development of research projects connected to industrial activities, are conducted in the context of **agreements signed between the companies of the Group and the Universities of reference** of the land managed.
For example, we can cite the rich seminar activities developed during the year in collaboration with the **La Sapienza University of Rome**, together with the Order of Engineers and technical associations of the sector, regarding specific business topics such as: security of the energy infrastructure, monitoring and risk analysis systems; security in procurement contracts, good practices and performance of the client; the Public Contracts Code in the perspective of environmental and energy sustainability; the costs of not using NO-DIG technologies in the development of the infrastructures of integrated networks.
Just as intense have been the collaborations maintained by the Group's water companies with the Universities of the reference territories, one thinks of the relationship of Acea Ato 2 with the **La Sapienza University of Rome**, in particular with the CERI research centre regarding geological risks, and with the **Tor Vergata University of Rome**, in particular with the Department of experimental medicine, or the relationships between Acea Ato 5 and the **University of Cassino and Southern Lazio** and between Gesesa and the **University of Sannio** (see the chapter *Staff*, paragraph *Valuation of human resources and communication*).

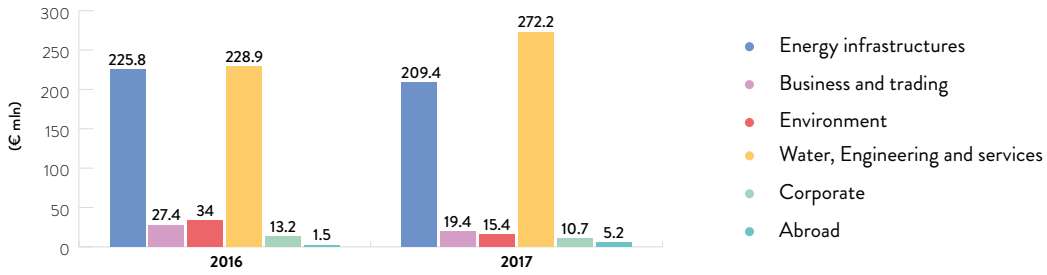
With reference to the topic of **sustainability**, Acea participates in networks of experts, working groups, think tanks promoted by the academic world, by civil society, by the Institutions or by business stakeholders, including: the ***CSR Manager Network***, the national association which unites the principal Italian companies active in *corporate social responsibility*, the **Fondazione *Global Compact Network Italia*** (Global Compact Network Italy Foundation), a body which represents our country at the United Nations' Global Compact; **Utilitalia**'s working group on Sustainability, the federation which unites the *multi-utilities* of water, environment, energy and gas; Acea furthermore participates in the analyses of benchmarks regarding sustainability in the Italian *utilities*, curated by the **Utilitatis** research centre.
In the aforesaid organisations Acea has an active role in workshops, working meetings and seminars, sharing its specific experiences and participating in joint projects and initiatives.
The company, through experience on the subject, has also become engaged as a speaker in University masters or public conferences on the topic.

THE COMPANY AS A STAKEHOLDER

THE MANAGEMENT OF COMPANY ASSETS

Acea protects and valorizes its tangible and intangible assets, seeking a sustainable financial position and **governing the internal needs**, linked to the operational management and the **growth prospects, consistently with the aims expressed in the business mission and the strategic plan**.
In 2017 the investments were of a total amount of **€532.3 million**, in line with the previous year (€530.7 million). Analysing their distribution by business area, there is highlighted in particular: the **Environment** area with €15.4 million, for interventions on the slag extraction system of San Vittore del Lazio's WtE installation, regarding Orvieto's waste treatment and biogas production installation, regarding the adjustment and upgrading of the Aprilia and Sabaudia composting installations; the **Commercial and trading** area for €19.4 million; the **Water** area for €271.4 million, with reference to the maintenance, modernisation and extension works in relation to the water-sewage network and in relation to the purification of Acea Ato 2 and Acea Ato 5 and interventions aimed at tacking the topic of water scarcity; the **energy infrastructure** area with €209.4 million, where there must be recorded, inter alia, the intervention regarding the powers stations, revamping Castel Madama and modernizing Tor di Valle. Finally, the **Parent Company** with investments for about €10.7 million.

CHART NO. 41 – DISTRIBUTION OF INVESTMENTS BY MACROAREAS (2016-2017)



The **amortisations, deferments and write-downs** are equal to **€480 million** (+29.6% with respect to the €370 million for 2016). In particular, the amortisations are €328.9 million (€254.2 million for 2016) and linked to investments in all business areas and to the Acea2.0 technological platform, in this context, the write-down of some of Acea Ambiente's installations is reported. The write-downs of receivables amount to €90.4 million, an increase of about 25.7 million with respect to 2016, and are relative to the water companies and the position towards Gala and Atac. The deferments, for €60.8 million, have increased by about €9.4 million with respect to the previous year, and are impacted by trends of the opposite direction, such as the increase of the allocation for the voluntary mobility programme and redundancy incentives for the staff of the Group and for legal risks and the reduction of deferments and for regulatory risks and for the restoration expenses fund.

The protection of **company property**, the **prevention of fraudulent phenomena**, the **respecting of the legislation in force in terms of safety/security**, with particular reference to the **protection** of **privacy and sensitive data** (Legislative Decree no. 196/2003) and to **safety in the workplace** (Legislative Decree no. 81/2008) are taken care of by the Business and Corporate Services Department by means of the Safety/Security, Protection and Certification Systems, within which the **Business Protection** Unit is located. To this Unit is entrusted the task of **defining and disseminating the guidelines** and polities in terms of **safeguarding and protection of property** and of coordinating the **implementation of plans for the continuity of operation and management of emergencies** prepared by the competent structures and Companies of the Group.
The Unit coordinates the measures aimed at guaranteeing an **adequate level of safety/security in the company's sites**: by means of the Safety/Security Operational Room **(Sala Operativa**

Sicurezza - SOS) it supervises the correct functioning of the concierge, reception desk and security services and of the video surveillance, ant-intrusion and alarm systems active in the company's sites.

The **functionality of the central ICT systems is essential for the operational continuity of the services performed** and it is therefore in light of this necessity that in Acea a plan for the management of **emergencies that cause the unavailability of the systems** is active. From the moment that the slow-down or stoppage of activity is encountered, to the ascertainment of the state of emergency, up until the return to ordinary procedures and the recovery of the suspended production, **an appropriate Guideline** indicates the operational arrangements to **contain the duration of the period of unavailability of systems for companies of the Group to the minimum**. The Guideline **details events, phases and responsibilities,** envisaging **appropriate teams** – which jointly involve various organisational contact persons: from the operations room to planning, from the call centre to the back office, from ICT to dispatching – in a position to steer towards the resolution of emergencies and at the same time to supervise the management of operational continuity. The emergency event shall be assessed on the basis of its **duration, seriousness and pervasiveness**, that is to say in terms of impact (economic, financial, regulatory, legislative risk, etc.), complexity and spread in relation to the subjects involved.
The Business furthermore adopts **guidelines** and **procedures** at Group level for **IT security** and for the **protection of the business' information assets** (information and data processed), that define the principles of behaviour, which employees and collaborators must adhere to, the arrangements for use of computer, electronic and digital resources (such as access to the internet, e-mail, PC, etc.) and the controls aimed at combating possible computer crimes.
Also in 2017, following the indications of the Ministry for Economic Development (MISE) and the Information Department for Safety/Security (DIS), Acea has focused **on the extension of protections within the cyberspace domain**, furthermore improving the measures for the protection of networks and SCADA (Supervisory Control And Data Acquisition) devices, already present.

Acea has for some time implemented a recognition of the business processes most exposed to the impact with the new **EU Privacy Regulation 2016/679 GDPR (General Data Protection Regulation)**, which entered into force on 24 May 2016 and is directly applicable in all EU Member States from May 2018. For this deadline, which entails a true revolution in the system for the **processing and protection of personal data**, the Company has assessed that it is indispensable to implement a **programme for adjustment to the new Regulation**, which consists of three successive phases aimed at establishing a model for the governance of Privacy and the integration of the new principles specified by the legislation.
During the first phase **assessment interviews** were conducted with the managers of the organisational structures impacted by the new regulation. In the context of the interviews the **processing** in existence in relation to personal data was **mapped** (so as to establish a first base of the Processing Register); the measures of an organisational, legal and technical-IT nature **defending the privacy** of the data subjects were revealed and, at the same time the supporting document corpus (informations notes, contracts, policies, etc.) was analysed. Subsequently, the non-conformities with respect to the Regulation were identified and evaluated by means of a **gap analysis** and the interventions of adjustment were defined and the relative **roadmap of execution** was prepared. The implementation of the remedial actions reported in the roadmap will lead to the adjustment of Acea's privacy management processes to the principles of the Regulation.
Finally, for the purpose of disseminating adequate awareness of the issue within the companies of the Group **training and information meetings** were held **with the privacy contact persons** of the same. In particular, there were specific dedicated seminars (Workshops) for Acea SpA's ICT Function and for Acea Energia, whose processes transpire to be particularly exposed to possible non-conformity in terms of privacy.

THE COMMITMENT TO RESEARCH AND INNOVATION

The scientific and technological evolution in service of the business processes is promoted by means of a broad research activity on the part of the operational companies of the Group. In 2017 Acea undertook a new course to oversee the development of processes and models of innovation, aimed both at **the evolution of the operational management**, and at **containing the impacts** of industrial processes and at **improving the levels of quality of the services** provided to customers. In this regards **a Function dedicated to innovation** – called the CEO Office - was established under the supervision of a Chief Executive Officer, with the general objective of preparing and maintaining the Group's **Innovation Plan**. In this context, the Function has arranged to generate a **model for mapping the innovation initiatives** which has been used in order to manage the moments of connection with the business' organisational structures (Functions, Departments, Companies). In a first phase **all the initiatives of innovation already defined or in the course of development** within the business were **collected and catalogued**; in a subsequent phase an ***idea generation*** session was held which allowed further opportunities for development of technological applications and innovation to be highlighted.
The entire process was conducted following the **Technology Readiness Assessment** (TRA) model, which allows the state of maturity of a technology to be evaluated, with which a census was taken of the projects for innovation on the basis of clusters (assets, clients and people) and the scopes of application (for example: payments, smart meters), critical technologies of reference (artificial intelligence, Internet of Things) and the potential value of the benefits expected. Finally an **Innovation Plan** integrated in the Industrial Plan was developed.

In 2017 the total economic resources destined to the **research and innovation activities** amount to about **€56 million**.

RESEARCH AND INNOVATION IN THE ENERGY INFRASTRUCTURE AREA

During 2017 **Areti**, in the context of the electricity distribution activity, has realised important innovative projects, highlighted as follows:

- in the context of the **multi-service measure system**, for experimenting with poly-functional technologies and architectures of smart metering, applicable also in sectors other than the electrical sector, it has developed through the company Acea Ato 2 a series of devices for the **smart metering of water meters** (equipped with trigger-impulses) with GPRS technology, initiating the development of further radio modules in 169MHz and NB-IoT technology, together with specific Apps to be installed on terminals for the WFM equipped with operational staff;
- with reference to the **Drone project** - a remote controlled aircraft system aimed at **periodically checking the state of the overhead cables transporting electricity** managed by Areti - an experiment was conducted regarding **a preventive inspection for the photogrammetric survey of an archaeological site** identified on the occasion of works in the construction site for an electricity line. The data was made available by the applicant to the Ministry of Cultural Assets - Special Superintendency for the Archaeological Assets of Rome. Still in the context of the project, moreover, there was **deposited on 6 June 2017 the patent** relative to the **"Audio system for ultrasounds"** for the monitoring of the partial electrical discharges, phenomenon which causes damage to the isolation of the overhead electricity cables and which, opportunely identified, permits a preventive maintenance intervention capable of reducing the potential network malfunctions;
- the **Palo IP intelligente** (Intelligent Public Lighting Post) project aimed at identifying solutions to integrate in the posts of public illumination sensors and devices, functional both to the improvement of the service and to provide new data and value added services applicable to other contexts, for example environmental and security contexts.

RESEARCH AND INNOVATION IN THE WATER AREA

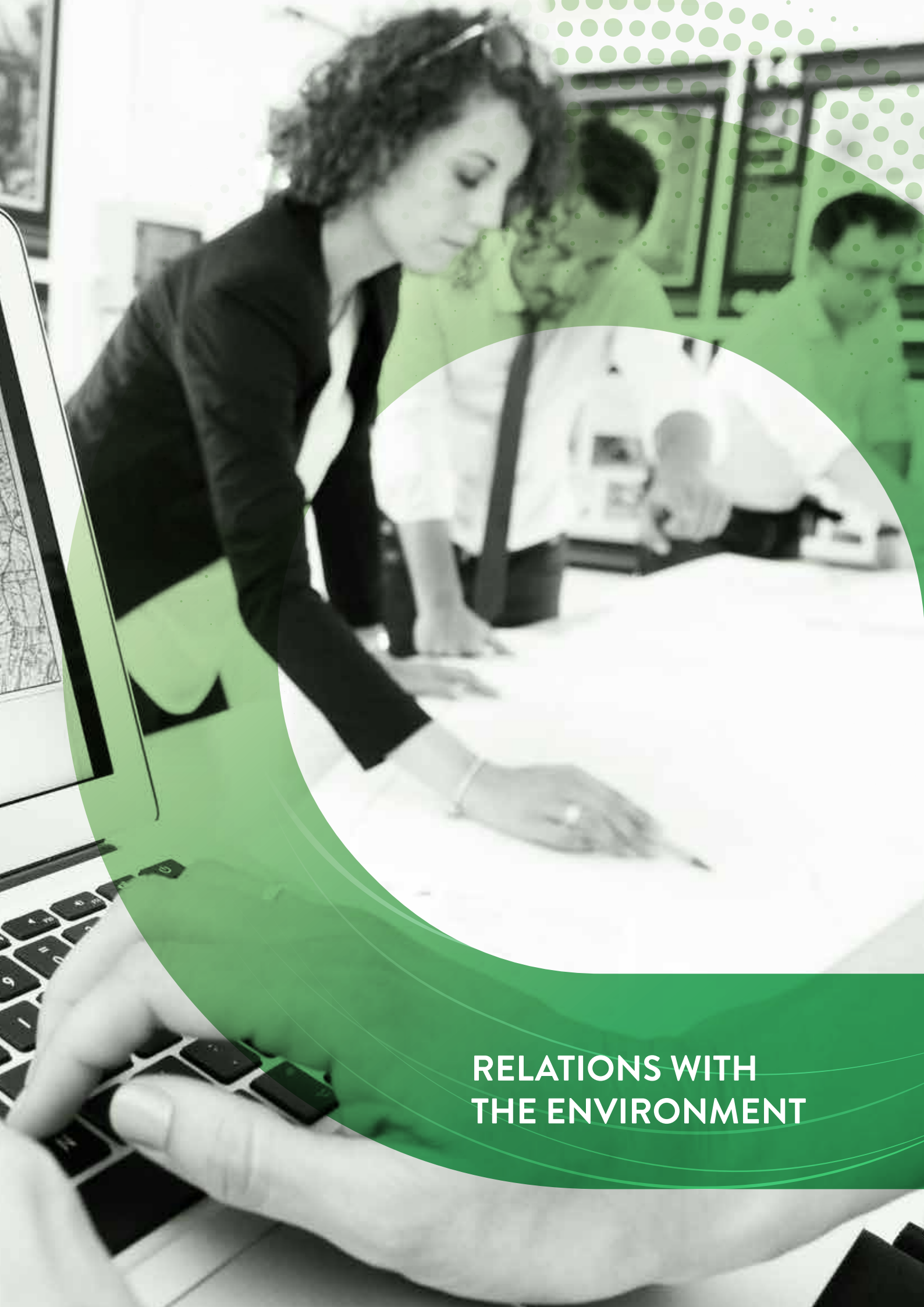
Acea Ato 2, in collaboration with **Acea Elabori**, has pursued in 2017 the **Research Plan**, which envisages the **performance of projects selected** by the company's management, with the objective of innovating and improving the operational management. Among these:

- in the context of the **protection of water resources**, relative to the safeguarding area of the sources of supplies of drinking water, the proposed inherent **delimitation** of the installations of Ceraso, Cerreto and for Valga delle Rosce have been completed and the proposal for the safeguarding areas of the Capore source is in the completion phase. The preparation of the modelling for the delimitation of the areas of protection of the Acqua Vergine also proves to be in an advanced stage of development. A similar activity has been performed by Acea Elabori with **Acea Ato 5**, with reference to which the study has been concluded regarding the safeguarding areas for the Caporelle and Capofiume sources;
- the management activities have been carried out for the **monitoring networks**, with restitution of data and developments of the system relative to the accelerometer and tension-deformative network for the Peschiera/Capore sources, together with the water balances for the **forecast availability** of water resources;
- the **satellite monitoring of the safeguarding areas**, initiated in 2016, was continued in order to improve the control of the most vulnerable territories, in particular of the areas in the course of having their boundaries defined, which in 2017 has allowed dozens of morphological variations to be detected (new constructions, earth movements and others) and the relative checking activities to be conducted, including by means of inspections;
- with regard to the innovation of the **treatment processes for waste water**, the **evaluation of the odorigenous impacts** in relation to the Parco Leonardo, Ostia and Montagnano – Ardea installations have been completed by means of the use of a specific modelling activity;
- at the Bolzella purifier an experimental activity has been carried out, of checking in the field the automatic reagents dosing systems for the **removal of phosphorus**, by means of the real time measuring of the extent and concentration of this element, evaluating the effectiveness thereof and the cost benefits relationship with respect to traditional systems;
- at the **COBIS purifier and 10 other installations** (Fonte Tonello, S. Maria delle Mole, Cave di peperino, Valle dei Morti, La Chiusa, Carchitti, Valle Giordano, Valle Macerina and Taverna Cauzza) the new model implemented in 2016 and validated by the La Sapienza University - DICEA (Civil, Architectural and Environmental Engineering) Department has been applied, for the evaluation of the **residual capacity**;
- relative to the **sewage networks** an update of the **inflows and outflows model of the sewage basins** has been carried out, aimed at **simulating the behaviour of the urban drainage systems** in various conditions and in particular with respect to **rainfall events**; the 2017 activity was focused on the analysis of the capacity of the sewage system pertaining to the basin of the Rome East installation which takes account of possible future connections;
- in the context of the risks deriving from **cavities or chasms** categorisations of the land were carried out availing ourselves of the acquisition and development of periodic data, by means of a satellite survey service (Rheticus Displacement). The satellite data was superimposed with appropriate geological and hydrogeological cartography in a GIS (Geographic Information System) environment taking account of the location of the cave networks known to be present in the urban area of Rome and the position of the water and sewage networks;
- in the context of the research and development activities the analytical methodology was implemented in order to determine the traces of some classes of **Emerging Organic Micropollutants** and a campaign of experimental monitoring was initiated in relation to the distribution/removal in some domestic waste water purification installations.

RESEARCH AND INNOVATION IN THE ENVIRONMENT AREA

In 2017 in the Environment Area the following research and innovation activities are highlighted:

- the implementation of an **Ecobelt® WA belts system** of the Magaldi Group, for the transport of the heavy ash deriving from the combustion process of the waste-to-energy plant of San Vittore del Lazio; this application, the first of its type in the Waste to Energy Sector, allows the use of water to cool the ash to be eliminated, thereby achieving also the progressive improvement of possible operational issues in the event of accidental conditions and the recovery of energy from heat, reducing the energy consumption of the process;
- the conclusion of the study, conducted with the University of Siena, in relation to the **geochemistry of the soils and of the chemical composition of crops (maize)** in an agricultural zone in the municipality of Pitigliano (GR) concerned by the spillage of sludge from purification. The study was aimed at investigating the effects, also over the medium term, of the spillage of sludge in agriculture.



RELATIONS WITH THE ENVIRONMENT

ENVIRONMENTAL SUSTAINABILITY AND THE GREATEST CHALLENGES

The principal challenges for environmental sustainability, in the context in which Acea operates, are focused on three issues: **the climate, water resources and the circular economy**.
In so far as concerns the issue of climate change, Acea, for many years, has undertaken a course of **reducing its own climate-altering emissions**. With regard to water, the extraordinary drought which struck Italy in 2017, and in particular the summer, so scorching, have made evident the need to plan and carry out important interventions in relation to infrastructure. In relation to the circular economy Acea has already been investing for some years, pursuing the triple objective of: reducing the waste of the community, increasing the reuse of production waste and obtaining energy recovery.

The national context, with regard to the climate is the following: in February 2017, and following July, on the website of the Ministry of the Environment the **public consultation** was launched to develop the **National Plan for Adaptation to Climate Change**, that has not yet reached the final outcome, which will define the concrete planning of the national strategy of adaptation to climate change[91].

STRATEGY AND NATIONAL PLAN FOR ADAPTATION TO CLIMATE CHANGE

In Italy, the first step to confront the issue of climate change in a systematic manner was, in 2015, the definition and approval of the National Strategy for Adaptation to Climate Change (SNAC), which has identified the principal impacts of climate change on some socio-economic sectors and natural context and has proposed adaptation measures. In May 2016 the development of the **National Plan for Adaptation to Climate Change** (PNACC) was launched, to give impulse to the implementation of the SNAC. In February 2017, and in July the public consultation was launched on the website of the Ministry of the Environment. Indications were collected from the principal stakeholders regarding the perception of the impacts and the vulnerabilities in terms of adaptation and the principal actions were identified. The scheme of the Plan, edited by the Climate-Energy General Directorate of the Ministry of the Environment, is currently in the phase of being shared with the national institutions, the central government departments and the local communitys and the Plan identifies **six climatic macro-regions** and **eighteen sectors particularly vulnerable** to changes in the climate: according to the territorial area to which it belongs and the sector of reference, each user may define which actions, among those envisaged, shall be priorities, assigning a level of relevance to **nine criteria**: effectiveness, economic efficiency, existence of opportunities without elements of conflict with other public policy objectives, existence of "win-win" opportunities, robustness, flexibility, socio-institutional feasibility, multidimensionality and urgency.
The PNACC proposes to:

- identify the **priority actions in terms of adaptation** for the key sectors identified in the SNAC, specifying the timescales and the parties responsible for the implementation of the actions;
- provide indications to improve the use of possible **opportunities**;
- favour the **coordination** of actions at various levels.

Source: http://www.pdc.minambiente.it/news-ed-eventi/piano-nazionale-di-adattamento-ai-cambiamenti-climatici-consultazione-pubblica
piano-nazionale-di-adattamento-ai-cambiamenti-climatici-consultazione-pubblica

At international level, after the UN's twenty second conference on the climate, which was held at Marrakesh in 2016, in **November 2017 COP23** was held **at Bonn**, in order to discuss the technical aspects of application of the 2015 Paris Agreement. Resounding results were not achieved, but **procedures** were defined to arrive at the **revision of the commitments of States** (*National Determined Contributions*) **to cut the emissions** of greenhouse gases. The commitments made at Paris two years ago, indeed, have proven to be

[91] See http://www.minambiente.it/notizie/strategia-nazionale-di-adattamento-ai-cambiamenti-climatici-0.

insufficient to reach the objective of the said Agreement (keeping global working within 2 degrees - possibly within 1.5 degrees - of pre-industrial levels) and require to be updated. The revision shall be the objective of the next UN Conference on the climate, COP24 at Katowice, in Poland, in November 2018.
In this context, **Acea**, recognising the centrality of environmental protection and of the conflict with climate change, and in line with the Paris Agreement, **has included in its own strategy both adaptation measures to climate change and mitigation measures** (see the *Sustainability Plan 2018-2022 and the operational objectives* in the *Corporate Identity*).

MITIGATION AND ADAPTATION TO CLIMATE CHANGE

As mentioned, Acea confronts the challenges of climate change on two fronts. Firstly, the business has taken note of the disadvantages that the meteorological trend linked to climate change is determining in the Country and in the water and energy sectors in which it operates and, for example, it has become a member, together with 36 other organisations, of the **Alliance of Italian companies for water and climate change**, (see the dedicated box in *Corporate Identity* - paragraph *Strategy and Sustainability*), aimed at the commitment in: "innovative actions and instruments that we know to involve, at the end of the planning phase, various stakeholders (citizens, institutions, both public and private, associations, technicians and experts) in order to pursue the objective of making savings in use and in consumption and at the same time to reducing polluting cargoes". The Pact highlights the importance of collaboration with the institutions underlining how: "we, representatives of companies and associations, the majority of which have already for some time been committed to combating climate change and improving the management of water, support and share the commitments assumed by the Italian Government and by the international institutions at the conclusion of the COP 21 at Paris in November 2015, aimed at containing and adapting to the effects of climate change". On this topic see also the *Sustainability Plan 2018-2022*, which defines precise objectives for the Companies of the Group up until 2022.
Secondly, Acea continues to **implement a policy of containing greenhouse gas emissions** and, in particular, emissions of carbon dioxide (CO_2) and gives evidence of its commitment **by participating in the international CDP project (formerly Carbon Disclosure Project)**, considering it to be, right from its beginnings, an important stimulus, at international level, on the issue of actions to reduce/mitigate emissions.

ACEA CONFIRMS THE POSITION IN THE LEADER CLASS OF CDP

Again in 2017, confirming the excellent performance of the previous year, Acea was awarded the **score A-**. In this manner, notwithstanding the assignment of ever more challenging objectives to participating companies, Acea has guaranteed its **permanent position in the leadership class**, according to the scoring methodology of CDP, as recognition of the commitment brought into being in order to combat climate change.
The initiative, which for more than ten years has been supported by a pool of international investors, currently more than 800, with assets under management equalling 100 thousand billion dollars, analyses about 2,000 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.
The Utilities division is confirmed as the industrial sector with the best CDP evaluations.
More information can be found on the website: https://www.cdp.net.

For a number of years Acea has initiated **an investigation regarding emissions along its own supply chain**, with the objective of making suppliers aware of the issue. In 2017 **it has, therefore, afresh distributed an ad hoc questionnaire to a panel of suppliers**[92] of "goods and services" and of "works", requesting quantitative information: fuels consumed for ordinary uses and processes, energy consumed, fuels consumed for transport (see the paragraphs *Energy Consumed Outside the Group* and *Emission of Greenhouse Gases*).
Furthermore, the suppliers who intend to enrol in the Qualification Systems active in Acea are bound, as a mandatory requirement, to fill out self-evaluation questionnaires which include questions of an environmental and social type (see also the chapter *Suppliers* for the details).

Over the time frame of the last ten years, after having undertaken initiatives such as increasing the **production from renewable energy sources**, increasing the **efficiency in internal end use of energy** and **modernising the service vehicle fleet, Acea has achieved values of carbon intensity** (tCO_2/k€ of added value; gCO_2/kWh products, etc.) **among the lowest in Italy in the Utilities industry** (see the box *Acea confirms the position among CDP's Leader Class* and table no. 60 regarding the energy intensity indexes).

PROTECTION OF THE LAND

Among the principal activities of safeguarding of the land and of biodiversity in the locations in which the Group operates, there are recalled, by way of example, the **protection of the areas around the water sources and the modernisation of the electricity distribution networks**, described later. Furthermore, the Group contemplate the protection of biodiversity in the procedures of the **Environmental Management Systems**, in the context of the planning and construction of installations, as well as during the very management of the relevant areas. This applies, for example, for the planning, construction and maintenance of overhead installations in High Voltage/Medium Voltag and Low Voltage, under Areti's responsibility, and for the protection of the basins of Acea Produzione's hydroelectric power stations, which improve the living conditions of the "migratory" and "non-migratory" bird life: the aforesaid bird life, indeed, recognises these sites as points of reference for the breeding/feeding and during the phases of migration.

SOURCES AND PROTECTED AREAS

For water supplies the Group predominantly uses **sources situated in uncontaminated zones**. Rome, for example, is currently one of the few metropoles around the world which can boast of a **water**

[92] 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 for 2016, among the most relevant in terms of turnover.

resource that for the most part does not require **preliminary purifying treatment to make it drinkable**, since it is of **excellent quality** from its origin.

The supply system for the whole province of **Rome** is based principally on **eighteen large water pipelines** which transport the water derived from **92 sources** and 120 well fields, for a total development of **more than 720 km of network**[93], to which are added a further **1,176 km of conveyance network** and **9,442 km of distribution network** of drinking water, for a flow that reaches 20,000 litres/second. To supplement this asset of inestimable value the reserve constituted by the lake of Bracciano is available, used in the event of necessity, following it being transformed into drinking water with a process of sedimentation/filtration and final disinfection.

The drinking water system of the land of Ato 5 Southern Lazio – **Frosinone** is constituted by installations and networks, of conveyance and distribution, which are in charge of **7 principal sources** from which **likewise water pipeline systems** have their origin, for a total of 4,330 km; finally, the drinking water system of the province of **Benevento** also boasts a plurality of sources from which originates the water network of about 119 km of pipelines and conveyance and about 1,270 km of network of distribution.

Each year Acea places maximum attention on the **protection** and **safeguarding of water resources**, also in observance of the provisions of Legislative Decree no. 152/2006, which at art. 94 governs the arrangement for **protection of areas in which water destined for human consumption is present above and below the surface of the ground**. In tables nos. 44, 45 and 46 are described the location and surface areas in square metres of the **areas subject to absolute protection**[94] respectively in the province of Rome, in the province of Frosinone and in that of Benevento.

TABLE NO. 44 - THE PRINCIPAL SOURCES UNDER PROTECTION IN ATO 2 – CENTRAL LAZIO

sensitive area	location	surface area (m^2)
Peschiera sources	municipality of Cittaducale (Rieti, Lazio)	375,322
Le Capore sources	municipality of Frasso and Casaprota (Rieti, Lazio)	997,848
Acqua Marcia source	municipalities of Agosta-Arsoli-Marano Equo (Rome)	1,181,979
Acquoria source	municipality of Tivoli (Rome)	17,724
Acqua Felice - Pantano source	municipality of Zagarolo (Rome)	779,143
Pertuso sources	municipality of Trevi – Filettino (Lazio)	133,711
Doganella sources	municipality of Rocca Priora (Rome)	350,000
Acqua Vergine sources	municipality of Rome	500,000
Torre Angela wells	municipality of Rome	70,829
Finocchio wells	municipality of Rome	64,166
Lake of Bracciano	municipality of Rome	169,200

TABLE NO. 45 - THE PRINCIPAL SOURCES UNDER PROTECTION IN ATO 5 – SOUTHERN LAZIO

sensitive area	location	surface area (m^2) (*)
Posta Fibreno wells	municipality of Posta Fibreno (Frosinone)	20,000
Tufano wells	municipality of Anagni (Frosinone)	18,000
Capofiume source	municipality of Collepardo (Frosinone)	10,000
Madonna di Canneto source	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

(*) The surface area data is estimated.

TABLE NO. 46 - THE PRINCIPAL SOURCES UNDER PROTECTION IN THE PROVINCE OF BENEVENTO – ATO - CALORE IRPINO

sensitive area	location	surface area (m^2)
12 wells	municipalities of Benevento, Telese Terme, Castelpagano, Vitulano, Melizzano, Sant'Agata de' Goti, Cautano and Forchia	9,110
Ciesco source	Castelpoto	307

[93] During 2017 kilometres of water pipes were digitised, thus updating the estimates of past years.

[94] The areas of absolute protection are the areas immediately surrounding the catchments or off-springs, as defined in Legislative Decree no. 152/2006.

sensitive area	location	surface area (m²)
Faitillo and Orto dei Ciuffi source	San Giorgio La Molara	2,412
Gradola source	Tocco Caudio	707
Monticelli source	Castelpagano	358
Pietrafitta and Ruggiero source	Torrecuso	2,242
San Vito source	Frasso Telesino	249
Voneventa source	Molinara	516

The activities performed to safeguard the areas around the sources contribute furthermore to the protection of the ecosystemic services concerned and biodiversity as a whole. The **monitoring of the land** has been performed, for some time, also with the assistance of a **"satellite project"**. In order to make the surveillance action more efficient, this has been concentrated in the places in which there has been noted – 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. The staff of Acea Ato 2 have been invited to the site in order to ascertain the existence of real threats to the water resource, allowing a **precise and effective defence action**. In the second year of application of the new satellite control model, the **area monitored was about 200 km²** and **31 "suspect variations"** were observed, which have likewise lead to targeted inspections. This has allowed an abusive landfill to be identified in a stratum protection zone.

The protection of the natural environment by Acea takes place, as already mentioned, also **during the phase of distribution of electricity**. The company Areti, which manages this activity, attends to the **mitigation of the risk of impact to the bird life on account of the presence of high and medium voltage overhead cables**. For this purpose, the Company, in collaboration with the competent Authorities, places in the field the best technological response to the problems which can be determined in sensitive areas or areas of particular natural value (see the *Memorandum of Understanding for the Rearrangement of the Electricity Networks* in the paragraph *Energy Distribution*).

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 dedicated paragraph in *Corporate Identity*).
The Holding Company has an **Integrated Management System for Quality, Environment, Safety/Security and Energy**, as a foundation of an organisational and management model which, in synergy with the Environmental Legislation Unit of the Parent Company's Corporate and Legal Affairs Function, has the tasks of guaranteeing the environmental *compliance* and providing general guidelines for the companies of the Group, in order that their approach to the protection of the environment shall be conform to the principles expressed in the *Code of Ethics*.
The planning process, envisaged by the ISO Systems ISO 9001, 14001 and 50001, fixes, at each cycle, new **efficiency objectives** in environmental and energy management. The **control of performance indicators**, including that envisaged by the Systems and put into effect, allows the correctness of the direction undertaken to be evaluated or signals of anomalies to be identified prematurely, which can be corrected timeously, in application of the **principle of continuous improvement**, point of management strength, which leads to the reduction of costs and risks.

Each year the commitment of the operational companies to keep the system of management of environmental issues efficient is very high; notwithstanding these situation can occur, usually provoked by contingent circumstances, which generate non-conformity liable to be questioned by the **Competent Control Bodies**.
During the course of 2017 there were recorded, **in the consolidated area**, **about 300 environmental disputes**. Included in this number are both those that arose during the year, which however cannot be connected to the fines paid and those which have instead given rise to the fines paid in 2017 (about 150), **for an amount of about €326,000**.
Still with reference to the year under examination there are to be reported **two cases of criminal significance in environmental matters** which have concerned the companies Acea Ato 2 and Acea Ambiente.
Relative to the first, which sees the joint involvement of Acea Ato 2 and of its directors for the presumed hypotheses of the crime of negligent environmental pollution of the Lake of Bracciano, the process is currently still in the investigation phase. For the second episode, entailing the spillage of sludge deriving from the purification process at the Orvieto landfill site of Acea Ambiente, considering that the presumed offence **has not lead to any environmental impact**, the company has been to the oblation for the prescription of the crime.
Finally it is reported that in the month of December the composting installation of Aprilia was concerned by a measure of urgent preventive confiscation, justified by the persistent presence of odorigenous emissions.

The **environmental complaints of individual users** are not systematically monitored, except in an indirect manner. The majority of the Companies of the Group (such as for example Acea Ato 2, Acea Ato 5, Gesesa and the companies of the Environment Area), indeed, **receive reports principally from the Control Bodies or Relevant Bodies**, to which individual citizens address themselves. The Bodies, therefore, act autonomously with checks on site and, at times, they initiate proceedings and impose penalties, as mentioned above. Exceptionally, it may happen that the Company receives significant reports from individual persons; in this case they will be checked and, where opportune, it will intervene to resolve them.
For the Company which is responsible for **the distribution of energy**, furthermore, observations may be presented entailing presumed environmental harm, which, however, often conceal interests of a town planning nature linked to the reduction of value of the immoveable property assets owned which host electrical installations. Indeed, 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[95]. The issues/reports will be dealt with by the Assets Unit, which operates in defence of the corporate assets. The Assets Unit receives the notes of dispute from the owners of the immoveable properties which host the **power lines/transformer substations**, and, subsequently, the **Safety/Security Unit carries out the instrumental checks** in response to the disputes. During 2017 **5 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 (see the box *Potentially Dangerous Materials – Sustainable Management*).

POTENTIALLY DANGEROUS MATERIALS – SUSTAINABLE MANAGEMENT

Among the intrinsically dangerous materials managed with awareness and knowledge we recall:

- **sulphur hexafluoride**, present as an isolating fluid in High Voltage electric installations. The management of the gas SF_6 takes place with maximum attention to avoid losses uncontrolled emissions into the atmosphere. The use of adequate sensors and the attentive monitoring of the maintenance operations is envisaged;
- **radon**, a gas deriving from the radioactive decay of the uranium naturally present in the soil, which, in enclosed places, may reach elevated concentrations and be harmful for human health. Acea regularly monitors concentrations of it; the results of the monitoring have highlighted average concentrations always very much below the values set by law;
- **dielectric oil**, a substance used as an isolating and cooling fluid in power transformers. Since the beneficial technological characteristics, but also some environmental critical issues linked to its chemical nature as a derivative of petroleum are known, Acea initiated, already at the end of 2014, an experimentation which uses an **isolating liquid of plant origin**, with technological characteristics that are altogether similar to the mineral oil but with the advantage of being totally **biodegradable and reusable** at the end of their life. The experimentation concerns **three High Voltage/Low Voltage transformers: two with a power equal to 400 kVA and the third with a power equal to 630 kVA**. The transformers were designed and constructed for this experimentation, therefore filled with the new plant oil, and placed into use in 2015. **In 2017**, as already in 2016, **the experimentation**, which includes the monitoring of the performance of the dielectric oil of plant origin, **was pursued**, with the precautionary objective of maximizing trust in this new product reducing to the minimum the possible risks and/or defects connected with its use.

ENERGY AREA

PERIMETER OF REFERENCE

The chapter *Energy Area* includes Areti, Acea Produzione and Acea Ambiente's waste to energy plants. For the first time some of Ecogena's production data has been inserted in a table in the chapter *The use of energy and water*; it is not included in the general data of this chapter. The waste to energy activities are described in detail in the chapter *Environment Area- Waste Management*.

838 GWh
TOTAL PRODUCED ENERGY:
73% FROM RENEWABLE SOURCES
(**608** GWh)

114 TOE/ **1,000**
SAVED FROM CONVENTIONAL
SOURCE AND **360,000**
TONS OF CO_2.

FULL RECONVERSION OF THE
Tor di Valle Power Station
INTO A HIGH EFFICIENCY
COGENERATION PLANT, WITH
CONSIDERABLE ENVIRONMENTAL
BENEFITS EXPECTED

[95] The environmental legislation of reference is in this case the Prime Ministerial Decree of 8 July 2003.

The Acea Group, by means of the operations of companies which are independent of each other, as envisaged by the regulation governing the electricity market, **controls the entire electricity supply chain**. In particular the activities developed by the Group are: the **production** of electricity and heat; the **distribution** of electricity in the area of Rome, where the management of public lighting is included, and Formello; the **sale** of electricity, heat and gas.

At this historic moment the classic electricity supply chain, in Italy, which envisages that a consumer receives the supply of electricity as the result of the contribution of four distinct segments, managed by various parties – producer, grid dispatcher, distributor and vendor –, which operate a separate, albeit integrated, manner, in the value creation chain, is starting to be integrated with a new energy system in which one of the principal players is the **prosumer**. These, by their nature, at the same time, of producer and consumer of energy, are in a position to partially or totally provide their own energy needs and to sell any production surplus to the network, thus establishing new relations both with the distributor and with the party in charge of the sale/collection of energy.

Acea, as well as being engaged in almost all the segments of the supply chain, in the capacity of **producer** of electricity, **distributor** at Rome and Formello and **vendor** across the national territory, has pressed ahead with research in the **smart city** sector and requires to manage also the prosumers connected to its energy distribution network, whose flows of generation and consumption of electricity are no longer unidirectional (see also the box *"Prosumers" Connected to Acea's Network* in the chapter *Customers and Community* and the paragraph *The Commitment to Research and Innovation* in *Institutions and the Company*).

ENERGY GENERATION: FOSSIL AND RENEWABLE ENERGY SOURCES

THE GROUP'S INSTALLATIONS

Acea produces electricity predominantly thanks to **hydroelectric power plants** and also by means of **waste to energy** of **pulpers and Refuse Derived Fuel** (RDF), a primary energy source, derived from waste and in part (about 50%) **renewable**.

The generation from hydroelectric sources (renewable) and thermoelectric from fossil sources – this latter principally by means of a **new hight efficiency cogeneration plant** - is entrusted **to Acea Produzione**; the inventory of generators available to the company is comprised in detail by:

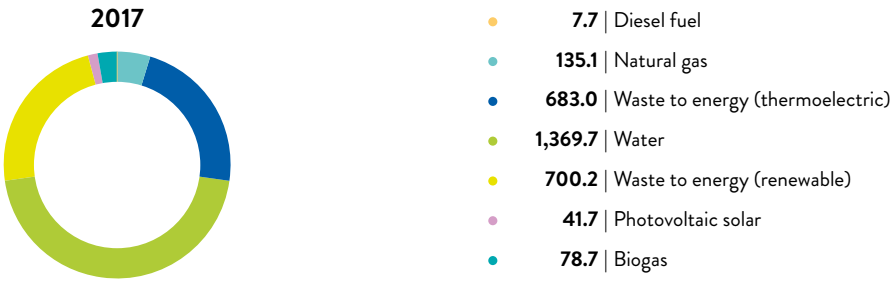
- **7 hydroelectric power stations** located in the Lazio and Abruzzo regions (**122 MW**),
- **2 thermoelectric power stations** located in the territory of the Municipality of Rome: Montemartini (78.3 MW) and Tor Di Valle (19.0 MW)[96], for **97.3 MW_e total installed power available**.

The generation from waste to energy is entrusted to the **company Acea Ambiente**, which assures it by means of **two waste to energy plants** located, respectively, at San Vittore del Lazio and at Terni. The total gross electrical power currently available is equal to about **41 MW_e**.
The installed power generation framework is completed by a small **photovoltaic farm** of about **8.5 MW_e** (see chart no. 43).

ELECTRICITY PRODUCED

The **gross total production of electricity, in 2017**, was about **838 GWh, a slight increase** with respect to the previous year (+14% compared to the 734 GWh of 2016). The increase is due to both to the use, now in place, of all three of the lines of the waste to energy power plant of San Vittore (line one was being revamped up until September 2016), and the entry into use of the high efficiency cogenerative module of Tor di Valle (from August 2017).
The share of electricity generated **by renewable sources**, about **608 GWh**, has proven to be **clearly predominant** and equal to **about 73% of the total**, with a contribution of 380 GWh from hydroelectric, 194.5 GWh from waste to energy, 22 GWh from biogas (Orvieto plant) and 12 GWh from photovoltaic (see graph no. 42 and table no. 49).
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** proves to be equal to **53%** of the total of waste to energy, while in **the Terni plant** this share proves to be around **42%**.

CHART NO. 42 – ELECTRICITY PRODUCED SUBDIVIDED BY PRIMARY ENERGY SOURCE (TJ) (2017)



NB The values reported in the chart are expressed in TJ (1 GWh=3.6TJ).

[96] The Tor Di Valle power station, historically constituted by a cogeneration plant (19.3 MW) and a combined cycle plant (126 MW), has taken the combined cycle plant out of action, whilst it has renovated the cogeneration plant. Tor Di Valle is currently constituted by a single High Efficiency Cogeneration plant.

THERMAL ENERGY PRODUCED

During the course of 2017 the project of extending the district heating network of Mezzocammino district in the zone South of Rome was pursued, which will see Acea Produzione committed for the coming years.
At the Tor di Valle thermoelectric power station about 96 GWh of thermal energy was generated, obtained with the gas turbine group in cogeneration and by means of traditional furnaces.

TABLE NO. 47 - GROSS HEAT PRODUCED BY THE TOR DI VALLE POWER STATION (2015-2017)

gross heat produced (kWh_t)	2015	2016	2017
Tor di Valle Thermoelectric Power Station	80,195,695	90,027,823	96,187,780
Gas Turbine Group in Cogeneration (January-August 2017)	*17,155,344*	*13,172,350*	*11,946,893* (*)
Auxiliary furnaces (Galleri) (January-August 2017)	*63,040,351*	*76,855,473*	*49,323,157* (*)
High Efficiency Cogeneration module (September-December 2017)	*Not stated*	*Not stated*	*34,917,430*

(*) The old plant was in production up until August 2017. The data is relative to the period January – August 2017.

The heat generated is used to serve a basin of about **39,155 inhabitants in the zone South of Rome** (Mostacciano, Torrino, Mezzo Cammino) by means of a district heating network which sever a volume equal to about 3,565,600 cubic metres.

TABLE NO. 48 – THE ELECTRIC POWER STATIONS OF ACEA PRODUZIONE

hydroelectric power stations	thermoelectric power stations
A. Volta di Castel Madama Power Station (Rome) gross power **9.4 MW**	Tor di Valle Power Station: high efficiency cogeneration section (*) (Rome) methane fuel - gross power **19.0 MW**
G. Ferraris di Mandela Power Station (Rome) gross power **8.5 MW**	Montemartini Power Station (Rome) diesel fuel - gross power **78.3 MW**
Salisano Power Station (Rieti) gross power **24.6 MW**	
G. Marconi di Orte Power Station (Viterbo) gross power **20.0 MW**	
Sant'Angelo Power Station (Chieti) gross power **58.4 MW**	
Cecchina Power Station (Rome) gross power **0.4 MW**	
Madonna del Rosario Power Station (Rome) gross power **0.4 MW**	
GENERAL TOTAL: GROSS POWER 219 MW	

(*) The High Efficiency Cogeneration Plant of Tor Di Valle provides the district heating service to the districts of Rome Torrino Sud (South), Torrino 1, Mezzocammino and Mostacciano, for a total of 39,155 inhabitants; it replaces the old cogeneration and combined cycle sections.

In November 2017, the realisation of the modernization project for the Tor di Valle Power Station was completed, which provided for the installation of two high efficiency internal combustion engines of 9.5 MW each, set up in **high efficiency cogeneration** (see the boxes for in depth information).

THE THERMOELECTRIC AND HYDROELECTRIC PLANTS UNDERGOING MODERNISATION

The electricity production system, managed by Acea Produzione, is currently constituted by a set of generation plants, with a total installed power of 227 MW, composed of five hydroelectric power stations (three of which are situated in Lazio, one in Umbria and one in Abruzzo), two "mini hydro" plants, Cecchina and Madonna del Rosario, two thermoelectric plants, Montemartini and Tor di Valle, recently the object of an important repowering completed at the end of 2017.
To this equipment shall be added the photovoltaic plants, for an installed power equal to 8.5 MW.
With regards to the district heating activity, the cogeneration module of the Tor di Valle power station has allowed heat to be supplied to the districts Torrino Sud (South) and Mostacciano (located in the zone South of Rome) for a total of 2,852 users served (251 blocks of flats and 2,601 real estate units).
The productive composition managed originates predominantly from renewable sources with a "green" production equal to 91%.

THE NEW TOR DI VALLE POWER STATION – HIGH EFFICIENCY COGENERATION PLANT (CAR)

With reference to the thermoelectric power stations, in 2017 the decommissioning of the combined cycle section of the Tor di Valle Power Station was brought to an end. In continuity with the decommissioning phase works of **reconversion into a high efficiency cogeneration plant** were initiated. In particular the reconversion of two historic plants has been brought to a conclusion, a combined cycle (CCGT- Combined Cycle Gas Turbine) and a cogeneration plant (CHP- Combined Heat and Power), **in a single high efficiency cogeneration plant**, equipped with two engines in a high efficiency cogeneration set-up, each one with electrical power of 9.5 MW, for a total of 19 MW, as well as three integration furnaces and 8 storage tanks, functional both to the supply of thermal energy to the districts of Roma in the South zone - Torrino Sud (South), Mostacciano and Mezzocammino - and to the supply of electricity to all of the electricity users of the Rome South Purifier. Among the benefits which shall be pursued there are highlighted: **the optimization of the consumptions** of fuel, the **greater yield** of the machine and the **reduction of emissions** into the atmosphere thanks to the adoption of the Best Available Technologies (BAT) which intervene in relation to the fume lines of the engines and the type of furnace burners used, as well as the system of monitoring of the emissions into the atmosphere.
After the completion of the construction of the plant, which occurred in November 2017, it was proceeded to initiate the decommissioning of the old cogeneration module constituted by an open cycle gas turbine of 19 MW of electricity, in use from the early 80's.
The **calculation of the environmental benefits**, carried out in the basis of the exercise envisaged for 2018, leads to a **reduction of 12.8% of the emissions of CO_2**, equal to a saving of about 5,500 tonnes[97].

The installed capacities, which **overall amount to about 278 MW**, are represented in chart no. 43, distinguished by energy source.

CHART NO. 43 – INSTALLED ELECTRICAL POWER OF THE GROUP SUBDIVIDED BY ENERGY SOURCE (MW) (2017)

(*) There are photovoltaic MW under the responsibility of Acea Produzione.

The activity of **modernizing Acea's Produzione's hydroelectric plants and making them more efficient** is continued: after the works performed in previous years at the Guglielmo Marconi, Salisano and Alessandro Volta power stations, in February 2017 the works of **revamping the facilities of the Alessandro Volta di Castel Madam Power Station** came to an end.

The set of works will allow, on the basis of the condition of power installed and authorised in concession, **the use of the available water resource to be optimised**. Furthermore the **works of revamping** of the facilities of the **Galileo Ferraris di Mandela Hydroelectric Power Station**, also located in the province of Rome were initiated in November.

TABLE NO. 49 - ELECTRICITY PRODUCED (BY PRIMARY ENERGY SOURCE) (2015-2017)

primary energy source	2015	2016	2017
	TJ (GWh) (*)		
ELECTRICITY PRODUCED (BY PRIMARY ENERGY SOURCE)			
diesel	6.6 (1.84)	4.3 (1.2)	7.7 (2.2)
natural gas (cogeneration)	40.3 (11.2)	32.0 (8.9)	135.2 (37.6)
waste to energy (for 2017: about 49.5% of the total)	565.6 (157.1)	562.3 (156.2)	682.9 (189.7)
thermoelectric total	**612.5 (170.1)**	**601.9 (167.2)**	**825.8 (229.4)**
hydro	1,617.1 (449.2)	1,402.8 (389.7)	1,369.7 (380.5)
waste to energy (for 2017: about 50.5% of the total)	459.3 (149.8)	613.8 (170.5)	700.2 (194.5)
biogas	-	59.8 (16.6)	78.7 (21.9)
solar photovoltaic(**)	50.0 (13.9)	39.2 (10.9)	41.7 (11.6)
renewable total	**2,126.4 (612.9)**	**2,115.7 (587.7)**	**2,190.4 (608.4)**
general total	**2,738.9 (783.0)**	**2,717.6 (754.9)**	**3,016.4 (837.9)**

(*) 1 GWh= 3.6 TJ.
(**) Photovoltaic includes the production at the plants of the water area (Acea Ato 5) and at the waste management plant of Orvieto, for a total of 2.2 GWh produced.

[97] The calculation was made determining the quantity of primary energy saved with respect to the separate production of thermal energy and electricity, using the calculation method in use to determine the energy efficiency certificates.

ENERGY DISTRIBUTION

THE DISTRIBUTION NETWORKS

DISTRIBUTION NETWORK – IN ROME AND FORMELLO: **30,900** KM

APPROXIMATELY **11,000** GWH OF ELECTRICAL POWER DEMAND ON OUR NETWORK

TERRITORIAL PROTECTION INDEX INCREASED (UNDERGROUND AT NETWORK OUT OF TOTAL AT NETWORK): **44%**

EFFICIENCY ENHANCEMENT ACTIONS ENABLED REDUCING CO_2 EMISSION BY **2,600** TONS

Areti manages the **electricity distribution network** at Roma and Formello, extending over **about 30,900 km** and capable of supplying a basin of about 2.8 million resident inhabitants. The company, by volumes of electricity required on the network, equal to about 11,000 GWh/year, is the third Italian operator of the sector. In table no. 50 the principal plant data is described with reference to the primary and secondary substations and to the overhead and underground distribution lines.
The environmental indicator correlated to the **protection of the land** and calculated as a percentage share **of the underground high voltage network** (AT) **in relation to the total of the high voltage lines in use** (overhead and underground) **has improved**. The data, monitored by year, in 2017 has again proven to be higher than the previous years, equal to **44%** (43% in 2016); that is the effect also of the **transformation and modernisation of the** high and very high voltage electricity distribution networks.

With reference to the **electric and magnetic area**, in particular relative to the primary transformer substations, High and Medium Voltage overhead electricity lines and secondary transformer cabins, 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 (the local communityal Environment Protection Agency for Lazio)[98], following specific requests by customers.

MEMORANDUM OF UNDERSTANDING FOR THE REARRANGEMENT OF THE ELECTRICITY NETWORK

In 2017 works were continued in the context of the **plan to modernise 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, **which concerned, in particular**:

- the activation of the new 150 kV "Cassia-Flaminia/O" line, of which 4.7 km in overhead line, constructed with green coloured pylons and tubular supports consistently with the requirements of the Veio Park Body, 0.91 km in overhead lines which reuse existing posts and 0.45 km in underground cables;
- the commencement of the demolition of the 150 kV Rome North-Cassia overhead line, for a total of 9.8 km and 39 supports, consequent upon the activation of the high voltage line mentioned in the preceding point;
- the completion of the demolition of the 150 kV Flaminia-Bufalotta overhead lines, for a total of 9.2 km (of which 2.9 km on piling shared with Terna) and 23 supports;
- the commencement of construction works for the new 150 kV "Rome North-San Basilio" line, relative to the stretch to be adjusted for a length of 5.5 km with green coloured pylons and tubular supports, consistently with the requirements of the Rome Nature Body.

The modernisation plan will lead to benefits of a social and environmental nature; indeed, when completed, thanks to lower overall losses of energy, both an improvement in the quality of the electricity services will be obtained and a relevant expected energy saving, **for about 58 million kilowatt hours**, which correspond to the annual consumption of about 20 thousand families.

The management of the electricity distribution network of Rome and is characterised by the **continuous improvement of the performances**, with particular attention to energy efficiency. Indeed, **various initiatives to reduce losses** are pursued, which range from the progressive replacement of the levels of medium voltage from 8.4 kV to 20 kV, to the installation of low loss transformers. The activities performed in the context of the **smart grid** which aim to **improve the performances 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 in virtue of the activities recalled, the **losses of energy across the network** during the year have transpired to be equal to **about 6.9% of the total transmitted**.

[98] 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".

TABLE NO. 50- ENVIRONMENTAL INDICATORS: AMOUNT OF INSTALLATIONS AND OVERHEAD AND UNDERGROUND DISTRIBUTION LINES (2015-2017)

Areti

systems and output	u.m.	2015	2016	2017
High Voltage/High Voltage - High Voltage/Medium Voltage primary sub-stations	no.	71	71	71
High Voltage/High Voltage and High Voltage/Medium Voltage transformers	no.	169	170	169
transformation power	MVA	7,764	7,924	7,921
sub-stations in use	no.	13,124	13,152	13,159
Medium Voltage/Medium Voltage - Medium Voltage/Low Voltage transformers	no.	12,797	12,831	12,832
transformation power	MVA	6,154	6,183	6,203
overhead and underground networks				
high voltage network - overhead lines	km	323	321	310
high voltage network - underground lines	km	239	243	243
medium voltage network - overhead lines	km	440	429	419
medium voltage network - underground lines	km	10,086	10,180	10,137
low voltage network - overhead lines	km	1,648	1,646	1,641
low voltage network - underground lines	km	17,723	17,917	18,147

ENVIRONMENT AREA - WASTE MANAGEMENT

PERIMETER OF REFERENCE

The chapter includes the activities of the waste treatment plant which occupies itself with the collection, recovery, treatment and disposal of waste, the waste to energy plants, the compost production plants, all in Acea Ambiente.

HIGH QUALITY COMPOST PRODUCTION INCREASED: **+27%** AS COMPARED TO 2016 AT THE ORVIETO, APRILIA AND MONTEROTONDO MARITTIMO PLANTS

APPROXIMATELY 12,700 kNm^3 OF BIOGAS PRODUCED AND **22 GWh** OF ENERGY PRODUCED FROM BIOGAS (AT THE ORVIETO PLANT)

384 GWh OF ENERGY PRODUCED BY WASTE INCINERATION: **+17.6%** AS COMPARED TO 2016, DUE TO THE FULL OPERATIVITY OF THE SAN VITTORE LINE 1

APPROXIMATELY **446,000 t** OF INCINERATED WASTE (INPUT) AND APPROXIMATELY **97,000 t** OF WASTE PRODUCED BY WASTE INCINERATION (OUTPUT): **22% (OUTPUT/INPUT)**

Italy, and Europe more generally, are on the eve of an ambitious relaunch of the waste management policies, towards a **greater circularity of resources**. The new and more challenging objectives proposed by the "package on the Circular Economy" will have a strong impact on the Country system as a whole. Acea has as its target contributing to these objectives.

ACEA AT ECOMONDO

The XXI edition of **Ecomondo** at the Rimini Trade Show took place from 7 to 10 November 2017. Also this event was chosen by the Group as an **occasion to disseminate the culture of socio-environmental respect** and to **present the new industrial reality of Acea Ambiente** and the industrial activities and initiatives connected to it.
In the **Acea exhibition space three seminars were held in relation to innovative technologies connected with the recovery of matter and energy** from discards and waste; in particular the general lines of an industrial project for an innovative plant destined for the thermo-chemical treatment of sludge from biological purification were presented. This plant will allow matter to be recovered from sludge, in the form of a product that is usable for subsequent industrial applications, providing an effective operational response to the so called "closure of the sludge cycle".

Acea, has chosen to return new life to the matter managing, since 2006, the waste cycle in such a manner as to recover, recycle and reuse the waste itself as much as possible and, when possible, to 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 (green from differentiated collection, industrial waste, etc.), **with recovery of material** (glass, plastic, iron, other metals, paper and cardboard) and landfill disposal of the leftovers;
- **incineration with recovery of energy;**
- **production of high quality compost** to be directed towards agriculture.

The company **Aquaser**, furthermore, controlled by Acea, collects and manages **the sludge produced from the civil waste water purification cycle**, in order that it shall be treated and disposed of as best as possible, privileging the recovery of matter and energy.
Hereinafter some operational aspects linked to the activities cited are discussed in depth, in order to highlight which are **the advanced technologies, necessary to make waste management modern and efficient**.

INTEGRATED WASTE TREATMENT AT THE ORVIETO PLANT

The company **Acea Ambiente** manages in Umbria, in the municipality of Orvieto, an important facilities pole for the treatment of urban waste. The principal activities performed are the **selection, composting and storage in landfill**, respecting the Certified Management Systems (see *Corporate Identity*, *Management Systems*), seeking to obtain **the maximum recovery of materials** and favouring both the **production of energy from renewable sources** and the **reduction of waste to be disposed of in landfill**. In 2017 the total waste entering the plant was equal to 88,273 tonnes, of which 43,601 tonnes (about 49%) was on the whole disposed of in landfill and almost all of the remainder was sent to the anaerobic digestion section. For more details see *Environmental Accounts*.
The **line** of **anaerobic** treatment of the organic matrix of the waste has allowed the **production of electricity from the biogas fuel** released in the process. In particular, in 2017, **the biogas produced from the anaerobic line** was equal to about **3.5 Mm^3**, and about **6.8 GWh of energy produced** was transferred to the electricity grid. The plant **to make efficient use of the biogas from landfill**, furthermore, has **produced about 9.2 Mm^3 of biogas** and **has transferred about 13.8 GWh of energy to the grid**.
The pole of Orvieto is also equipped with a **photovoltaic plant**, managed by Acea Produzione, which generated about 560 MWh in 2017, used to cover part of the plant's consumption of electricity. Taken as a whole, the new biogas treatment line, the plant making efficient use of the biogas from landfill and the photovoltaic plant have allowed **a transfer to the electricity grid equal to 3,870 TOE (Tonnes of Oil Equivalent)**.

WASTE TO ENERGY

The recovery of energy from waste, this also being part of the EU's package of the Circular Economy, as well as bringing advantages of an energy–economic type, allows the **notable volumetric reduction and the biological stabilization of waste** to be obtained, avoiding as far as possible the disposal of this waste in landfill as such.

Acea Ambiente manages, in addition to the activities already described, also the waste to energy process, by means of **two plants**, one at San Vittore del Lazio and the other at Terni, which operate according to the Certified Environmental Management Systems ISO 14001:2004 and have obtained the European EMAS (Eco-Management and Audit Scheme) registration; both manage the health and safety aspects according to the OHSAS (Occupational Health and Safety Assessment Series) 18001:2007 (see *Corporate Identity*, *Management Systems*).

The Plant of San Vittore del Lazio is comprised by **three independent lines** of waste to energy designed to be fed with fuel waste-derived fuel (WDF), now called Secondary Solid Fuel (SSF), with these characteristics:

- 52 MWt of thermal power installed for line 1 and 56.7 MWt of thermal power installed for each of the other two lines;
- 12 MWt of electric power installed for line 1 and 14.5 MWt of each of the other two lines;
- about 400,000 t/year of SSF as total capacity processed under the regime[99].

2017 was the first full year of **activity for line 1 after the revamping** (it entered into use on 30.09.2016); the **effective electrical power available is currently 41 MW**, with which about **300 GWh** of electricity has been produced. In 2017 energy from waste has been generated from about **345,600 tonnes of waste**.
The plant of San Vittore performs a significant role in the management of the urban waste of the local community of Lazio, both for the particularly advanced technologies, used for its construction, and for the considerable processing potentiality which it possesses.

[99] In May 2017 the plant was authorised to use the 3 lines of combustion up to a total processing capacity of 397,200 t/year.

TABLE NO. 51 – THE WASTE TO ENERGY PLANT OF SAN VITTORE DEL LAZIO: OPERATING DATA (2015-2017)

	u.m.	2015	2016	2017
fuel converted from waste to energy	t	239,871	281,917	345,639
gross electricity produced	GWh	225.35	243.68	301.15
conversion efficiency (*)	kWh/kg SSF	0.94	0.86	0.87

(*) Relationship between gross electricity produced (GWh) and quantity of SSF converted from waste to energy (t).

NEW CONVEYOR BELTS AT SAN VITTORE

Thanks to the collaboration between Acea and the Magaldi Group, the waste to energy plant of San Vittore del Lazio (Frosinone) has implemented - the **first application of its type in Waste to Energy** (WtE) - an **innovative system for transporting the heavy ash** deriving from the combustion of SSF (Secondary Solid Fuel). The plant application created, which is characterised in the Ecobelt® WA system, comprises two conveyor belts, each with an wheelbase of about 16 metres, replacing the two conveyor chains immersed in a bath of water, in use during the last 6 years. The installation of the Ecobelt® WA system at the plant of San Vittore **has made the use of water superfluous** to cool the heavy ash – water which is therefore now saved – and continues the progressive improvement of operational issues which could have occurred in particular conditions of use of the previous system; furthermore, at the same time the efficiency of the furnace, with the **recovery of energy** from the heat of the heavy ash, and the **reduction of the consumption of electricity** for the operation of the conveyors themselves.

The plant of Terni is comprised of a **single waste to energy line** and has the following characteristics:

- 52 MW_t of thermal power installed;
- 12.33 MW_t of electrical power installed;
- 100,000 t/year of discards from the pulper (discards from the paper mill, deriving from the "pulping" of the waste paper), as total processed capacity.

TABLE NO. 52 – THE WASTE TO ENERGY PLANT OF TERNI: OPERATING DATA (2015-2017)

	u.m.	2015	2016	2017
pulper waste converted to energy	t	99,892	99,768	99,970
gross energy produced	GWh	81.52	83.07	83.10
conversion efficiency (*)	kWh/kg pulper	0.82	0.83	0.83

(*) 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 2017 has generated about 403 MWh of electricity, in part consumed on site and in part transferred to the grid.
For the data regarding the emissions of the waste to energy plants see the chapter *Air emissions*.

HIGH QUALITY COMPOST PRODUCTION

The scope of the activities managed by Acea Ambiente includes also the sector of services which are complementary to the integrated water cycle, with **the recovery and disposal of sludge from biological purification** and of waste deriving from the purification of water.
The **sludge from purification** and the **organic fraction of municipal solid waste (MSW)** are treated by three plants which produce **compost** and are to be found, respectively, at Aprilia and Sabaudia (both in the province of Latina) and at Monterotondo Marittimo (in the province of Grosseto).
In 2017 **Aquaser**, which performs the activity of **transporting and disposal of sludge** from biological purification and waste deriving from the purification of water, of treatment of waste water and liquid waste, **managed**, inter alia, about 163,400 t of sludge from purification coming from the water companies of the Group, of which 117,300 tonnes of sludge from Acea Ato 5 and Acea Ato 2.
The dried out and dehydrated slurry coming from the companies of the Group[100] has followed the following end destinations:

- 76% to material recovery operations (pretreatments aimed at agricultural use - conditioning, composting);
- 7% to recovery of energy (waste to energy).

The remaining 17% has been disposed of. The direct spillage has not been used in agriculture.

In line with a perspective of **sustainable growth**, and in order to act to **combat clime change**, the Environment industrial area has set itself the objective of **transforming the two composting plants** of Aprilia and Sabaudia **into integrated composting and anaerobic digestion plants**, in such a manner as to be able to use the biogas produced and generate energy from renewable sources. At Aprilia the phase of creating the aforesaid plant has been reached[101] and it is hoped to end the works and place the plant into use by 2019.

[100] The sludge of which Aquaser has managed the entire supply chain, from loading to transporting and final disposal have come from the following companies of the Group: Acea Ato 2, Acea Ato 5, Acquedotto del Fiora, Umbra Acque and Publiacqua.

[101] The creation of the first of three lots into which the extension of the site has been subdivided was completed in 2017.

WATER AREA

SCOPE OF REFERENCE

The scope of reference includes the companies Acea Ato 2, Acea Ato 5 and Gesesa.
Acque, Gori, Acquedotto del Fiora, 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 area of reporting of 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*.

384 Mm³ OF POTABLE WATER SUPPLIED BY ACEA ATO 2, ACEA ATO 5 AND GESESA

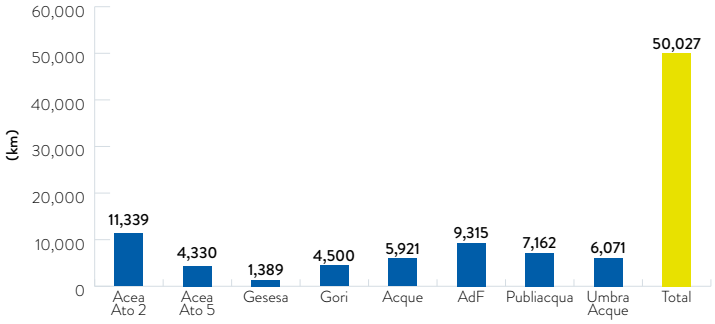
HISTORICAL ROME NETWORK: ACTUAL LEAKS DROPPED BY **41%**

MORE THAN **17,000 km** OF POTABLE WATER NETWORK MANAGED BY ACEA ATO 2, ACEA ATO 5 AND GESESA

MORE THAN **409,300** ANALYTIC CALCULATIONS ON DRINKING WATER (ACEA ATO 2, ACEA ATO 5 AND GESESA)

The **management of the water resource** in all the phases envisaged by the **integrated water service** is one of the Group's **core companies**. Work is carried out with increasing focus on the conservation of water and preserving its quality, which is expressed, for example, in the work to recover losses (see the dedicated box in the paragraph on *Sustainable management of the Water Resource*), in the aforementioned **protection of the sources** (*Protection of the land* paragraph) and possible search for new sources and also in an increasingly accurate **monitoring** of water consumption, with the aim of containing it.
The **total** pool of users served in Italy **by the Group**[102] is about 8.9 million inhabitants, with **volumes of drinking water fed** into the network in 2017 equal to about **1,264 million cubic metres (in 2017)**. The volumes of **drinking water introduced by Acea Ato 2, Acea Ato 5 and Gesesa** amounted to 735 million cubic metres, with a total supply of 384 million cubic metres for **4.6 million inhabitants** served. For specific data on the three companies, see the *Environmental Accounts*.
In **Ato 2-Lazio centrale** alone, comprising the city of Rome and 111 other municipalities - of which 79[103] under management at 31 December 2017 - the **volume of water fed into the network** serving the approximately 4 million inhabitants, was approximately **630 million cubic metres** (of which 477 million cubic metres in the "historical network" of Rome and Fiumicino).[104]

CHART NO. 44 – THE WATER DISTRIBUTION NETWORK OF THE GROUP IN ITALY (2017)



NB The network kilometres include the water systems.

WATER QUALITY

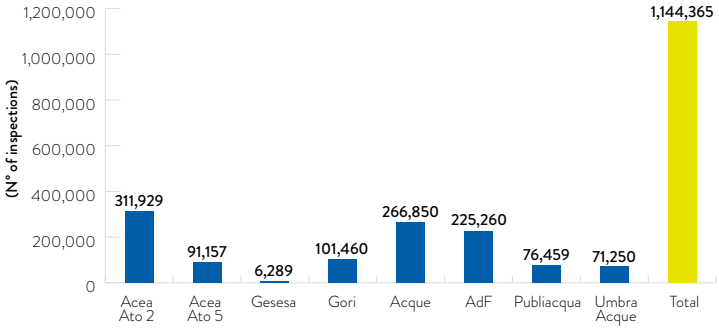
The **checks on the quality of the drinking water** supplied and of effluent returned to the environment, after the process of purification, are performed in a programmed manner by the companies of the water industrial area. The **analyses** on the **drinking water** distributed to users play an **essential role** for the resulting health spin-offs. A summary of the work carried out in this area, by all the water companies, is shown in chart no. 45.

[102] 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.

[103] In 17 other municipalities the integrated water service was managed partially.

[104] The items of the water balance of the past three years were calculated using the calculation criteria supplied by ARERA (formerly AEEGSI).

CHART NO. 45 - ANALYTICAL CHECKS ON DRINKING WATER, TOTAL AND PER COMPANY (2017)



In **Rome**, the water supplied for drinking use comes mainly from **uncontaminated sources**. The quality features of the resource collected and distributed are monitored through **continuous investigations**, with instruments located along the water systems and through daily sampling at the collectors and in the distribution network. In **the Lazio area**, in **territories of volcanic origin**, there are areas 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 performed, over the years, **a number of initiatives aimed at solving these problems**. In particular it built **38 purification (drinking water) plants** able to remove the unwanted substances and returning their values of concentration well below the legal limits.
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.
A total of **approximately 312,000 analyses** were carried out in Ato 2 during 2017, in addition to those performed by the Health Authority.

The analytical checks on the water and the relative measurements are performed both by companies in the Group independently and **via laboratories**. The subsidiary **Acea Elabori, accredited pursuant to the ISO/IEC 17025 standard, performs and certifies chemical and physical and bacteriological analyses** in different substrates, including water (see Table no. 53 for the analyses performed for Acea Ato 2 and Acea Ato 5). Gesesa instead uses two outside laboratories (see the *Environmental Accounts* or the Gesesa data and also for the aggregate data).

TABLE NO. 53 - ENVIRONMENTAL INDICATORS: ANALYSES IN ROME AND FROSINONE (2015-2017) AND QUALITY PARAMETERS OF THE DRINKING WATER DISTRIBUTED TO ROME, FROSINONE AND BENEVENTO (2017)

ANALYSES PERFORMED BY ACEA ELABORI - ATO 2-CENTRAL LAZIO AND ATO 5-SOUTHERN LAZIO (2015-2017)

type of water analysed	no. of analyses		
	2015	2016	2017
drinking water Acea Ato 2	320,946	347,886	311,929
drinking water Acea Ato 5	80,440	85,642	91,157
effluent Acea Ato 2	155,355	145,553	199,979
effluent Acea Ato 5	-	-	8,800
surface water Acea Ato 2	40,562	36,922	31,924
total	**597,303**	**616,003**	**643,789**

ANALYSES PERFORMED BY ACEA ELABORI ON DRINKING WATER - ROME HISTORICAL NETWORK (2015-2017)

sampling area	no. of sampling points	no. of samples			no. of analyses		
	2017	2015	2016	2017	2015	2016	2017
collection	45	602	469	423	22,556	21,085	21,636
water system and water feed pipes	26	310	158	183	9,411	6,051	6,599
tanks/water centres	21	274	248	119	10,471	8,974	4,988
distribution networks	320	3,965	4,208	3,381	137,053	135,943	109,838
total	**412**	**5,151**	**5,083**	**4,106**	**179,491**	**173,702**	**143,061**

AVERAGE CHEMICAL AND MICROBIOLOGICAL PROPERTIES OF THE DRINKING WATER DISTRIBUTED AT ROME, THE MUNICIPALITIES OF ACEA ATO 5 AND BENEVENTO (2017)

parameters	unit of measurement	average value Rome	average value Acea Ato 5 municipalities	average value Gesesa (Pezzapiana site)	legal parametric value (Legislative Decree no. 31/01)
turbidity	NTU	<0.5	1.1	0.99	no anomalous changes
temperature	°C	12.7	13.5	exempted (*)	n.a.
hydrogen ions concentration	pH unit	7.5	7.6	7.5	>6.5 and <9.5
electrical conductivity	µS/cm at 20°C	577	482	870	<2,500
chlorides	mg/L Cl	9.2	7.9	45	<250
sulfates	mg/L SO_4	17.6	9.1	63.4	<250
calcium	mg/L Ca	97.6	85	exempted (*)	n.a.
magnesium	mg/L Mg	19.0	14.8	exempted (*)	n.a.
sodium	mg/L Na	7.96	6.0	31.0	<200
potassium	mg/L K	5.2	2.1	exempted (*)	n.a.
hardness	°F	32.2	27.0	35.6	(**)
free residual chlorine	mg/L Cl_2	0.14	0.18	0.15	(***)
alkalinity	mg/L $CaCO_3$	328	285	exempted (*)	n.a.
calculated fixed residue	mg/L	412	420	635	(****)
nitrates	mg/L NO_3	4.30	5.2	34.4	<50
nitrites	mg/L NO_2	<0.05	0.3	<0.01	<0.50
ammonia	mg/L NH_4	<0.10	0.3	exempted	<0.50
fluorides	mg/L F	0.22	0.17	0.5	<1.50
bicarbonates	mg/L HCO_3	400	347	exempted (*)	n.a.
total organic carbon	mg/L C	0.63	0.63	exempted (*)	no anomalous changes
iron	µg/L Fe	11.7	34.0	<20	<200
copper	mg/L Cu	0.002	0.00	<0.005	<1.0
lead	µg/L Pb	0.45	0.5	<5.0	<10
cadmium	µg/L Cd	<0.2	0.5	<2.0	<5.0
chromium	µg/L Cr	<5.0	<5.0	<5.0	<50
nickel	µg/L Ni	<2.0	3.2	<5.0	<20
manganese	µg/L Mn	0.54	3.6	<5.0	<50
arsenic	µg/L As	1.61	5.0	exempted (*)	<10
vanadium	µg/L V	3.21	3.5	<5.0	<140
total trihalomethanes	µg/L	1.72	2.6	<1.0	<30
trichloroethylene	µg/L	<0.10	<0.10	<1.0	<10
tetrachloroethylene	µg/L	<0.10	<0.14	<1.0	<10
1.2 - dichlorethane	µg/L	<0.30	<0.30	<0.1	<3.0
benzene	µg/L	<0.10	<0.10	exempted (*)	<1.0
benzo(a)pyrene	µg/L	<0.003	<0.004	exempted (*)	<0.010
coliform bacteria at 37°C	MPN/100 ml	0	0	0	0
Escherichia coli	MPN/100 ml	0	0	0	0
Enterococci	CFU/100 ml	0	0	0	0

(*) In accordance with Legislative Decree no. 31/01 and in agreement with the health authority, Gesesa is exempted from supplying the parameter.

(**) Recommended values: 15-50 °F - the lower limit applies to water subjected to softening or desalination treatment.

(***) Recommended value 0.2 mg/l.

(****) Maximum value recommended: 1,500 mg/l.

SEWERAGE SERVICE AND TREATMENT SYSTEM

APPROXIMATELY **118,900 t** OF SLUDGE PRODUCED BY ACEA ATO 2, ACEA ATO 5 AND GESESA, **75%** OF WHICH WAS RECOVERED

APPROXIMATELY **9,300 km** KM OF SEWAGE SYSTEM MANAGED AND **319** PURIFICATION PLANTS (ACEA ATO 2, ACEA ATO 5 AND GESESA)

ROMA EST PURIFICATION PLANT: PRODUCED SLUDGE DROPPED BY MORE THAN **76%**

The integrated water service (IWS) includes management of the **sewer and purification 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).

The water in output from the plants, after having undergone the purification treatments described, **has chemical and biological properties compatible with the life of the receiver body of water** and in accordance with the values of the parameters which must not be exceeded in order to guarantee full compatibility, as governed by Legislative Decree no. 152/2006, in its third part.

Thanks to **approximately 850 purification plants** (of which a total of **319** managed by Acea Ato 2, Acea Ato 5 and Gesesa), **the total volumes of water treated by the Group**[105] were, in **2017, approximately 815 million cubic metres**.

The sewers managed are equal to approximately **25,200 km**.

CHART NO. 46 – SEWER NETWORKS OF THE GROUP IN ITALY (2017)

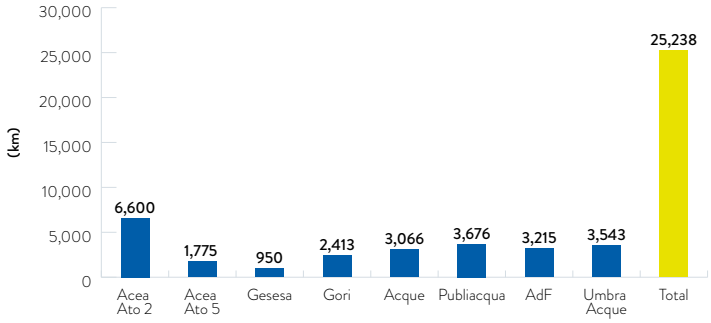
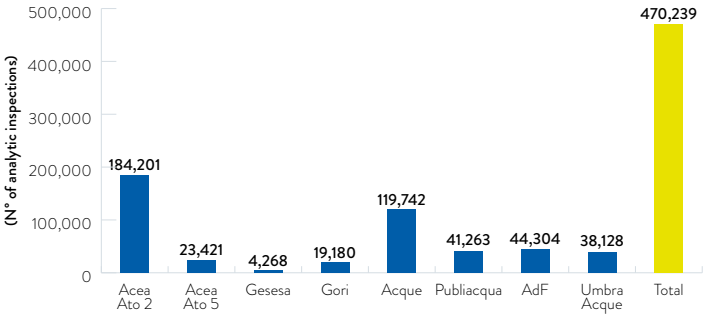


CHART NO. 47 - ANALYTICAL CHECKS ON EFFLUENT, TOTAL AND PER COMPANY (2017)



For the companies operating in the Lazio area and partly in the province of Benevento, the percentage coverage of the sewer and purification services, out of the total users served by the water service, and the volumes of effluent treated are given in Tables nos. 54 and 55.

In particular, for **Acea Ato 2**, the good abatement performances achieved in the purification process, which allowed approximately 550 million cubic metres of sewage to be made compatible with the receiver ecosystem, were confirmed by the over **184,000 calculations** performed **on the water treated** before discharge. A **positive result** was in fact confirmed, i.e. values of the concentrations of the contaminants below legal limits, **in 93% of cases**, moreover in an environmental situation which foresees the observance of some of the strictest regulations in Italy.

[105] In this case too the data relating to the number of purification plants, to the volumes treated, the size of the networks and the checks refer to all the companies in the Group operating in the water sector.

TABLE NO. 54 - PERCENTAGE COVERAGE OF THE SEWER AND PURIFICATION SERVICES OVER THE TOTAL UTILITIES OF THE WATER COMPANIES OPERATING IN LAZIO AND AT BENEVENTO (2015-2017)

company	2015		2016		2017	
	sewer	purification	sewer	purification	sewer	purification
Acea Ato 2	88.5%	84.9%	91.9%	88.7%	91.7%	88.0%
Acea Ato 5	66.5%	54.6%	64.0%	52.5%	67.7%	56.5%
Gesesa	81.0%	25.4%	81.1%	26.2%	81.2%	26.1%

TABLE NO. 55 - VOLUMES OF EFFLUENT TREATED BY WATER COMPANIES OPERATING IN LAZIO AND AT BENEVENTO (2015-2017) (Mm^3)

company	2015	2016	2017
Acea Ato 2	623.1	595.2	553.6
Acea Ato 5	27.0	26.7	21.1
Gesesa (*)	-	-	-

(*) For the time being there are no flow meters at the entry of the purification plants managed by Gesesa. The company intends installing them over the next two years.

In the "historic" area managed by Acea Ato 2, which includes Rome and Fiumicino, the **main purification plants treated in 2017 approximately 467 million of cubic metres of effluent**, a figure showing a downturn (514 million cubic metres of effluent treated in 2016). Considering also the smaller purifiers and the plants of the municipalities acquired in Ato 2 (a total of 170) a **total volume of approximately 554 million cubic metres of effluent treated is obtained**, a decrease of 7% compared to 2016. The cause of this reduction depends substantially on the particularly dry year, since part of the rainwater also flows into the Rome drains system.

The detail of the main output parameters of the purifiers of Acea Ato 2 and of Acea Ato 5 is given no. 37 - Social indicators: staff movements (2016-2017) in Tables nos. 56 and 57.
Other indicators of the efficiency of purification are described in the section *Key environmental performance indicators - Water Area* of the *Environmental Accounts*.
Gesesa, considerably smaller in size than the other two companies, has in any case programmed an investments plan which includes the installation of meters of flow entering the purification plants in the next two years.

TABLE NO. 56 - OUTPUT PARAMETERS OF THE MAIN PURIFIERS MANAGED BY ACEA ATO 2 SPA – MUNICIPALITY OF ROME (2017)

	Roma Sud purifier	Roma Nord purifier	Roma Est (*) purifier	Ostia purifier	limits of concentration in surface water (Legislative Decree no. 152/06)
parameter			average of values (mg/L)		
BOD_5	14	6	14	3	≤ 25
COD	49	15	43	18	≤ 125
TSS	18	9	20	5	≤ 35
nitrogen (ammoniacal, nitric and nitrous)	8	7	13	8	-
phosphorus	1	1	2	1	-
			quantities removed (t)		
COD	13,534	1,128	3,584	368	-
TSS	5,035	682	1,672	111	-

(*) The data of the Roma Est purifier are in part influenced by the various maintenance works carried out at the plant during the year.

TABLE NO. 57 - OUTPUT PARAMETERS OF THE MAIN PURIFIERS MANAGED BY ACEA ATO 5 SPA – MUNICIPALITY OF FROSINONE (2017)

parameter	average of values (mg/L)	limits of concentration in surface water (Legislative Decree no. 152/06)
BOD_5	7.8	≤ 25
COD	44.7	≤ 125
TSS	13.1	≤ 35
NH_4^+	2.5	-
phosphorus	1.1	-
	quantities removed (t)	
COD	1,930	
TSS	780	

The sludge produced during the purification process **is mostly** sent for recovery of material (see in *Environment Area*, the paragraph *High quality compost production*). In 2017 the **anaerobic digester** of the Roma Est purifier, managed by Acea Ato 2, worked in continuous mode. This led to a **reduction of over 76% in the production of sludge** (see the box with further details).

THE ROMA EST PURIFIER AND THE ANAEROBIC DIGESTER ON THE SLUDGE LINE

The Roma Est purification plant is located on the left bank of the Aniene river, near Via Tiburtina, and collects the sewage from the densely populated areas of **Tiburtina, Casilina and Tuscolana**. It is **able to treat over 90 million m³/year of sewage**, equal to the purification requirement of over 900,000 equivalent inhabitants.

Like every urban effluent treatment plant, the Roma Est purifier, one of the largest among those managed by Acea Ato 2, operates according to an industrial process divided into two parts in design terms - the "water line" and the "sludge line". The latter underwent **major technological upgrading work** which involved its radical reconstruction.

The **"water line"** starts from the inlet point of the sewage into the plant and continues in the various purification compartments where the gradual removal of typical pollutants takes place, such as coarse solids, sand, oils and fats, suspended solids and finally dissolved solids. The result of this complex process is the production of purified water together with large quantities of semi-liquid waste, i.e. the sludge, made up of a mix of solid substances, with approximately 3% water. They are constantly removed from the "water line" and treated in the appropriate **"sludge line"**, where it is aimed to **reduce their quantity to a maximum** for financial and social and environmental reasons. The aim is achieved through two operations performed in sequence:

- **anaerobic digestion**, that is the gasification of a large part of the organic substances present in the sludge, thanks to the action of anaerobic bacteria in controlled conditions of acidity (pH > 6.5) and temperature (32°C<T<38°C), without air. In the time span of a few weeks the organic matter undergoes extreme decomposition which transforms it into biogas (60-70% methane, 25-30% carbon dioxide);
- the **subsequent dehydration**, first through centrifuging of the digested sludge (a product is obtained of which 25% is made up of solid substance and 75% water), then through evaporation by heating in appropriate **drying** ovens, until obtaining a material similar to soil which has a residual water content of around 20%.

The results achieved were considerable, with a **reduction in the production of sludge of over 76%** with respect to the preceding plant set-up, without anaerobic digestion and without final drying. There was a drop **from approximately 30,000 t/year of sludge** produced **to the current approximate 7,000 t/year**, with considerable advantages in environmental and economic terms;

- **reduction in transport** for final transport with consequent reduction in relative impact;
- fewer hygiene problems during movement of the sludge, thanks to its stabilisation;
- almost total **zeroing of the odour-causing emissions**.

As regards **the biogas** produced in the anaerobic digester, it is accumulated in large tanks which can contain 7,000 m³ of it, to be subsequently purified and then **used as fuel** in a boiler to produce the heat necessary to maintain the process of anaerobic digestion at the proper working temperature (approximately 35°C).

In the case of over-production compared to the plant needs, the biogas surplus is currently burnt in a flare and therefore a project is being studied, at Acea Elabori, to reduce to a maximum the imbalances between production of biogas and its beneficial uses.

THE USE OF ENERGY AND WATER

ENERGY EFFICIENCY ENHANCEMENT: APPROXIMATELY **7.1 GWh** OF SAVING/YEAR AND A **2,600 t** CO_2 EMISSION DROP IN ARETI WHEREAS APPROXIMATELY **2.3 GWh** OF SAVING/YEAR AND AN **800 t** CO_2 EMISSION DROP WAS OBSERVED IN ACEA ATO 2

APPROXIMATELY **475,000 GWh of electrical consumption** OF THE GROUP'S MEMBER COMPANIES FROM G.O. CERTIFIED **renewable energy**

MAJOR **leak detection campaign: 5,400 km** OF THE WATER DISTRIBUTION NETWORK ANALYSED IN ROME

ENERGY CONSUMPTION

ENERGY CONSUMPTION OF THE GROUP

The **direct energy consumption** of the main companies in the Group, which involves **the use of primary sources for the functioning of the production system, including consumption for the generation** of electrical and thermal energy (Table no. 58), and the **indirect energy consumption, which includes the losses** occurring in Rome's electricity distribution network and can be attributed to the phases of transformation and transport (Table no. 59), are illustrated below.

The **total consumption** of energy, **direct and indirect**, amounts to **approximately 11,975 TJ** (in 2016 equal to approximately 10,747 TJ). The increase is due **to the increase in direct consumption**, in particular in the Waste to Energy compartment. In 2017, in fact, line 1 of the San Vittore waste-to-energy plant was operational for 12 months while, in 2016, while still undergoing revamping, it was in action for only four months. The increase is in line with the increase in the production of energy by the same waste-to-energy plant (Table no. 58).

The **indirect** consumption, on the contrary, had a **slight decrease**, thanks above all to the lower consumption of public lighting due to the numerous replacements of traditional lamps with LED systems.

It should also be pointed out that, during the year, **the electricity consumption of the main companies**, and 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 475,000 GWh, was certified as coming from renewable sources** (certification by means of the Guarantees of Origin - GOs) (Table no. 59).

The trends in the **indices of energy consumption intensity** are given in Table no. 60.

TABLE NO. 58 - DIRECT ENERGY CONSUMPTION OF THE MAIN COMPANIES IN THE GROUP (2015-2017)

	2015	2016	2017
ENERGY PER SOURCE		TJ (GWh)	
RDF/SSF and pulper (waste to energy)	2,766.8	3,198.9	3,638.2
- renewable share	(768.6)	(888.6)	(1,010.6)
biogas (100% renewable)	-	169.9	207.2
		(47.2)	(57.6)
RDF/SSF and pulper (waste to energy)	2,879.7	2,952.8	3,584.5
- non-renewable share	(799.9)	(820.2)	(995.7)
methane (for electricity generation, district heating,	577.5	566.2	732.0
water area dryers and heating for offices)	(160.4)	(157.3)	(203.3)
fuel oil	40.6	34.5	48.2
(for electricity generation and for heating offices)	(11.3)	(9.6)	(13.4)
petrol	9.1	4.9	2.9
(road haulage) (*)	(2.5)	(1.4)	(0.8)
diesel	42.8	61.6	97.2
(road haulage) (*)	(11.9)	(17.1)	(27.0)
LPG	0.8	0.8	0.8
(heating)	(0.2)	(0.2)	(0.2)
total	**6,317.4**	**6,989.6**	**8,311.0**
	(1,754.8)	**(1,941.6)**	**(2,308.6)**

(*) The 2017 road haulage data include Aquaser data not included in the years 2015-2016.

NB The energy produced by the Group plants and fed into the network is illustrated in the *Environmental Accounts* (Products - Energy Area). Approximately 12.5 GWh of energy produced by the Tor di Valle plant and consumed by the Roma Sud purifier from August 2017 should be subtracted (see *The New Tor di Valle Plant box*).

TABLE NO. 59 - INDIRECT ENERGY CONSUMPTION OF THE MAIN COMPANIES IN THE GROUP (2015-2017)

	2015	2016	2017
ENERGY PER SOURCE		TJ (GWh)	
electrical energy losses on the distribution networks and transport	1,341.8 (373.0)	1,283.8 (356.6)	1,244.9 (345.8)
losses and self-consumption in the production of electrical energy	198.0 (55.0)	200.0 (55.5)	221.6 (61.6)
losses of heat in the district heating network	28.8 (8.0)	86.4 (24.0)	72.5 (20.1)
consumption for public lighting	602.4 (167.3)	604.3 (167.8)	416.3 (115.6)
electrical consumption for waste management plants (*)	7.9 (2.2)	19.8 (5.5)	27.5 (7.7)
electricity consumption for distribution of drinking and non-drinking water (*)	797.4 (221.5)	846.0 (235.0)	1,001.7 (278.3)
electricity consumption for effluent purification (*) (**)	695.5 (193.2)	681.8 (189.4)	643.7 (178.8)
consumption of electrical energy for the offices (*)	36.7 (10.2)	35.6 (9.9)	36.1 (10.0)
total indirect energy consumption	**3,708.5 (1,030.4)**	**3,757.7 (1,043.8)**	**3,664.3 (1,017.9)**

(*) GO (Guarantee of Origin) certified energy

(**) Following adjustments, the 2015 and 2016 data were rectified.The 2017 item of data decreased due to various maintenance works at the Roma Est and Roma Sud purification plants of Acea Ato 2.

TABLE NO. 60 ENERGY INTENSITY INDICES (2015-2017)

ENERGY CONSUMPTION INTENSITY INDEX	u.m.	2015	2016	2017
electrical energy consumed for public lighting per lamp	TJ/lamp	0.0027	0.0027	0.0019
total electrical energy consumed by Acea Ato 2, Acea Ato 5 and Gesesa for water supplied (*)	TJ/Mm^3	3.8300	3.9005	4.2898
electrical energy consumed by Acea Ato 2, Acea Ato 5 and Gesesa for sewer service per km of sewer network	TJ/km	0.0204	0.0193	0.0163

(*) The trend in the increase in the consumption of electrical energy for water supplied depends mainly on an increase in energy consumption due to another very dry year.

ENERGY CONSUMPTION OUTSIDE OF THE GROUP

In 2015 Acea launched monitoring via specific questionnaires of the **energy consumption outside of the Group**, along the supply chain. In December 2017 the questionnaire was sent to around one hundred suppliers, the most representative in relation to the orders value for the year. Thanks to the results from 55 of those contacted (equal to 16% of the total Acea expenditure for the procurement of goods/services and works), their total energy consumption was estimated at approximately 273,349 GN[106].

ENERGY SAVING

In 2017 **Ecogena** retained the quality certification of ESCo (energy services company) pursuant to the standard UNI CEI 11352. It is therefore suitable for developing **initiatives of energy efficiency of the companies in the Group** and to report on the results to the Energy Services Operator (ESO) for **the obtaining of the energy efficiency titles** (EET).

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 2017 cogeneration plants were managed**, combined with **district heating networks for a total of 6.6 MW of electrical power**[108].
Total energy productions are in line with the previous year.
As is customary, the company applied for and obtained, also for 2017, the HEC (high-efficiency cogeneration) nomenclature for all the plants managed, achieving also issue of the EETs relating to 2016.
At **31.12.2017** the plants managed by Ecogena received **5,324 EETs** pursuant to Ministerial Decree of 5 September 2011.
In order to achieve the aim of energy saving, as regards Areti, actions concentrated on acquiring EETs on the market managed

[106] In 2016 it was possible to consider a more restricted scope (30 suppliers) for an estimate of consumption equal to 225,245 GN.

[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.

[108] The 6.6 MW includes 1 MW relating to management of the Prepo power plant, in the municipality of Perugia, not owned by Ecogena.

by the electricity market authority (EMA). The residual obligation relating to 2017 is equal to **109,418 EETs** with respect to the initial 111,460 EETs, to which the residual part of the 2016 obligation, equal to **97,169 EETs**, should be added. In November 2017 the residual relating to 2015, equal to 80,088 EETs, was annulled.
Finally it is pointed out that, during the year, Ecogena signed with Acea an Energy Performance Contract for the lighting efficiency project for the Piazzale Ostiense location.

TABLE N. 61 – ENERGY EFFICIENCY TITLES AND THE PRODUCTION OF ENERGY BY ECOGENA PLANTS (2015-2017)

	2015	2016	2017
ENERGY PRODUCED		TJ (GWh)	
electrical energy	61.6 (17.1)	64.8 (18.0)	60.8 (16.9)
thermal energy	66.2 (18.4)	77.0 (21.4)	83.2 (23.1)
cooling energy	3.2 (0.9)	14.8 (4.1)	14.8 (4.1)
EET		unit	
	1,170	1,203	1,039

ENERGY EFFICIENCY ACTIONS

Acea, during the year in question, carried out various schemes for the **recovery of energy efficiency in the processes managed**, in particular in the **companies in the water, energy infrastructure and environment areas**.
For the **water area**[109], despite the increase in consumption in absolute value (+5.6% compared to 2016), due to the improvement in the purification capacities of the systems managed and, above all, to dry weather conditions, which entailed the **use of standby pumping plants**, essential for integrated the gravity flow, with consequent worsening in energy consumption, **the companies improved, where possible, their own specific energy efficiency**.
In **Acea Ato 5** the increase in consumption, as mentioned, is to be correlated to the so-called "water crisis". We only have to consider that in the territory served the average rainfall in 2017 decreased by 51% compared to 2014-2015 and by 43% compared to 2016. In this situation some water systems, traditionally fed by gravity, are now fed from wells and energy has to be used in order to be able to feed the water resource into the distribution networks (for example in the Settefrati-Canneto and Anagni-Tufano systems). The lack of water also entails a lowering of the water levels for the systems fed ordinarily from wells, making pumping more difficult with a temporary functioning of the pumps "off the performance curve" and consequent lowering of the specific curve.
From the specific efficiency viewpoint, **Acea Ato 2** obtained in 2017 **energy savings for approximately 8.3 TJ/year**, compared to 2016, (with a saving of approximately 800 tonnes of emissions of CO_2), thanks to optimisation of **management of the pressures** (in the Eur, Montemario and Spinaceto water centres), associated with an achieved efficiency of approximately 0.7 TJ, recovery of water losses, associated with an estimated efficiency of approximately 7.2 TJ and the installation of lighting with LED on the outside yards (Torrenova, Casilino, Ottavia, Ostia, Eur) associated with an estimated efficiency of approximately 0.4 TJ.
Consumption by **Gesesa**, finally, increased in absolute value, due to the known climate clauses, which forced the company to increase use of the well fields for integrating the low availability of the water of the Campania region and also to the inclusion, in 2017, of the municipality of Tocco Caudio in the management of the service, which influenced the consumption of the Santo Stefano pumping station and the coming into operation of a new well field at S. Agata dei Goti.
As confirmation of their commitment towards energy efficiency and environmental sustainability, Acea Ato 2 and Acea Ato 5 have already obtained UNI EN ISO 50001 energy certification and Gesesa has already launched preparatory actions to obtain it.

For the **energy infrastructure** area, the company **Areti**, which manages electrical energy distribution, continued the **efficiency raising schemes** set up following the **energy diagnoses performed at some company locations**, as part of the UNI EN ISO 50001 energy management system and according to Legislative Decree no. 102/2014.
More particularly, one of the schemes of 2017 concerned modernisation of the outside public lighting system of the Casaletto primary station (PS), with a consequent saving of approximately 15 MWh.
Also important are **the works on the distribution network** aimed at energy saving. This involves, in particular, optimisation of the set-up of the MV network and gradual transformation of the voltage level from 8.4 to 20 kV and other adjustments for the HV and LV lines and the use of **167 MV/LV transformers with very low losses**. Table no. 62 shows the type of work and the relative energy savings of the last three years. These efficiency schemes led, **in 2017**, compared to 2016, to a **"reduction in emissions"** equal to approximately **2,600 t of CO_2**. Of these, approximately 720 tonnes relate to a (non-quantitative) legal obligation. The remaining reductions correspond to voluntary interventions.

Finally, for the **Environment** area, the installation of modern conveyor belts for the heavy ash at the San Vittore plant in Lazio involved recovery of energy from the heat of the heavy ash and will involve, at normal capacity, also the reduction in the consumption of electrical energy of the plant (see the box *New conveyor belts at San Vittore* in the paragraph *Waste to Energy*).

[109] The water companies within the scope are considered: Acea Ato 2, Acea Ato 5 and Gesesa.

TABLE NO. 62 – ENERGY EFFICIENCY IN ARETI (2015-2017)

ENERGY SAVING OBTAINED

action	u.m.	2015	2016	2017
reduction in losses on the network	GJ	15,314	29,365 (*)	24,959 (**)
reduction in losses through the purchase of new transformers	GJ	25	474	662
thermal power plant revamping	GJ	18	61	61
renovation of inside lighting system in one of the locations	GJ	-	5	5
renovation of outside lighting system at CP Casaletto	GJ	-	-	54

(*) Value rectified with respect to the one published after an analytical study of the network.

(**) Value estimated from theoretical valuations while awaiting the network analytical study.

NB Each saving is referred to the previous year with respect to the year of reporting. Almost all involve reductions in electrical energy.

SUSTAINABLE MANAGEMENT OF THE WATER RESOURCE

The **water consumption of the Group**, illustrated in Table no. 63, refers both to **industrial processes** and uses for district heating and **civil uses**. The decrease for civil uses, recorded from 2017, is due mainly to an investigation carried out in Acea Ato 2 which led to a partial review of utilities and attributions of consumption. Specifically, it led to the estimate of approximately 800,000 cubic metres to be attributed to the consumption of drinking water for processes (and not for civil use). This indicates therefore greater focus on the accounting of the actual consumption.

TABLE NO. 63 - WATER CONSUMPTION OF THE MAIN COMPANIES IN THE GROUP (2015-2017)

	2015	2016	2017
		(Mm^3)	
industrial processes: district heating and others for thermal electricity generation (*), Acea Ambiente plants; water companies (source: water system, wells, river, rainfall)	0.12	0.14	0.95
of which rainfall			*0.003*
of which river water		*0.003*	*0.003*
of which recovered wate			*0.002*
civil/sanitary use (**) (source: water system)	2.04	2.12	1.44
total water consumption	**2.16**	**2.26**	**2.39**

(*) They include: the process water used at the Tor di Valle Thermoelectric Plant and the water used at the plants of Acea Ambiente coming mainly from the water system.

(**) The companies and the plants to which the item of data refers are: Acea SpA, Areti, Acea Produzione, Acea Elabori, Acea Ato 2, Acea Ato 5, the waste management plant of Orvieto and the waste-to-energy plants.

Projects aimed at recovering process effluent, to reuse it for industrial applications, have been implemented or are being completed at some plants. In particular, **at the Aprilia composting plant**, the plan was completed for treatment of effluent which can be reused in the industrial cycle, which in 2017 led to the **reuse of approximately 800 cubic metres of water**. At the **San Vittore waste-to-energy plant of Lazio** the rainwater is reused in the process of production of demi water after treatment in a special chemical and physics plant and **came into operation in January 2017**. Thanks to the presence of this technology the volumes of water discharged into a body of water were zero throughout 2017, while **the volumes of water recovered** were equal to **1,089 cubic metres**.

In **Acea Ato 2 a project was launched** for reuse of the water purified directly inside the purification plants. In particular for the preparation of a specific additive, cationic polyelectrolite, used in the process of dehydrating sludge. At normal capacity it should allow industrial use of some hundreds of thousands of cubic metres a year of purified water otherwise destined to be discharged into surface bodies of water.

At the Orvieto installations centre a system is in operation for collection of rainfall coming from the roof of the treatment system building to top up the fire-fighting reserve.

WATER LOSSES

Sustainable management of the water resource also includes the issue of **containment of losses on the distribution networks**, with awareness of the difficulties which this activity involves and the huge resources necessary. 2017 management saw Acea Ato 2 carry out the work to identify losses with a targeted campaign, in order to recover the resource and tackle the summer emergency (see box *Plan for Recovery of Losses in Rome and in the Municipalities of Ato 2*).

PLAN FOR RECOVERY OF LOSSES IN ROME AND IN THE MUNICIPALITIES OF ATO 2

In 2017 systematic campaigns were carried out to identify hidden loses both in Rome and in the municipalities of Ato 2. In Rome the **losses identification campaigns** were carried out **on the 5,400 km of distribution network**, with the aim of tackling the water emergency underway and recover resource.
The emergency action plan foresaw the division of the city of Rome into four areas on which campaigns were carried out to identify points of the network where there were invisible losses. The activity was developed using operations teams at locations in the territory, **supplied with cutting-edge instruments** and a team of experts for processing data and for targeting the repair work. At 31 December a complete campaign was performed for identifying losses over 5,400 km and a further "rerun" of fine tuning on a significant portion of 4,200 km of network, detecting a total of 2,093 losses.
In conjunction with the work for identifying losses and for contributing to the reduction in the input, work was defined to make various areas efficient through schemes or reconfigurations of network layouts, through a check on the perimeter definition of the water districts and optimisation of pressures. During the year **2,700 km of distribution network in Rome were studied**, and **25 measurement districts created**, corresponding to 1,600 km of distribution network, for the control of which **14 new flow meters and 90 pressure gauges** were installed, released for remote management.
The work to increase network efficiency was also carried out on **20 municipalities of Ato 2**. The study focused on 1,000 km of network and structured into work of surveying, flow and pressure measurements, mapping, analysis of utilities and water report, mathematical modelling and specific work to identify losses.

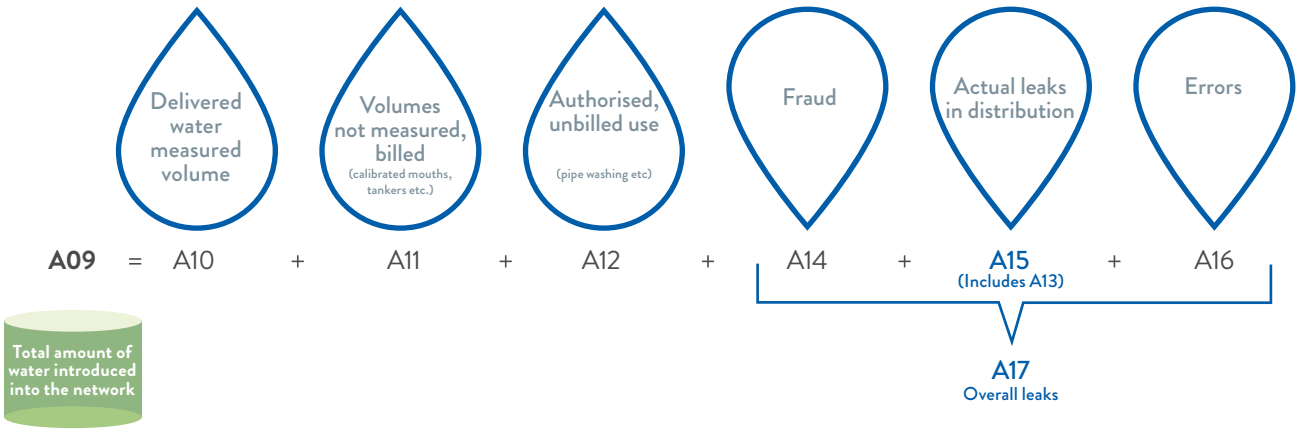
THE 2017 WATER EMERGENCY IN ITALY

The meteorologists at the Centro Epson Meteo calculated that in 2017 **20 billion cubic metres of water were lost** in Italy during the spring months, a volume equal to that of the entire Lake Como (which covers 146 km2, with maximum depth of 425 metres), and **equal to almost 50% of the "reserve capacity" present throughout Italy**. A water emergency which in the summer months involved the whole of the country, from north to south, with orders to reduce the flow rate of intakes from surface sources (lakes and waterways) to ensure as a priority the water needs for drinking water use and therefore also the safeguarding of bodies of water from the ecological and environmental standpoint. An emergency which is documented daily by municipal orders for a ban on the use of water for non-essential purposes (hygiene and domestic) and for a responsible use, dictated by common sense and saving. **In the more critical cases rationing was even organised**, as in the western area of Salerno, at Iglesias, Sassari and neighbouring municipalities, with suspension of the water supply during the night. A situation which also concerned 20 municipalities in the province of Rome, with water supply rotations.
Source: Acqua no. 86 (ref. research laboratory).

In 2017 Acea Ato 5 carried out the analysis of the layouts of the water networks and the work of **identification and recovery of losses**, with approximately **1,932 interventions**, in particular at Sora, Fiuggi, Ceccano and part of Frosinone. **Pilot studies were also completed at the municipality of Sora and Fiuggi**, which allowed the recovery of approximately **35 l/s** and improved the layout of the networks, and a **similar study is being completed in the municipalities of Ceccano and Frosinone**.
Gesesa worked on extending the process of dividing into districts the water networks and the reduction in pressures in eight municipalities acquired in 2015. In 2017 the analysis of the layouts of the water networks and the work on **identification and recovery of losses** involved **295 interventions** and the **repair of approximately 2.8 km** of water network.

As regards the issue of water losses, in order to make the data from different operators comparable and define the quantities that contribute to estimating them, Ministerial Decree no. 99/97 supplies a reference model. In recent years **ARERA** has intervened with a series of measures which have introduced progressive new ideas in the calculation process. The water balance data, illustrated in detail in the ***Environmental Accounts***[110], were processed, ensuring the comparability of the last three years.
Chart no. 48 illustrates **the model indicated in Ministerial Decree no. 99/97**, considering the new features of the regulation of ARERA.

CHART NO. 48 – REAL WATER LOSSES (MODEL OF MINISTERIAL DECREE NO. 99/97, REGULATORY INTEGRATIONS OF ARERA)



[110] The water reports of the companies of Campania, Umbria and Tuscany, with consolidated net worth, can be examined in the chapter *Water Companies and Foreign Activities Prospectuses*.

As already indicated, following in-house input from the new management and outside input due to the water emergency, Acea performed numerous and extensive **interventions to identify and repair losses, above all in the area of Rome**. These interventions meant a **reduction in the losses** which, in percentage terms and according to the calculation method 2016 of ARERA, are based on the entire Ato 2, for 2017, at the value of **45.5%**, given the 2016 value of 48.1%. For **Rome** the result is even more sensitive, having dropped from the value of 45% in 2016 to the value of **41.3% in 2017**. This extraordinary result is even more evident if examined only in relation to the second half of the year in which the average percentage of the losses was 38.8%, with minimum peaks of 37.6%, lower by approximately a percentage point compared to the national average of 38.3% (source ISTAT - year 2015). The strong **downturn in losses**, if evaluated in relation to the input in the Rome network alone, has a produced a reduction in the same in the second half of 2017 equal to 11% on average (-1,800 ls/s over 16,300 l/s) with peaks of **-14% (-2,300 l/s in the autumn of 2017)**. In **Acea Ato 5** (Frosinone) the real losses for 2017 were found to be equal to 65% approximately of the input in the network. Finally, in **Gesesa** they were found to be equal to approximately 44%. See the *Environmental Accounts* for details.

EMISSIONS

CONSTANT SAMPLING AND ANALYSIS ON THE EMISSIONS OF THE INCINERATORS THROUGH SME CABINETS

EMISSIONS INTENSITY INDEX (SCOPE 2) FROM NETWORK LEAKS OUT OF THE TOTAL DISTRIBUTED ELECTRICAL POWER IMPROVED:

0.0115 t/MWh

AIR EMISSIONS

The **monitoring of air emissions from Acea plants**, particularly **the waste-to-energy plants**, is carried out using EMS (Emissions Monitoring System) cabins which continuously sample and analyse the fumes coming out of the chimneys, returning the measurement of numerous parameters, periodically checked by internal staff and certified by qualified external laboratories. A highly satisfactory scenario emerged for 2017 too, with **values of main pollutants well below the limits laid down by the law** (see Table no. 64); in any case the **principle of precaution** still applies, as well as attention and seeking out technological solutions with increasing performance from the issue quality viewpoint.
The waste-to-energy plants are also managed according to UNI EN ISO 14001 standards and the European EMAS scheme.

TABLE NO. 64 - AIR EMISSIONS FROM THE SAN VITTORE DEL LAZIO AND TERNI WASTE-TO-ENERGY PLANTS (2015-2017)

		San Vittore del Lazio plant (*)				Terni plant (*)			
pollutant	**u. m.**	**reference parameter (**)**	**2015**	**2016**	**2017**	**reference parameter (**)**	**2015**	**2016**	**2017**
HCl	mg/Nm^3	8	0.185	0.069	0.053	10	3.840	4.221	4.002
NO_x	mg/Nm^3	70	22.105	16.440	18.089	200	139.480	134.445	134.274
SO_2	mg/Nm^3	40	0.035	0.032	0.014	50	0.170	0.297	0.490
HF	mg/Nm^3	1	0.030	0.010	0.011	1	0.220	0.924	0.122
CO	mg/Nm^3	40	1.200	1.065	1.447	25	1.370	0.108	1.018
total dusts (particulate)	mg/Nm^3	3	0.020	0.004	0.006	5	0.350	0.753	0.678
PAH (polycyclic aromatic hydrocarbons)	mg/Nm^3	0.01	0.00003	0.00001	0.00001	0.01	0.00005	<0.001	0.0001
Dioxins and furans (PCDD +PCDF)	mg/Nm^3	0.1	0.0010	0.0044	0.0047	0.1	0.0166	<0.01	0.0173

		San Vittore del Lazio plant (*)				Terni plant (*)			
pollutant	u. m.	reference parameter (**)	2015	2016	2017	reference parameter (**)	2015	2016	2017
Heavy metals (Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V)	mg /mg/ Nm^3	0.5	0.0418	0.0193	0.0262	0.5	0.0501	0.0263	0.1085

(*) 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.

NB The figures for the San Vittore plant refer to the arithmetic averages on the two operating lines for the two-year period 2015-2016 and three lines for 2017.

Like every year, measures were taken in 2017 at the San Vittore del Lazio waste-to-energy plant to **monitor air quality in the points of greatest accumulation of pollutants emitted by the stacks**. Furthermore, periodic monitoring of the **quality of the terrain and water of the aquifers** surrounding the plant is carried out. In particular, studies were performed on the bioaccumulation of heavy metals in the lichen matrix present in the soils surrounding the plant. In 2017, at the two permanent control boards 4 monitoring campaigns were carried out lasting 15 days each in order to define the heavy metals. The results of **all the monitoring campaigns**, using both fixed and mobile monitoring devices, **did not indicate excessive levels** for the measured parameters.

GREENHOUSE GAS EMISSIONS

According to the international document Greenhouse Gas Protocol (or GHG Protocol), aligned **with the ISO 14064** standards, greenhouse gas emissions are divided up into:

- ***Scope 1* emissions:** direct greenhouse gas emissions;
- ***Scope 2* emissions:** indirect greenhouse gas emissions;
- ***Scope 3* emissions:** other indirect greenhouse gas emissions.

For over ten years Acea has quantified its CO_2 emissions by **evaluating the carbon footprint of the single production macro processes** according to the guidelines set out in the *GHG Protocol* (www.ghgprotocol.org); in fact, it takes part in the CDP (see dedicated box in paragraph *Mitigation and adaptation to climate change*).

Scope 1 greenhouse gas emissions are direct emissions originating from the Group's thermoelectric plants, waste-to-energy plants and include those deriving from the heating process, dryers, motor vehicles in the fleet (with reference to petrol and diesel vehicles) and, lastly, sulphur hexafluoride (SF_6) leaks that may occur from Areti's plants. The greatest contribution comes from the CO_2 emitted by the waste-to-energy plants, which was further increased in 2016 as a result of the fully operational line 1 in San Vittore in the 12 months. By importance, this is followed by the contribution deriving from the Acea Produzione plants which has been more or less constant for the past three years (see Table no. 67 for details).

Scope 2 greenhouse gas emissions are indirect, deriving from the consumption of electricity and also kept under control.

In both cases, they concern emissions which Acea monitors regularly, also disclosing them, as mentioned, by means of the *CDP* (see Table no. 67).

Other details of Carbon Footprint – Scope 2 in the water Area, can be found in the *Environmental Accounts*.

Scope 3 greenhouse gas emissions are represented by **other indirect emissions**: they include emissions deriving from the purchase of goods/services and work, employees travelling for business purposes and employees commuting to and from work.

For the third year running, Acea has monitored its suppliers with a view to heightening their awareness on the topic of possible environmental impacts deriving from the activities carried out (see hereunder, Table no. 67).

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 respect of the actual emissions registered in the three-year period 2015-2017, are shown in Table no. 65.

TABLE NO. 65 – CO_2 EMISSION ALLOWANCES AS PER THE NATIONAL ALLOCATION PLAN (NAP) AND ACTUAL EMISSIONS BY PLANT (2015-2017)

	2015		2016		2017	
plant	t					
	assigned by the NAP	effective	assigned by the NAP	effective	assigned by the NAP	effective
Tor di Valle (*)	9,105	23,466	7,969	23,313	6,869	33,507
Montemartini	0	1,971	0	1,297	0	2,278
Terni waste-to-energy plant (**)	0	120,286	0	112,865	0	113,117

(*) As with previous years, in 2017 the applicable legislative framework allowed the Tor di Valle plant to benefit from free of charge emission allowances (6,869 t) as it serves a remote heating network.

(**) Includes emissions of biogenic CO_2 (equal to 47,684 t for 2017).

INTENSITY INDICES FOR GREENHOUSE GAS EMISSIONS

One of the monitored intensity indices for greenhouse gas emissions (see Table no. 67) concerns ***Scope 2* carbon dioxide emissions, deriving from leaks in the network** for the distribution of electricity, **in respect to the total electricity distributed**. This index has improved further, changing from 0.0119 t/MWh in 2016 to **0.0115 t/MWh** in 2017, in line with the continuous decrease in relative leaks in the network (technical leaks/distributed electricity).

With regard to the other atmospheric emissions, especially the more significant macro-pollutants due to the main production processes of the plants, see the data summarised in Table no. 66.

TABLE NO. 66 - TOTAL EMISSIONS OF ATMOSPHERIC POLLUTANTS FROM ACEA GROUP PLANTS (2015-2017)

emissions	2015	2016	2017
		(t)	
CO	6.75	6.28	6.81
NO_x	190.86	171.13	198.20
SO_x	0.22	0.28	0.42
dusts (particulate)	0.32	0.55	0.55

NB The emissions refer to the following companies: Acea Ambiente – waste-to-energy plant and Acea Produzione.

Monitoring carried out on all the plants at risk[111] demonstrated **the absence of emissions of significant quantities of substances responsible for reducing the ozone layer** (see the *Environmental Accounts - Resources used, for consumption*).

GROUP VEHICLE FLEET: CONSUMPTION AND IMPACT

Consistently with the commitment to cut atmospheric emissions, Acea focuses on the **renewal of the Group vehicle fleet**. However, in 2017, the new system introduced for managing in field intervention processes (Workforce Management), now fully operational, gave rise to an increase in fuel consumption, regardless of more efficient interventions, also due to the higher number of vehicles contemporarily in circulation and the longer routed travelled. The total number of Group vehicles in 2017, including Aquaser and Acea Ambiente, is equal to **about 2,600 means**.

The date regarding CO_2 air emissions for the vehicle fleet, illustrated in Table no. 67, reflect the choice made some years ago to use a fleet of mainly diesel powered vehicles: the **increase in emissions** of carbon dioxide substantially depends both on the mentioned increase in **fuel consumption** and the inclusion of Acea Ambiente and Acquaser vehicles into the boundary (see Table no. 67 and the *Environmental Accounts* for punctual data on consumption and emissions).

TABLE NO. 67 - ENVIRONMENTAL INDICATORS: CO_2 EMISSIONS, INTENSITY INDICES OF THE GREENHOUSE GAS EMISSIONS AND VEHICLE FLEET EMISSIONS (2015-2017)

CO_2 EMISSIONS				
SCOPE 1 EMISSIONS				
FROM ENERGY PRODUCTION PLANTS				
	u. m.	**2015**	**2016**	**2017**
CO_2 emissions from Acea Produzione thermoelectric plants	t	25,440	24,610	33,507
CO_2 emissions from Acea Ambiente waste-to-energy plants	t	220,286	232,865	321,939
FROM WASTE MANAGEMENT, ENERGY DISTRIBUTION, HEATING PLANTS AND VEHICLE FLEET				
CO_2 emissions from waste management plants	t	-	-	932
CO_2 emissions from dryers water plants	t	-	-	2,026
CO_2 emissions from remote heating	t	1,644	1,018	1,008
CO_2 emissions from vehicle fleet (*)	t	3,816	4,891	7,371
CO_2 emissions from Areti plants (SF_6) (**)	t	12,540	14,820	14,100

[111] This is primarily air conditioning equipment using refrigerant gases subject to the 1987 Montreal protocol, particularly chlorofluorocarbons.

TOTAL SCOPE 1 EMISSIONS	**t**	**263,726**	**278,204**	**380,883**
SCOPE 2 EMISSIONS				
CO_2 emissions from location based consumption of electricity consumption (market based) (***)	t	357,979 (n.a.)	349,718 (422,576)	328,921 (170,051)
SCOPE 3 EMISSIONS				
CO_2 emissions deriving from the purchase of goods/services and works (****)	t	15,464	17,099	20,349
CO_2 emissions from commuting	t	3,800	3,687	3,286
CO_2 emissions from business travel	t	166	197	152
INTENSITY INDICES OF GREENHOUSE GAS EMISSIONS				
intensity indices of the GHG emissions	**u. m.**	**2015**	**2016**	**2017**
CO_2 emissions (Scope 1 + Scope 2)/Acea Group added value	(t/k€)	0.728	0.627	0.677
Scope 1 CO_2 emissions/gross production (*****)	(g/kWh)	324.0	357.2	434.2
Scope 2 CO_2 emissions deriving from losses on the electrical energy distribution network/distributed GWh (******)	(t/MWh)	0.0123	0.0119	0.0115

(*) The value for 2017 underwent a strong increase, mainly due to the inclusion of Acea Ambiente and Aqaser into the scope.

(**) 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): 0.60 tonnes in 2017 (0.60x23,500=14,100 t). The value for 2017 cannot therefore be compared to that for the previous years when factor 22,800 of the 4th Assessment Report- AR4 was used.

(***) The indirect emissions (scope 2) include the companies within the scope of the consolidated Non-Financial Statement: Acea Ambiente, Acquaser, Acea Produzione, Areti, Acea SpA and the water companies Acea Ato 2, Acea Ato 5 and Gesesa. The value of 0.36 is used as the emission factor per unit of electrical energy consumed (t CO_2/MWh), calculated adopting the primary energy data of the MISE 2013 energy balance and CO_2 emission factors per single source established by means of EU Decision 2007/589/EC. As from 2016 Score 2 type emissions datum was also calculated using the Market Based method. The Residual Mixes coefficients are, for 2016 and 2017 are 0.435 t/MWh and 0.465 t/MWh respectively.
Considering the whole Group and so also including the other water companies, Gori, Umbra Acque, Acquedotto del Fiora, Publiacqua, Acque, for the sole proprietary quota part of Acea, for the three-year period 2015-2017, di Location based CO_2 emissions are equal to 420,490 t, 409,128 t and 394,660 t respectively, whereas for the Market based emissions, calculated for the two-year period 2016-2017 they are equal to 494,363 t and 235,790 t.

(****) This value, estimated, refers to suppliers of goods, services and works and includes transport emissions.

(*****) Scope 1 emissions in this index exclude emissions deriving from SF_6 leakage in Areti plants. The 2017 figures also exclude the amount of emissions referring to water area dryers and the compost plants, so that the datum is consistent with previous years. The value for 2016 differs from that published for data consolidation. The notable increase of 2017 mainly depends on perfecting the calculus methodology for the San Vittore emissions, which was only used in 2017.

(******) Network leakage considered for Score 2 emissions and for calculating the indicator regarding the three-year period 2015-2017, are as follows: 138,017 t, 128,388 t and 124,479 t (due to the technical leakage of electricity from the network).

NB The emission factors for Scope 1 emissions are taken from the standard parameters-ISPRA 2015 data.

WATER COMPANY DATA SHEETS AND OVERSEAS ACTIVITIES

The first part of the chapter explains the activities, information and environmental accounts data outside of the *Consolidated Non-Financial Statement* regarding the main companies of the Group which operate in the water segment in Campania, Umbria and Tuscany, consolidated using the equity method in the statutory Sustainability Report. The second part describes the activities of the operating companies abroad.

WATER ACTIVITIES IN CAMPANIA, UMBRIA AND TUSCANY

In 2017, for water balance reporting and, in particular, for the calculation of water losses, the companies followed the criteria set out by the ARERA, as well Ministerial Decree no. 99/97, for the three-year period, unless otherwise specified.

GORI

Gori SpA manages the integrated water service in Campania, in the area covered by Optimum Area of Operations 3 - Sarnese Vesuviano.
It is a joint-stock company with a predominantly public-owned share capital, where the private minority shareholder (which holds 37.05% of the share capital) was identified given its technical-industrial and management abilities: it is Sarnese Vesuviano Srl, 99.16% of whose share capital is owned by Acea SpA. Ato 3 – Sarnese Vesuviano comprises 76 Municipalities (59 in the province of Naples and 17 in the province of Salerno), fully acquired under management as of 31/12/2009. The area served has around 1,460,000 inhabitants, with over 500,000 customers; the water network and sewerage network cover more than 4,300 km and 2,300 km, respectively.

HUMAN RESOURCES IN FIGURES

GORI SPA EMPLOYEES: BREAKDOWN OF HUMAN RESOURCES (2016-2017)

(no.)	2016				2017			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	6	2	**8**	1	6	2	**8**	1
managers	17	1	**18**	3	17	1	**18**	3
white-collar workers	302	61	**363**	55	299	60	**359**	55
blue-collar workers	269	0	**269**	41	263	0	**263**	41
total	**594**	**64**	**658**	**100**	**585**	**63**	**648**	**100**

GORI SPA EMPLOYEES: CONTRACT TYPE (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
permanent workforce (open-ended contracts)	594	64	**658**	585	63	**648**
(of which) part-time staff	*0*	*1*	***1***	*0*	*1*	***1***
staff with fixed-term contracts	0	0	**0**	0	0	**0**
staff with professional apprenticeship contracts	0	0	**0**	0	0	**0**
total	**594**	**64**	**658**	**585**	**63**	**648**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2016-2017)

	2016	2017
accidents (no.)	23	33
total days of absence (*)	484	241
hours worked	1,089,276	1,023,504
index of frequency (fi) (no. accidents x 1,000,000/work hours)	**21.11**	**32.42**
index of seriousness (si) (days absence x 1,000/work hours)	**0.44**	**0.23**

(*) The value also includes the days of absence due to the continuing or returning effects of accidents occurring in previous years.

TRAINING COURSES AND COSTS IN GORI SPA (2016-2017)

type of course	courses (no.)		editions (no.)		training (hours)		costs (Euros)	
	2016	2017	2016	2017	2016	2017	2016	2017
human resource management (*)	1	0	1	0	192	0	0	0
IT	46	25	123	42	16,931	3,462	307,100	76,612.63
induction of new recruits (*)	0	0	0	0	0	0	0	0
environmental	0	3	0	5	0	1,508	0	24,980
technical-specialist	23	13	50	20	1,568	850	5,195	3,607.5
managerial/role	2	2	3	8	484	358	16,160	12,919.25
administrative-managerial	0	0	0	0	0	0	0	0
safety	17	13	39	49	1,706	5,270	46,819	18,493.23
legal	9	3	10	12	77	1,596	3,285	3,300
experiential	1	2	2	5	1,615	5,233	28,800	108,740
total	**99**	**61**	**228**	**141**	**22,573**	**18,277**	**407,359**	**248,653**

(*) The training may be carried out by teaching staff within the Group.

TRAINED EMPLOYEES (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
	592	56	**648**	565	57	**622**

NETWORK AND PLANT CONSISTENCY AND ENVIRONMENTAL DATA

WATER SYSTEM MANAGED BY GORI SPA (active plants) (2015-2017)

	2015	2016	2017
water network (km)	4,398	4,501.50	4,500.38
aqueducts and transport networks (km)	*359*	*452.96*	*455.89*
distribution network (km)	*4,039*	*4,048.55*	*4,044.49*
well intake structures (no.) (*)	60	75	76
spring intake structures (no.)	4	4	4
lifting stations (no.) (**)	98	98	95
reservoirs (no.) (***)	162	163	164

(*) The Sala well has been added.
(**) The water lifting plants of San Michele, Forma and Via Monte Vescovado have been eliminated.
(***) The Corbara reservoir was added.

CONSISTENCY OF THE PURIFICATION AND SEWERAGE PLANTS MANAGED BY GORI SPA (2015-2017)

	2015	2016	2017
purification plants (no.)	7	7	7
sewerage lifting systems (no.) (*)	161	165	169
sewerage network (km) (**)	2,319	2,333	2,413

(*) Added sewerage lifting systems: via Marittima, via Achille Consiglio, via Semmola, via Li Dottori, via Scafati, via Achille Grandi; subtracted: Lava Troia, Lido del Sole.
(**) About 33 km of collection network laid as new and the mast of additional km of network modified; the north eastern district collector was taken under management (about 12 km); all data for defining the managed network were reviewed.

CERTIFICATIONS

Since 2015, the company has adopted a management system for health and safety in the workplace certified according to BS **OHSAS 18001:07.**

GORI SPA ENVIRONMENTAL ACCOUNTS (2015-2017)

PRODUCTS AND ANALYTICAL TESTS	u. m.	2015	2016	2017	Δ% 2017/2016
DRINKING WATER					
drinking water from the environment	**Mm³**	**39.94**	**44.41**	**70.98**	**59.8**
from wells	*Mm³*	*36.94*	*41.45*	*69.10 (*)*	*66.7*
from springs	*Mm³*	*3.00*	*2.96*	*1.87*	*-36.8*
water from other aqueduct systems	**Mm³**	**166.75**	**158.20**	**126.20**	**-20.2**
drinking water introduced into the network	**Mm³**	**206.69**	**202.62**	**197.18**	**-2.7**
total drinking water supplied	**Mm³**	**90.37**	**90.37**	**89.97**	**-0.4**
ASSESSMENT OF LEAKAGE ACCORDING TO MINISTERIAL DECREE NO. 99/97 ALSO IN COMPLIANCE WITH ARERA REQUIREMENTS					
overall leakage (parameter A17)	**Mm³**	**115.87**	**111.80**	**107.21**	**-4.1**
actual leakage (parameter A15 of Ministerial Decree 99/97)	**Mm³**	**91.83**	**87.76**	**83.17**	**-5.2**
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm³**	**8.7**	**8.2**	**9.0**	**10.3**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**n.**	**80,544**	**81,590**	**101,460**	**24.4**
no. analytical tests on drinking water (**)	**n.**	**19,204**	**19,454**	**19,180**	**-1.4**

(*) Increase also due to a greater use of internal sources due to a lower contribution from the local community of Campania.

(**) The value includes determinations completed on sewerage network and purification plant wastewater.

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
COLLECTION, TRANSPORTATION AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
materials					
sodium hypochlorite	t	164.4	401.91	196.9	-51.0
ELECTRICITY					
Total electricity for drinking water	**GWh**	**50.86**	**52.38**	**71.63**	**36.8**
electricity for water lifting stations	*GWh*	*50.44*	*52.14*	*71.46*	*37.1*
electricity for offices	*GWh*	*0.42*	*0.24*	*0.17*	*-29.2*
WASTEWATER PURIFICATION					
materials					
polyelectrolyte powder	t	25.8	30.7	**19.0**	-38.1
polyelectrolyte emulsion	t	20.3	33.1	**34.0**	2.7
sodium hypochlorite	t	146.2	172.2	**152.0**	-11.7
ferric chloride aiding flocculation (40%)	t	69.5	129.0	**122.0**	-5.4
citric acid	t	1	1.2	**4.0**	233.3
peracetic acid, polyamine/anti-foaming agent	t	71.4	96.2	**81.0**	-15.8
polyaluminium chloride (PAC)	t	5.4	4.1	**4.0**	-2.4
mineral oil and fats	t	1.4	6.4	**6.0**	-6.3
other (artificial cod + soda for deodorisation)	t	2.5	2.2	**3.1**	40.9
ELECTRICITY FOR WASTEWATER					
Total electricity for wastewater	**GWh**	**15.42**	**14.76**	**14.00**	-5.1
electricity for purification	*GWh*	*10.63*	*10.15*	*9.02*	*-11.2*
electricity for lifting stations	*GWh*	*4.79*	*4.61*	*4.99*	*8.2*

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
OTHER CONSUMPTION (*)					
Other drinking water consumption	**m^3**	**7,266**	**7,797**	**7,282**	**-6.6**
drinking water consumed for non-industrial water uses (the data relate to consumption for offices, outside showers, etc.)	*m^3*	*7,266*	*7,797*	*7,282*	*-6.61%*
drinking water consumed for process water uses (washing machinery and bays, etc.)	*m^3*	*0*	*0*	*0*	-

(*) The data related to other consumption are estimated. The value related to process water usage is null given that industrial water is used.

WASTE	u. m.	2015	2016	2017	Δ% 2017/2016
SPECIFIC WASTE FROM WASTEWATER PURIFICATION					
treatment sludge	t	12,286	12,526	6,318 (*)	-49.6
sand and sediment from treatment	t	2,361	2,382	2,187	-8.2
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND (**)					
hazardous waste	t	0.061	0.067	0.058	-13.4
non-hazardous waste	t	0.00	5.20	10.0	92.3

(*) The reduced production of sludge is due to the activation of the dryer at the Scafati purification plant which allowed a notably reduction in the humidity fraction of dehydrated sludge.

(**) As in previous years, the variability in quantities of hazardous and non-hazardous waste derives from purification processes - excluding sludge, sediment and sand - these are associated to extraneous factors, and therefore can be highly variable.

TOTAL COD IN INPUT AND OUTPUT (2015-2017)

(t/year)	2015	2016	2017
COD_{out}	183	158	213
COD_{in}	3,379	2,772	3,239

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY GORI SPA (2015-2017)

parameter	average of values (mg/l) 2015	average of values (mg/l) 2016	average of values (mg/l) 2017
BOD_5	9.4	8.9	9
COD	27	19.5	24
SST	15	20.3	23
NH_4^+	1.5	1.4	1
fosforo	1.0	0.8	1

TREATMENT EFFICIENCY OF THE MAIN TREATMENT PLANTS MANAGED BY GORI SPA (2015-2017)

parameter	average of values (%) 2015	average of values (%) 2016	average of values (%) 2017
$100x(COD_{in} - COD_{out})/COD_{in}$	91	94	**93**
$100x(SST_{in} - SST_{out})/SST_{in}$	96	84	**84**
$100x(NH_{4\,in}^{+} - NH_{4\,out}^{+})/ NH_{4\,in}^{+}$	88	97	**97**
$100x(PO_{4\,in}^{-3} - PO_{4\,out}^{-3})/ PO_{4\,in}^{-3}$	71	69	**53**

EFFICIENCY

During the three-year period 2015-2017, Gori has implemented energy efficiency interventions and achieved the savings shown in the table.

GORI SPA ENERGY EFFICIENCY (2015-2017)

action	energy saving achieved 2015 (kWh)	energy saving achieved 2016 (kWh)	energy saving achieved 2017 (kWh)
Tartaglia plant – well field - actions on networks and division into districts (Municipalities of San Giorgio a Cremano and Portici)	-	833,424	-
Scafati treatment plant - removal of waste water in the tanks for secondary pumping, rationalisation of the biological oxidisation system - installation of the new lighting system using LED bulbs (Municipality of Scafati)	-	676,424	864,448
Suppezza plant – well field - installation of load regulation valve and remote control of the latter (Municipality of Castellammare di Stabia)	-	466,396	-
Fontana Grande plant – pumping – actions on networks and division into districts (Municipality of Castellammare di Stabia)	-	418,929	-
Murata plant - lifting - regulation and functioning electric pumps via inverter (Municipality of Cercola)	812,000	385,525	-
Sala well - actions on networks and division into districts (Municipality of Corbara)	-	101,586	
Parrocchia well - actions on networks and division into districts (Municipality of Palma Campa)	30,000	69,951	46,664
Torretta well - actions on networks and division into districts (Municipality of Pagan)	48,000	31,699	-
Spiano well - actions on networks and division into districts (Municipality of Mercato S. Severino)	58,000	13,353	-

UMBRA ACQUE SPA

Umbra Acque SpA is a company with predominantly public capital, in which Acea SpA has a 40% interest. Since 1 January 2003 the company manages the integrated water service for Optimum Area of Operations - Umbria 1, consisting of 38 municipalities, of which 37 in the province di Perugia and 1 (San Venanzo) in the province of Terni, serving a total population of around 500,000 inhabitants.

DATA ON HUMAN RESOURCES

UMBRA ACQUE SPA EMPLOYEES: BREAKDOWN OF HUMAN RESOURCES (2016-2017)

(no.)	2016				2017			
	men	women	**total**	%	men	women	**total**	%
executives	6	0	**6**	1.8	4	0	**4**	1.2%
managers	6	2	**8**	2.4	7	2	**9**	2.7%
white-collar workers	63	50	**113**	34.1	63	58	**121**	35.9%
blue-collar workers	204	0	**204**	61.6	203	0	**203**	60.2%
total	**279**	**52**	**331**	**100**	**277**	**60**	**337**	**100%**

UMBRA ACQUE SPA EMPLOYEES: CONTRACT TYPE (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
permanent workforce (open-ended contracts)	277	52	**329**	272	50	**322**
(of which) part-time staff	*1*	*9*	***10***	*2*	*8*	***10***
staff with fixed-term contracts	2	0	**2**	5	9	**14**
staff with professional apprenticeship contracts	0	0	**0**	0	1	**1**
total	**279**	**59**	**331**	**277**	**60**	**337**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2016-2017)

	2016	2017 (*)
accidents (no.)	8	15
total days of absence (*)	400	1,212
hours worked	549,238.58	568,260
index of frequency (fi) (no. accidents x 1,000,000/work hours)	**10.92**	**26.39**
index of seriousness (si) (days absence x 1,000/work hours)	**0.54**	**2.13**

(*) The value "hours worked" 2017 was estimated; the IF and IG indices are also consequent to estimation.

COURSES AND TRAINING COSTS IN UMBRA ACQUE SPA (2016-2017)

type of course	courses (no.)		editions (no.)		training (hours)		costs (Euros)	
	2016	2017	2016	2017	2016	2017	2016	2017 (*)
advanced training	0	0	0	0	0	0	0	0
technical-specialist	66	37	114	58	7,872.5	1,929	317,300	77,748
legal	15	7	15	7	240	61	4,370	1,110
managerial	10	11	10	11	112	706	4,500	28,366
administrative-managerial	0	0	0	0	0	0	0	0
safety	0	0	0	0	0	0	0	0
total	**91**	**55**	**139**	**76**	**8,224.5**	**2,696**	**326,170**	**107,224**

(*) Costs 2017 were calculated proportionately to the hourly cost related to the previous year.

TRAINED EMPLOYEES (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
	279	52	**331**	277	60	**337**

NETWORKS AND PLANTS CONSISTENCY AND ENVIRONMENTAL FIGURES

WATER SYSTEM MANAGED BY UMBRA ACQUE SPA (2015-2017)

	2015	2016	2017
water network (km)	6,398	6,398	6,071
aqueducts and transport networks (km)	*385*	*385*	*1,363*
distribution network (km)	*6,013*	*6,013*	*4,708*
well intake structures (no.)	215	219	222
spring intake structures (no.)	267	289	289
river intake structures (no.)	2	2	2
lifting stations (no.)	161	238	250
piezometers (no.)	1	1	1
reservoirs (no.)	552	580	587
disinfection/treatment plants (no.)	250	249	250

CONSISTENCY OF THE PURIFICATION AND SEWERAGE PLANTS MANAGED BY UMBRA ACQUE SPA (2015-2017)

	2015	2016	2017
purification plants (no.)	117	117	117
sewerage lifting systems (no.)	189	206	216
sewerage network (km)	3,541	3,543	3,543

CERTIFICATIONS

In addition to the certification already obtained - ISO 9001:2008 certification, renewed in March 2015 and expiring in April 2018 (the certificate renewal visit is planned in February 2018), **SOA** certification for the OG6 categories in class II, OS22 in class III, and Qualification for planning and construction performance up to class VIII - Since 2013 Umbra Acque has taken steps for the Accreditation of the internal analysis Laboratory according to standard **UNI EN CEI ISO/IEC 17025:2005** by the ACCREDIA agency, relating to **pH** and **manganese** parameters in natural water matrices. Laboratory accreditation was extended to **metals** (antimony, arsenic, cadmium, chromium, copper, lead, vanadium, aluminium, iron, manganese, nickel and selenium) and **anions** (bromides, chlorides, fluorides, nitrates, nitrites, sulphates) as well as **3 macro biological tests** (coliform bacteria at 37°C, Escherichia Coli and Enterococchi) for the water matrix intended for human consumption. In 2018 the accreditation shall be extended to other parameters that are currently under certification.
The Health and Safety management system according to **OHSAS 18001** is still valid. The relevant certificate was issued in January 2016 and is valid until January 2019.

UMBRA ACQUE SPA ENVIRONMENTAL ACCOUNTS (2015-2017)

PRODUCTS AND ANALYTICAL TESTS	u. m.	2015	2016	2017	Δ% 2017/2016
DRINKING WATER					
drinking water from the environment	**Mm³**	**58.51**	**58.17**	**58.63**	**0.8**
from wells	*Mm³*	*44.91*	*44.30*	*46.85*	*5.8*
from springs	*Mm³*	*13.60*	*13.87*	*11.78*	*-15.1*
water from other aqueduct systems	**Mm³**	**1.15**	**1.07**	**1.21**	**13.18**
drinking water introduced into the network	**Mm³**	**59.43**	**59.00**	**59.59**	**1.0**
total drinking water supplied	**Mm³**	**29.03**	**27.83**	**28.04**	**0.8**
ASSESSMENT OF LEAKAGE ACCORDING TO MINISTERIAL DECREE NO. 99/97 ALSO IN COMPLIANCE WITH ARERA REQUIREMENTS					
overall leakage (parameter A17)	Mm³	25.27	26.04	26.08	0.2
Real leakage (parameter A15 of DM 99/97)	Mm³	23.79	24.59	24.67	0.3
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm³**	**58.0**	**59.2**	**56.0**	**-5.1**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**no.**	**64,420**	**69,820**	**71,250**	**2.0**
no. analytical tests on waste water	**no.**	**38,765**	**36,169**	**38,128**	**6.4**
no. analytical tests on surface water (*)	**no.**	**2,500**	**2,600**	**8,500**	**226.9**

(*) The higher value is associated to the startup (expected in 2018) of the new drinking water plant in Citerna, which uses surface water to be converted to drinking water to supply the aqueduct named "AVT".

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
COLLECTION, TRANSPORTATION AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
materials					
sodium hypochlorite	t	73.15	52.1	**60.0**	15.2
sodium hypochlorite	t	167.0	153	**200.0**	30.7
hydrochloric acid	t	166.2	150.6	**200.0**	32.8
aluminium polychloride	t	4	4	**12.0**	200.0
phosphoric acid 10%	t	0	6.4	**9.0**	40.6
acetic acid	t	0	86.7	**100.0**	15.3
ELECTRICITY (*)					
total electricity for drinking water	**GWh**	**64.33**	**63.20**	**71.86**	**13.7**
electricity for water lifting stations	*GWh*	*63.97*	*62.85*	*71.49*	*13.7*
electricity for offices	*GWh*	*0.36*	*0.36*	*0.37*	*2.8*

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
WASTEWATER PURIFICATION					
materials					
polyelectrolyte emulsion	t	69.3	78.7	**80.0**	1.7
ferric chloride (40%)	t	25.6	49.6	**40.0**	-19.4
mineral oil and fats (*)	t	1.40	1.40	**1.40**	-
ELECTRICITY FOR WASTEWATER					
total electricity for wastewater	**GWh**	**21.16**	**20.58**	**20.93**	**1.7**
electricity for purification	*GWh*	*16.96*	*16.27*	*16.97*	*4.3*
electricity for lifting stations	*GWh*	*4.07*	*4.19*	*3.84*	*-8.4*
electricity for offices	*GWh*	*0.13*	*0.12*	*0.12*	-
OTHER CONSUMPTION					
other drinking water consumption (*)	**m^3**	**28,889**	**28,889**	**28,889**	**-**
drinking water consumed for non-industrial water uses (the data relate to consumption for 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*	-

(*) In the absence of better estimated, the data for 2016 and 2017 are presumed as equal to those for 2015.

WASTE	u. m.	2015	2016	2017	Δ% 2017/2016
SPECIFIC WASTE FROM WASTEWATER PURIFICATION					
treatment sludge	t	22,987	23,099	19,573	-15.3
sand and sediment from treatment	t	1,290	1,321	1,238	-6.3
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND (**)					
hazardous waste	t	7.5	11.8	886	-24.6
non-hazardous waste (*)	t	22,169.5	16,747.5	9,604.6	-42.7

(*) The clearly lower value for non-hazardous waste is due to a lower production of soil and rocks (CER170504), bituminous mixtures (CER170302), mixed waste from maintenance and demolition activities (CER170904) attributable to outsourcing the maintenance interventions.

TOTAL COD IN INPUT AND OUTPUT (2015-2017)

(t/year)	2015	2016	2017
COD_{out}	2,516.97	3,411.79	3,079.46
COD_{in}	22,308.35	21,312.71	24,015.45

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ACQUE SPA (2015-2017)

parameter	average of values (mg/l) 2015	average of values (mg/l) 2016	average of values (mg/l) 2017
BOD_5	18.2	29.3	24.4
COD	43.3	57.6	55.0
SST	19.7	33.7	25.1
NH_4^+	5.6	5.3	7.3
phosphorous	2.2	1.9	2.3

TREATMENT EFFICIENCY OF THE MAIN TREATMENT PLANTS MANAGED BY UMBRA ACQUE SPA (2015-2017)

parameter	average of values (%) 2015	average of values (%) 2016	average of values (%) 2017
$100x(COD_{in} - COD_{out})/COD_{in}$	88.7	84.0	87.2
$100x(SST_{in} - SST_{out})/SST_{in}$	95.7	91.4	94.5
$100x(NH_4+_{in} - NH_4+_{out})/ NH_4+_{in}$	83.5	85.9	83.3
$100x(PO_4^{-3}{}_{in} - PO_4^{-3}{}_{out})/ PO_4^{-3}{}_{in}$	32.5	38.9	35.9

The energy efficiency interventions took place in the two-year period 2014-2015.

UMBRA ACQUE SPA ENERGY EFFICIENCY (2015-2017)

action	energy saving achieved 2015 (kWh)	energy saving achieved 2016 (kWh)	energy saving achieved 2017 (kWh)
replacement of pumps and motors: Petrignano-Bastia Umbra PG plant	385,000	-	-

PUBLIACQUA

Publiacqua SpA is a mixed company, for the majority in public hands; Acea's equity interest is through the company Acque Blu Fiorentine SpA. It has managed the integrated water service in Ato 3 – Medio Valdano since 2002. The territory includes around 1.3 million inhabitants, with cities of great artistic and environmental merit, including Florence, Prato and Pistoia.

HUMAN RESOURCES IN FIGURES

PUBLIACQUA SPA EMPLOYEES: BREAKDOWN OF HUMAN RESOURCES (2016-2017)

(no.)	2016				2017			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	3	1	**4**	0.7	3	1	**4**	0.7
managers	11	7	**18**	3.1	10	8	**18**	3.2
white-collar workers	170	135	**305**	52.7	170	132	**302**	52.9
blue-collar workers	246	6	**252**	43.5	241	6	**247**	43.3
total	**430**	**149**	**579**	**100.0**	**424**	**147**	**571**	**100.0**

PUBLIACQUA SPA EMPLOYEES: CONTRACT TYPE (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
permanent workforce (open-ended contracts)	429	149	**578**	423	147	**570**
(of which) part-time staff	*3*	*13*	***16***	*4*	*12*	***16***
staff with fixed-term contracts	1	0	**1**	1	0	**1**
staff with professional apprenticeship contracts	0	0	**0**	0	0	**0**
total	**430**	**149**	**579**	**424**	**147**	**571**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2016-2017)

	2016	2017 (*)
accidents (no.)	25	23
total days of absence (*)	753	301
hours worked (**)	949,663	934,000
index of frequency (fi) (no. accidents x 1,000,000/work hours)	**26.33**	**24.63**
index of seriousness (si) (days absence x 1,000/work hours)	**0.79**	**0.32**

(*) The value also includes days of absence related to persistent or reopened injuries taking place in previous years.

(**) The datum is taken from an estimate for December.

COURSES AND TRAINING COSTS IN PUBLIACQUA SPA (2016-2017)

type of course	courses (no.)		editions (no.)		training (hours)		costs (Euros)	
	2016	2017	2016	2017	2016	2017	2016	2017 (*)
advanced training	52	37	52	37	1,517.5	843.5	40,000	37,000
IT	5	10	12	24	748.0	1,209.0	37,000	23,000
linguistic	0	1	0	12	0.0	186.5	0	4,800
technical-specialist	39	38	138	71	5,737.0	1,902.0	90,000	23,000
managerial	10	1	28	7	1,700.0	137.5	21,000	9,000
administrative-managerial	71	39	158	87	8,933.5	3,301.5	390,000	73,000
safety	21	32	80	116	3,594.0	5,393.5	50,000	45,000
total	**198**	**158**	**468**	**354**	**22,230**	**12,973.5**	**628,000**	**214,800**

TRAINED EMPLOYEES (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
	430	149	**579**	424	147	**571**

In 2017 training mainly concerned the 9001 topics of safety and OHSAS 18001 and ISO management systems.

NETWORKS AND PLANTS CONSISTENCY AND ENVIRONMENTAL DATA

WATER SYSTEM MANAGED BY PUBLIACQUA SPA (*) (2015-2017)

	2015	2016	2017
water network (km)	7,155	7,163	7,162
aqueducts and transport networks (km)	*1,347*	*1,347*	*1,347*
distribution network (km)	*5,808*	*5,816*	*5,815*
well intake structures (no.)	474	487	485
spring intake structures (no.)	832	829	824
river intake structures (no.)	55	55	54
lake intake structures (no.)	19	19	20
lifting stations (no.)	417	417	421
reservoirs (no.)	907	906	907
disinfection/treatment plants (no.)	136	138	102

(*) The data are consistent with the communication to ARERA concerning the managed infrastructures.

CONSISTENCY OF THE PURIFICATION AND SEWERAGE PLANTS MANAGED BY PUBLIACQUA SPA (*) (2015-2017)

	2015	2016	2017
purification plants (no.)	128	127	127
sewerage lifting systems (no.)	209	202	208
purification plants (no.)	3,720	3,676	3,676

(*) The data are consistent with the communication to ARERA concerning the managed infrastructures and discount a different reclassification.

CERTIFICATIONS

During the course of 2017 Publiacqua passed the supervisory visit in order to retain quality certification according to version **UNI EN ISO 9001:2015**, for the activities of "Supplying the integrated drinking water and treatment service for urban, industrial and domestic wastewater Laboratory analysis activities for chemical and microbiological checks on the water cycle. Treatment of non-hazardous liquids. Design of the integrated systems and management of tenders for the construction of treatment plants, drinking water and water and sewerage networks. Production of hydroelectric energy". It also retained its environmental certification according to **UNI EN ISO 14001:2004** for the activities described above, having passed the supervisory visit from ACCREDIA according to standard **UNI CEI ISO/IEC 17025:2005** and obtained Health and Safety Management certification pursuant to standard **OHSAS 18001:2007**.

ENVIRONMENTAL ACCOUNTS OF PUBLIACQUA SPA (2015-2017)

PRODUCTS AND ANALYTICAL TESTS	u. m.	2015	2016(*)	2017	Δ% 2017/2016
DRINKING WATER					
drinking water from the environment	**Mm³**	**169.2**	**168.0**	**167.0**	**-0.6**
from lakes/rivers	*Mm³*	*112.2*	*105.7*	*105.2*	*-0.5*
from wells	*Mm³*	*45.9*	*50.6*	*50.2*	*-0.8*
from springs	*Mm³*	*11.1*	*11.7*	*11.6*	*-1.1*
drinking water introduced into the network	**Mm³**	**153.8**	**152.5**	**152.0**	**-0.4**
total drinking water supplied	**Mm³**	**82.4**	**81.0**	**81.0**	**-**
ASSESSMENT OF LEAKAGE ACCORDING TO MINISTERIAL DECREE NO. 99/97 ALSO IN COMPLIANCE WITH ARERA REQUIREMENTS					
overall leakage (parameter A17)	Mm³	**67.2**	**67.0**	**66.4**	-0.9
actual leakage (parameter A15 of Ministerial Decree 99/97)	Mm³	**56.1**	**56.0**	**55.5**	-0.9
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm³**	**106.8**	**106.8**	**102.0**	**-4.5**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**n.**	**227,346**	**220,7807**	**225,260**	**2.0**
no. analytical tests on surface water (**)	*n.*	*21,745*	*21,447*	*22,743*	*6.0*
no. analytical tests on wastewater	**n.**	**42,196**	**40,906**	**41,263**	**0.9**

(*) The data for 2016 have been adjusted respect to those published.

(**) This concerns analyses on crude surface water (untreated); they are include in the value for the analytical tests on drinking water.

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
COLLECTION, TRANSPORTATION AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
materials					
sodium hypochlorite	t	1,428	1,396	**1,415**	1.4
sodium chloride	t	264	314	**238**	-24.2
hydrochloric acid	t	303	359	**260**	-27.6
flocculant	t	4,438	5,474	**4,050**	-26.0
carbon in powder	t	0	0	**0**	-
purate	t	334	384	**430**	12.0
sulphuric acid	t	564	586	**684**	16.7
oxygen	t	418	54	**32**	-40.7
acetic acid	t	186	143	**76**	-46.9
carbon dioxide excluding drinking fountains	t	722	705	**772**	9.5
ferrous chloride	t	18	31	**31**	-
phosphoric acid	t	26	19	**13**	-31.6
sodium hydroxide	t	0	0	**0**	-
ELECTRICITY(*)					
total electricity for drinking water	**GWh**	**79.7**	**79.5**	**79.7**	0.3
electricity for water lifting stations	*GWh*	*78.6*	*78.4*	*78.6*	*0.3*
electricity for offices	*GWh*	*1.1*	*1.1*	*1.1*	-
WASTEWATER PURIFICATION					
materials					
polyelectrolyte emulsion	t	222	236	**308**	30.5
sodium hypochlorite	t	8	13	**15**	15.4
peracetic acide, caustic soda, polyamine/anti-foaming agent	t	6	7	**7**	-
polyaluminium chloride (PAC)	t	3,121	4,318	**4,120**	-4.6

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
WASTEWATER PURIFICATION					
calcium	t	209	224	**305**	36.2
acetic acid 80%	t	31	272	**304**	11.8
ELECTRICITY FOR WASTEWATER					
total electricity for wastewater	**GWh**	**34.1**	**36.2**	**35.3**	**-2.7**
electricity for purification	*GWh*	*29.3*	*31.2*	*31.5*	*0.8*
electricity for lifting stations	*GWh*	*4.3*	*4.5*	*3.3*	*-26.7*
electricity for offices	*GWh*	*0.5*	*0.5*	*0.5*	*-5.0*
OTHER CONSUMPTION					
other consumption drinking water	**m^3**	**n.a.**	**n.a.**	**n.a.**	**-**

(*) The data for 2016 have been adjusted.

WASTE	u. m.	2015	2016	2017	Δ% 2017/2016
SPECIFIC WASTE FROM WASTEWATER PURIFICATION(*)					
treatment sludge	t	26,019	26,159	28,792	10.1
sand and sediment from treatment	t	1,297	1,086	767	-29.3
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND (*)					
hazardous waste	t	44	46	39	-15.2
non-hazardous waste	t	10,140	11,570	9,606	-17.0

(*) The data for 2016 have been adjusted.

TOTAL COD IN INPUT AND OUTPUT (2015-2017)

(t/year)	2015	2016	2017
COD_{out}	1,893	1,774	1,756
COD_{in}	17,095	16,441	18,605

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY PUBLIACQUA SPA – SAN COLOMBANO (2015-2017)

parameter	average of values (mg/l) 2015	average of values (mg/l) 2016	average of values (mg/l) 2017
BOD_5	1.9	2.2	2.1
COD	15.8	15.6	16.0
SST	4.5	7.6	6.0
NH_4^+	0.7	1.1	0.7
fosforo	1.0	0.9	0.9

NB The San Colombano (600,000 AE) purification plant treats about half of the global wastewater.

OUTPUT PARAMETERS: GROUP OF 36 PURIFICATION PLANTS, INCLUDING SAN COLOMBANO, WHICH COMPREHENSIVELY TREAT 98% OF WASTEWATER AND 96% OF THE ORGANIC LOAD (COD) OF PUBLIACQUA SPA (2015-2017)

parameter	average of values (mg/l) 2015	average of values (mg/l) 2016	average of values (mg/l) 2017
BOD_5	2.4	2.4	4.1
COD	17.7	16.6	24.7
SST	5.2	6.7	7.1
NH_4^+	1.1	1.3	3.2
fosforo	1.2	1.0	2.0

PURIFICATION EFFICIENCY OF THE MAIN PURIFICATION PLANTS MANAGED BY PUBLIACQUA SPA (2015-2017)

parameter	average of values (mg/l) 2015	average of values (mg/l) 2016	average of values (mg/l) 2017
$100x(COD_{in} - COD_{out})/COD_{in}$	87.0	85.7	89.4
$100x(SST_{in} - SST_{out})/SST_{in}$	91.4	84.0	92.1
$100x(NH_{4\,in}^{+} - NH_{4\,out}^{+})/ NH_{4\,in}^{+}$	97.0	94.8	97.1
$100x(PO_{4\,in}^{-3} - PO_{4\,out}^{-3})/ PO_{4\,in}^{-3}$	60.9	67.2	70.9

PURIFICATION EFFICIENCY: GROUP OF 36 PURIFICATION PLANTS, INCLUDING SAN COLOMBANO, WHICH COMPREHENSIVELY TREAT 98% OF WASTEWATER AND 96% OF THE ORGANIC LOAD (COD) OF PUBLIACQUA SPA (2015-2017)

parameter	average of values (%) 2015	average of values (%) 2016	average of values (%) 2017
$100x(COD_{in} - COD_{out})/COD_{in}$	88.9	89.2	90.6
$100x(SST_{in} - SST_{out})/SST_{in}$	93.3	89.9	93.2
$100x(NH_{4\ in}^{+} - NH_{4\ out}^{+})/ NH_{4\ in}^{+}$	95.2	94.6	95.5
$100x(PO_{4\ in}^{-3} - PO_{4\ out}^{-3})/ PO_{4\ in}^{-3}$	61.2	66.5	67.4

As regards energy efficiency, in 2017 the main results were achieved by increasing efficiency in the delivery and drinking water conversion of water taken from the Prato water table.

ENERGY EFFICIENCY PUBLIACQUA SPA (2015-2017)

action	energy saving achieved 2015 (kWh)	energy saving achieved 2016 (kWh)	energy saving achieved 2017 (kWh)
Soa La Querce plant- increased efficiency in lifting station	300,000	-	-
Ponte a Niccheri plant - installation of fine-bubble diffusers	150,000	-	-
Anconella drinking water conversion plant – check valve boosted	-	115,000	-
falda 1 (Falda di Prato) – new pumps boosted	-	100,000	100,000
falda 2 - inverter pumps boosted	-	100,000	-

ACQUEDOTTO DEL FIORA

Acquedotto del Fiora SpA has managed the integrated water service for the largest Optimal Area of Operations in Tuscany, Ato 6 – Ombrone, comprising 56 municipalities and covering an area of over 7,600 km2, since 1 January 2002. The resident population is around 406,453 inhabitants, a figure which almost doubles during the summer season.

The territory served has many **protected areas featuring high biodiversity**, including in particular, due to their special natural importance, Maremma Natural Park and Monte Labro Natural Park. Activities for management of the water service relate to both networks (aqueduct and sewers) and plants (water purification, wastewater treatment, desalination, etc.) of the 28 municipalities of the province of Grosseto and 28 (out of a total 36) municipalities of the province of Siena.

HUMAN RESOURCES IN FIGURES

ACQUEDOTTO DEL FIORA SPA EMPLOYEES: BREAKDOWN OF HUMAN RESOURCES (2016-2017)

(no.)	2016				2017			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	1	0	**1**	0.2	1	0	**1**	0.3
managers	10	4	**14**	3.5	11	5	**16**	3.9
white-collar workers	100	93	**193**	48.4	125	99	**224**	55.0
blue-collar workers	189	2	**191**	47.9	165	1	**166**	40.8
total	**300**	**99**	**399**	**100.0**	**302**	**105**	**407**	**100**

ACQUEDOTTO DEL FIORA SPA EMPLOYEES: CONTRACT TYPE (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
permanent workforce (open-ended contracts)	297	99	**396**	299	100	**399**
(of which) part-time staff	*4*	*11*	***15***	*4*	*13*	***17***
staff with fixed-term contracts	1	0	**1**	2	5	**7**
staff with professional apprenticeship contracts	2	0	**2**	1	0	**1**
total	**300**	**99**	**399**	**302**	**105**	**407**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2016-2017)

	2016	2017
accidents (no.)	5	6
total days of absence (*)	91	92
hours worked	671,369	656,850
index of frequency (fi) (no. accidents x 1,000,000/work hours)	**7.45**	**9.13**
index of seriousness (si) (days absence x 1,000/work hours)	**0.14**	**0.14**

(*) The value also includes the days of absence due to the continuing or returning effects of accidents occurring in previous years.

TRAINING COURSES AND COSTS IN ACQUEDOTTO DEL FIORA SPA (2016-2017)

type of course	courses (no.)		editions (no.)		training (hours)		costs (Euros)	
	2016	2017	2016	2017	2016	2017	2016	2017
IT	93	11	167	23	12,272	1,701	327,730	8,123
induction of new recruits	1	1	1	4	32	64	-	-
technical-specialist	8	3	12	55	759	1,925	2,217	17,614
managerial	4	1	14	7	2,436	89	52,700	12,200
administrative-managerial	8	13	11	17	835	610	10,506	6,960
safety	10	11	39	32	2,310	3,674	10,614	7,856
total	**124**	**40**	**244**	**138**	**18,644**	**8,063**	**403,769**	**52,753**

TRAINED EMPLOYEES (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
	300	95	**395**	271	80	**351**

NETWORK AND PLANT CONSISTENCY AND ENVIRONMENTAL DATA

WATER SYSTEM MANAGED BY FIORA SPA (2015-2017)

	2015 (active)	2016 (active)	2017 (active)
water network (km)	9,067	9,294	9,315
aqueducts and transport networks (km)	*1,963*	*1,955*	*1,967*
distribution network (km)	*7,104*	*7,339*	*7,348*
well intake structures (no.)	188	184	184
spring intake structures (no.)	249	248	248
river intake structures (no.)	1	1	1
lake intake structures (no.)	6	3	3
lifting stations (no.)	273	284	284
piezometers (no.)	13	13	13
reservoirs (no.)	785	796	796
disinfection/treatment plants (no.)	32	31	31
seawater desalting plant (no.)	3	3	3

CONSISTENCY OF THE PURIFICATION AND SEWERAGE PLANTS MANAGED BY ACQUEDOTTO DEL FIORA SPA (2015-2017)

	2015	2016	2017
purification plants (no.) (*)	141	142	144
sewerage lifting systems (no.)	266	270	271
sewerage network (no.)	3,211	3,214	3,215

(*) Excludes Imhoff ditches.

CERTIFICATIONS

In 2017 Acquedotto del Fiora retained certification for its management system according to standard **UNI EN ISO 9001:2008** and obtained certification for its health and safety management system according to standard **BS OHSAS 18001**.

ACQUEDOTTO DEL FIORA SPA ENVIRONMENTAL ACCOUNTS (2015-2017)

PRODUCTS AND ANALYTICAL TESTS	u. m.	2015	2016	2017	Δ% 2017/2016
DRINKING WATER					
drinking water from the environment	**Mm^3**	**62.47**	**60.72**	**60.5 (*)**	**-0.4**
from lakes/rivers	*Mm^3*	*1.08*	*0.72*	*n.a.*	-
from wells	*Mm^3*	*19.57*	*19.36*	*n.a.*	-
from springs	*Mm^3*	*41.81*	*40.31*	*n.a.*	-
drinking water from other aqueduct systems	**Mm^3**	**0.79**	**0.72**	**0.75 (*)**	**4.2**
drinking water introduced into the network	**Mm^3**	**57.85**	**56.27**	**56.00 (*)**	**-0.5**
total drinking water supplied	**Mm^3**	**29.35**	**29.40**	**29.0 (*)**	
ASSESSMENT OF LEAKAGE ACCORDING TO MINISTERIAL DECREE NO. 99/97 ALSO IN COMPLIANCE WITH ARERA REQUIREMENTS					
overall leakage (parameter A17)	Mm^3	27.59	27.61	n.a.	-
actual leakage (parameter A15 of Ministerial Decree 99/97)	Mm^3	25.77	26.05	n.a.	-
TREATED WASTEWATER					
water treated in the main treatment plants	**Mm^3**	**17.07**	**16.16**	**n.a.**	-
water treated in plants having power exceeding 2,000 AE	**Mm^3**	**25.1**	**25.2**	**n.a.**	
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water	**no.**	**97,456**	**81,216**	**76,459**	**-5.9**
no. analytical tests on wastewater	**no.**	**53,883**	**44,730**	**44,304**	**-1.0**
no. analytical tests on surface water	**no.**	**813**	**631**	**678**	**7.4**

(*) The data for 2017 at the time of publication are not available. Insert estimated for some items.

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
COLLECTION, TRANSPORTATION AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
materials					
sodium hypochlorite	t	278	493	**228**	-53.8
sodium chloride	t	7	5	**5**	-
hydrochloric acid	t	14	2	**3**	50.0
carbon in powder	t	29	19	**0**	-
polyaluminium chloride (PAC)	t	15.7	31	**10**	-67.7
ELECTRICITY					
total electricity for drinking water	**GWh**	**31.1**	**35.9**	**36.7**	**2.2**
electricity for lifting stations	*GWh*	*20.1*	*21.1*	*26.7*	*25.5*
electricity for offices	*GWh*	*0.3*	*0.4*	*0.4*	-
WASTEWATER PURIFICATION					
materials					
polyelectrolyte emulsion	t	163.65	150.48	**132.30**	-12.1
sodium hypochlorite	t	417.33	432.76	**323.86**	-25.2
polyaluminium chloride (pac)	t	67.40	66.82	**64.35**	-3.7
ELECTRICITY FOR WASTEWATER					
total electricity for wastewater	**GWh**	**23.9**	**20.0**	**24.1**	**20.5**
electricity for purification	*GWh*	*20.4*	*17.4*	*21.8*	*25.3*
electricity for lifting stations	*GWh*	*3.5*	*3.6*	*2.4*	*-33.3*
OTHER CONSUMPTION					
other drinking water consumption	**m^3**	**n.a.**	**n.a.**	**n.a.**	**-**

In some purification plants of Ponte a Tressa in the municipality of Siena, there is an industrial water network which allows treated wastewater for washing machinery and for the bathrooms in the office building. Moreover, at the Punta Ala purification plant in the Municipality of Castiglion della Pescaia, treated water is reused for irrigation purposes.

WASTE	u. m.	2015	2016	2017	Δ% 2017/2016
SPECIFIC WASTE FROM WASTEWATER PURIFICATION					
treatment sludge	t	13,031	11,625.51	11,289.34	-2.9
sand and sediment from treatment	t	748	507.32	484.40	-4.5
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND					
hazardous waste	t	64.44	74.36	48.42	-34.9
non-hazardous waste	t	707.76	666.74	732.51	9.9

TOTAL COD IN INPUT AND OUTPUT (2015-2017)

(t/year)	2015	2016	2017
COD_{out}	832	900	720
COD_{in}	6,875	7,990	6,428

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ACQUEDOTTO DEL FIORA SPA (*) (2015-2017)

parameter	average of values (%) 2015	average of values (%) 2016	average of values (%) 2017
BOD_5	12.6	13.4	7.9
COD	48.8	55.6	41.0
SST	14.6	12.5	10
NH_4^+	4.9	4.8	6.4
phosphorus	2.3	2.5	2.6

(*) Plants having power >20,000 AE.

PURIFICATION EFFICIENCY OF THE MAIN PURIFICATION PLANTS MANAGED BY ACQUEDOTTO DEL FIORA SPA (*) (2015-2017)

parameter	average of values (%) 2015	average of values (%) 2016	average of values (%) 2017
$100x(COD_{in} - COD_{out})/COD_{in}$	87.9	88.7	**88.8**
$100x(SST_{in} - SST_{out})/SST_{in}$	91.7	93.7	**92.9**
$100x(NH_{4\ in}^{+} - NH_{4\ out}^{+})/ NH_{4\ in}^{+}$	86.6	85.4	**81.8**
$100x(PO_{4\ in}^{-3} - PO_{4\ out}^{-3})/ PO_{4\ in}^{-3}$	46.3	53.5	**46.0**

(*) Plants having power > 20.000 AE.

Acquedotto del Fiora brought about interventions to increase energy efficiency both in the context of known technologies (inverter, high efficiency motors, recourse to LED technology for lighting, more efficient pumps, remote control) and developing **pilot projects**, especially regarding more energy consuming plants. The table shows the main actions with an estimate of the related energy saving.

ENERGY EFFICIENCY ACQUEDOTTO DEL FIORA (2015-2017)

action	achieved energy saving 2015 (kWh)	achieved energy saving 2016 (kWh)	achieved energy saving 2017 (kWh)
increased efficiency of drinking water pumping systems	240,000	129,682	225,000
increased efficiency of purification processes	500,000	-	-
bulb lights replaced with LED lights	10,000	10,000	2,100

ACQUE

Acque SpA operates as the sole operator of the integrated water cycle in Basso Valdarno, an area covering five Tuscan provinces. The service is provided in 56 municipalities in the provinces of Florence, Lucca, Pisa, Pistoia, and Siena, corresponding to Territorial Conference 2 Basso Valdarno.

HUMAN RESOURCES IN FIGURES

ACQUE SPA EMPLOYEES: BREAKDOWN OF HUMAN RESOURCES (2016-2017)

(no.)	2016				2017			
	men	women	**total**	weight %	men	women	**total**	weight %
executives	5	2	**7**	1.8	4	2	**6**	1.5
managers	5	3	**8**	2.0	5	4	**9**	2.25
white-collar workers	93	136	**229**	57.7	94	144	**238**	59.35
blue-collar workers	153	0	**153**	38.5	148	0	**148**	36.90
total	**256**	**141**	**397**	**100.0**	**251**	**150**	**401**	**100.0**

ACQUE SPA EMPLOYEES: CONTRACT TYPE (2016-2017)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
permanent workforce (open-ended contracts)	253	131	**384**	250	140	**390**
(of which) part-time staff	*4*	*30*	***34***	*4*	*32*	***36***
staff with fixed-term contracts	9	3	**12**	1	10	**11**
staff with professional apprenticeship contracts	0	1	**1**	0	0	**0**
total	**262**	**135**	**397**	**251**	**150**	**401**

INDUSTRIAL ACCIDENTS AND FREQUENCY AND SEVERITY INDICES (2016-2017) (*)

	2016	2017 (*)
accidents (no.)	5	9
total days of absence (*)	122	173
hours worked (**)	635,053	639,710
index of frequency (fi) (no. accidents x 1,000,000/work hours)	**7.87**	**14.07**
index of seriousness (si) (days absence x 1,000/work hours)	**0.19**	**0.27**

(*) The increase in 2017 of frequency and severity indices can be attributed to a type of accident (no. 4) suffered by administration staff in offices which is to be considered as unsolved and exceptional respect to the historical phenomenon. Examining the accidents related to said staff (no. 5) the value of the frequency and severity indices are fully comparable to those of 2016.

(**) The value also excludes days of absent related to persistent or reopened injuries from previous years.

COURSES AND TRAINING COSTS IN ACQUE SPA (2016-2017)

type of course	courses (no.)		editions (no.)		training (hours)		costs (Euros)	
	2016	2017	2016	2017	2016	2017	2016	2017 (*)
IT	189	16	73	46	13,085	1,333	346,486 (**)	
induction of new recruits	1	1	1	3	520	313	0	
technical-specialist (***)	49	47	59	59	1,300	1,155	14,310	
managerial	2	3	5	13	1,226	521	50,847	
safety	29	21	61	65	1,893	2,853	3,315	
environment	5	3	6	10	310	442	1,200	
transversal (including Legislative Decree no. 231)	3	7	4	19	207	623	0	
totale	**278**	**98**	**209**	**215**	**18,541**	**7,240**	**416,158**	**134,711**

(*) The division of costs was not yet known for 2017 at the time of publication.

(**) Includes investment costs.

(***) Includes regulatory updates.

TRAINED EMPLOYEES (2016-2017) (*)

(no.)	2016			2017		
	men	women	**total**	men	women	**total**
	271	150	**421**	268	162	**430**

(*) The data, which exceed with consistency of the staffing structure, include employees from other companies in Gruppo Acque which carried out seconded company courses, as well as workers which only rendered service for some months of the year.

In 2017 training involved staff from all corporate sectors (operational management, sales, administration and human resources); a total of 7,240 hours of training was provided, excluding e-learning. The reduction in hours is to be attributed to the numerous courses which took place in 2016 regarding the new SAP IT systems for managing corporate processes, which did not required repetition in 2017. During the year, instead, several courses on ADR standards related to road transport of hazardous goods and Legislative Decree no. 231 of 2001 took place; furthermore, the first on-line training course related to the Integrated and Intergroup Management System was realised, with total coverage which involved 65% of the corporate workers over 7 months. Safety training, lastly, was notably increased in administered hours.

NETWORKS AND PLANTS CONSISTENCY AND ENVIRONMENTAL DATA

WATER SYSTEM MANAGED BY ACQUE SPA (active plants) (2015-2017)

	2015	2016	2017
water network (km)	5,898	5,912	5,921
aqueducts and transport networks (km)	*829*	*829*	*834*
distribution network (km)	*5,069*	*5,083*	*5,087*
well intake structures (no.)	428	531	531
spring intake structures (no.)	268	299	299
river and lake intake structures (no.)	14	22	21
reservoirs (no.)	547	569	568
disinfection/treatment plants (no.)	293	267	240
pumping stations (no.)	402	415	415

CONSISTENCY OF THE PURIFICATION AND SEWERAGE PLANTS MANAGED BY ACQUE SPA (2015-2017)

	2015	2016	2017
purification plants (no.)	139	139	139
sewerage lifting systems (no.)	517	527	531
sewerage network (no.)	3,081	3,095	3,066

CERTIFICATIONS

The integrated management system of Acque SpA **Best4 plus** (quality, environment, safety, energy and social responsibility) is still in force in 2017.
During the year the main novelties were: adaptation of the management system to the new edition of standard **SA8000 (edition 2014)**, and related certification as at June 2017; the implementation of the management system for **road safety according to UNI ISO 39001** and related certification; the implementation of the **management system 37001**, which shall be certified in 2018.

See www.acque.net for details.

ACQUE SPA ENVIRONMENTAL ACCOUNTS (2015-2017)

PRODUCTS AND ANALYTICAL TESTS	u. m.	2015	2016	2017	Δ% 2017/2016
DRINKING WATER					
drinking water from the environment	**Mm³**	**71.731**	**70.120**	**72.431**	**3.3**
from lakes/rivers	*Mm³*	*3.381*	*3.357*	*3.599*	*7.2*
from wells	*Mm³*	*60.657*	*59.993*	*62.958*	*4.9*
from springs	*Mm³*	*7.693*	*6.770*	*5.873*	*-13.2*
water collected from other aqueduct systems	**Mm³**	**6.859**	**7.027**	**6.858**	**-2.4**
drinking water transferred to other aqueduct systems	Mm³	0.98	0.953	1.072	12.5
production loss between collection and entry into the network	Mm³	3.769	2.440	3.866	58.4
drinking water entered into the corporate network	Mm³	73.84	73.754	74.350	0.8
drinking water entered into the network + drinking water transferred to other systems and production loss between collection and entry into the network	**Mm³**	**78.590**	**77.147**	**79.288**	**2.8**
total supplied drinking water	**Mm³**	**46.01**	**47.679**	**45.945**	**-3.6**
ASSESSMENT OF LEAKAGE ACCORDING TO MINISTERIAL DECREE NO. 99/97 ALSO IN COMPLIANCE WITH ARERA REQUIREMENTS					
overall leakage (parameter A17)	Mm³	27.25	27.028	28.405	5.1
actual leakage (parameter A15 of Ministerial Decree 99/97)	Mm³	18.39	18.315	19.315	5.5
TREATED WASTEWATER					
water treated in all the treatment plants	**Mm³**	**47.20**	**51.40**	**45.31**	**-15.7**
ANALYTICAL TESTS ON DRINKING WATER AND WASTEWATER					
no. analytical tests on drinking water *(including tests on surface water)*	**no.**	**234,950**	**278,603**	**266,850**	**-4.2**
no. analytical tests on wastewater	**no.**	**119,144**	**123,646**	**119,742**	**-3.2**

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
COLLECTION, TRANSPORTATION AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER					
materials					
laboratory reactants (chemical and microbiological sector)	t	2.53	2.49	**2.37**	-4.8
sodium hypochlorite	t	233.61	250.03	**220.30**	-11.89
sodium chloride	t	392.82	395.025	**394.51**	-0.13
potassium permanganate	t	4.30	3.00	**3.85**	28.33
polyaluminium chloride	t	38.01	17.91	**9.41**	-47.46
salt in bags	t	1	4.85	**7.05**	45.36
sodium hypochlorite	t	312.49	357.23	**377.47**	5.66
caustic soda	t	1.72	3.65	**1.12**	-69.31
sodium metabisulphate	t	2.70	1.25	**2.17**	73.6
phosphoric acid	t	0.42	0.15	**0.00**	-
citric acid	t	2.30	1.58	**1.98**	25.7
alifons L	t	0.105	-	**0.025**	-
aluminium polychlorosulphate	t	102.12	157.49	**170.22**	8.1

RESOURCES USED	u. m.	2015	2016	2017	Δ% 2017/2016
ELECTRICITY (*)					
total electricity for drinking water	**GWh**	**53.46**	**52.8**	**55.4**	**4.9**
electricity for water lifting stations	*GWh*	*53.0*	*51.55*	*55.09*	*6.9*
electricity for offices	*GWh*	*0.46*	*0.53*	*0.32*	*-39.6*
WASTEWATER PURIFICATION					
materials					
polyelectrolyte powder	t	3.00	1.00	**0.0**	-
polyelectrolyte emulsion	t	93.025	130.60	**131.98**	1.1
polyaluminium chloride	t	15.40	4.45	**9.00**	102.2
ferrous chloride for sludge dehydration (40%)	t	524.45	529.65	**437.83**	-17.3
sodium hypochlorite for final disinfection	t	9.965	1.00	**14.42**	-
peracetic acide for disinfection	t	13.00	9.5	**12.00**	26.3
sulphuric acid	t	4.15	0.0	**2.3**	-
ferrous chloride 31.5%	t	3.795	0.0	**10.22**	-
caustic soda 30% (sodium hydroxide) - Solvay	t	12.15	0.40	**1.57**	292.5
citric acid	t	1.30	-	**0.1**	-
biotek base L - biological reactivant	t	0	0.06	**0.12**	100.0
nutrients	t	398.240	466.93	**479.4**	2.7
other	t	0.0	0.0	**0.26**	-
ELECTRICITY FOR WASTEWATER (*)					
total electricity for wastewater	**GWh**	**31.20**	**31.69**	**31.83**	**0.4**
electricity for purification	*GWh*	*25.33*	*24.92*	*26.12*	*4.8*
electricity for lifting stations	*GWh*	*5.60*	*6.44*	*5.53*	*-14.1*
electricity for offices	*GWh*	*0.27*	*0.33*	*0.18*	*-45.5*
OTHER CONSUMPTION					
other consumption drinking water	**m^3**	**260,118**	**287,554**	**266,242**	**-7.4**
drinking water consumed for civil water use (the datum concerns consumption for offices, outside showers etc.) (**)	*m^3*	*40,381*	*59,862*	*46,829*	*-21.8*
drinking water consumed for process use (washing machinery and bays, etc.) (***)	*m^3*	*219,737*	*219,413*	*219,413*	-

(*) Electricity data 2017 are estimated for December.

(**) The value is partially estimated.

(***) The value for 2016 was adjusted; the value for 2017, as not available at the time of publication, was estimated as equal to the value for 2016.

WASTE	u. m.	2015	2016	2017	Δ% 2017/2016
SPECIFIC WASTE FROM WASTEWATER PURIFICATION					
treatment sludge	t	20,834.21	21,125.40	21,577.260	2.14
sand and sediment from treatment	t	3,415.77	2,894.490	2,308.86	-20.23
WASTE PURSUANT TO LEGISLATIVE DECREE NO. 152/06 EXCLUDING SLUDGE AND SAND					
hazardous waste	t	11.64	10.38	30.15	190.5
non-hazardous waste	t	50,411.93	43,919.86	49,410.19	12.5

We point out that Acque **reuses/recycles part of the water** for washing equipment and sludge dehydration (belt presses), installed in the main purification plants, for an estimated volume equal to about 345,604 m^3 in 2017.

TOTAL COD IN INPUT AND OUTPUT (all plants) (2015-2017)

(t/year)	2015	2016	2017
COD_{out}	1,757	2,380	1,603
COD_{in}	21,659	24,167	22,789

OUTPUT PARAMETERS FOR THE MAIN TREATMENT PLANTS MANAGED BY ACQUE SPA (*) (2015-2017)

parameter	average of values (mg/l) 2015	average of values (mg/l) 2016	average of values (mg/l) 2017
BOD_5	4.7	8.4	5.3
COD	36.0	43.3	34.3
SST	8.7	10.3	7.6
NH_4^+	4.8	6.3	4.7
phosphorus	2.1	2.5	2.4

(*) Plants with potential ≥ 10,000 AE.

PURIFICATION EFFICIENCY OF THE MAIN PURIFICATION PLANTS MANAGED BY ACQUE SPA (*) (2015-2017)

parameter	average of values (%) 2015	average of values (%) 2016	average of values (%) 2017
$100x(COD_{in} - COD_{out})/COD_{in}$	90.8	90.1	**93.5**
$100x(SST_{in} - SST_{out})/SST_{in}$	93.5	95.4	**97.2**
$100x(NH_{4\,in}^{+} - NH_{4\,out}^{+})/ NH_{4\,in}^{+}$	87.4	84.4	**87.4**
$100x(PO_{4\,in}^{-3} - PO_{4\,out}^{-3})/ PO_{4\,in}^{-3}$	62.6	68.4	**74.6**

(*) Plants with potential ≥ 10,000 AE.

Acque has brought about energy efficiency interventions, predicting the savings indicated in the table. Effective savings are yet to be accounted for.

ENERGY EFFICIENCY ACQUE SPA (2015-2017)

action	energy saving achieved 2015(*) (kWh)	energy saving achieved 2016 (kWh)	energy saving achieved 2017 (kWh)
Pagnana plant - lifting	40,000	40,000	40,000
Cambiano plant - lifting	-	5,000	5,000
Le Lame plant - replacement of aeration system	-	30,000	45,000
S. Jacopo plant - replacement of aeration system	-	40,000	40,000
inter-communal purification plant – automation and increased energy efficiency	500,000	550,000	550,000
Minor plants– increased efficiency and lifting	-	6,000	6,000

(*) The figures for 2015 have been adjusted.

OVERSEAS ACTIVITIES

For years Acea has been operating abroad in the water services sector in Peru, Honduras and the Dominican Republic, serving a total of **approximately 3 million people**.
Overseas activities have a limited incidence from an economic and financial viewpoint, in terms of consolidation percentage, but a brief description of them is given here because of their social importance. The operations are carried out by companies created through **partnerships with local and international stakeholders**. The objective is to improve the service, especially as regards **technical and management aspects**. This is possible thanks to **staff training** and the **transfer of know-how** to local businesses.

CONSORCIO AGUA AZUL SA

The Consorcio Agua Azul was set up with the mission to produce drinking water for the local public-owned water company, SEDAPAL (Drinking water and sewerage service of Lima). The Consortium constructed the infrastructures required to satisfy part of the drinking water needs of the **northern areas of Lima, Peru**, using the surface and underground waters of the river Chillon and will be responsible for their management until 2027, when it will be transferred to the State.

47.8 Mm^3 of drinking water was produced in 2017, 19% more than 2016.

CONSORCIO AGUA AZUL SA - MAIN COMPANY AND OPERATING DATA

Country (area)	Perù (Lima, northern area - Cono Norte)
inhabitants served	839,000
customer	Sedapal (Se Drinking water and sewerage service of Lima. State owned)
source of financing	own capital and bonds issued on the Peruvian market
contract duration	07/04/2000 – 18/06/2027
scope of the project	BOT (Build-Operate-Transfer) project for the construction and management of the drinking water supply system using the waters of the river Chillon and the underlying source of ground water
stakeholders	Acea SpA 25.5%, Impregilo International Infrastructure N.V. 25,5%, Marubeni Co 29%, Inversiones Liquidas S.A.C 20%
no. of employees at 31/12/2017	33
turnover (in thousands of Euros)	12,511

Many activities took place over the year. Continuing into 2017 was the **training programme** on **environmental topics** and **safety in the workplace** for all internal staff and the staff of contractors. **2,863 hours of training were supplied**. Training exercises were coordinated with the Carabyllo Fire Brigade; its help was repaid by funding the improvement of its structures dedicated to training staff.
Of particular importance are the training courses for staff in the irrigation commission on matters concerning the use of fertilisers and **conversion to biological agriculture**. After six years' work, in February 2017 it was presented and promoted the board of directors of the **Association of ecological products** of the valley of Chillón, which is the first of its kind in the entire area.
One again, employees were given a **questionnaire on the working climate to be filled in anonymously**; a satisfaction level of 100% was recorded.
As regards **preventive health**, a campaign was carried out of vaccinations against influenza, also extended to employees' families, on a voluntary basis.
In 2017 **580 plant visits** were organised involving students, delegations from companies in the sector and regional institutions.
As in every year, regional courses in the design and functioning of rapid filtering plants were carried out in March and November at the facilities of the Consortium, organised by the Faculty of Engineering of the National University of Peru. Graduates from several Latin American countries participated in these courses.
Again in 2017, the Consortium **hosted high school and university students and new graduates, offering them a period of internship**. In 2017, from the viewpoint of corporate social responsibility, the Consorcio Agua Azul **confirmed its support to State entities** (such as the State Police, primary schools, the Ministry of Agriculture and the Ministry of Health), **non-profit organisations** (such as associations for the rehabilitation of drug addicts) and **consumer associations**.
Teaching materials were distributed to primary schools and kindergartens, in greater quantities than in previous years (**1,641 kit**, versus 1,513 distributed in 2016), in order to combat the widespread phenomenon of leaving school. This year too, distributed backpacks were made entirely of **recycled plastic materials** and distinguished by printed phrases **encouraging the proper use of water resources and the respect of the environment**.
At Christmas time donations included:

- 1,926 toys to the children in schools in the outskirts, the children of members of the law enforcement agencies in the area and employees of the Municipal authorities,
- Restaurant vouchers to all the employees of the Consortium to have lunch with their families.

The Peruvian certification authority SGS renewed the certification of the **Integrated Quality and Environment System**, according to **UNI EN 9001:2008 and 14001:2004** standards, issuing the relevant certificates, valid until 2018. The certified and updated management system implemented enables the optimisation of the production processes and simultaneously the significant reduction of the environmental impact, through actions aimed at energy saving and reducing the use of paper. During the year, the company satisfied the regulatory requirements concerning workers' rights and health and safety in the workplace.

AGUAS DE SAN PEDRO

Aguas de San Pedro ASP is the holder of a thirty-year contract for the management of the integrated water service in the city of San Pedro Sula in Honduras. The company started a programme of interventions for the enhancement, treatment and improvement of the water service and sewerage network covering the entire city. In 2017, 118,686, users were served and 74% of them were supplied with meters. The coverage of the drinking water service remains at 99% of the population, and for the sewerage service 83%.
The total water production in 2017 was approximately 81 Mm^3.

AGUAS DE SAN PEDRO SA – MAIN COMPANY AND OPERATING DATA

Country (area)	Honduras (San Pedro Sula)
inhabitants served	755,000
customer	municipal administration
source of financing	own capital and loans from merchant banks
contract duration	01/02/2001 – 01/02/2031
scope of the project	concession of the integrated water service in the city of San Pedro Sula
stakeholders	Acea SpA 60.65%, IREN SpA 39.35%
no. of employees at 31/12/2017	425
turnover (in in thousands of Euros)	28,355

In 2017, the Company continued its **technical assistance programme for rural communities** and confirmed its commitment to supporting environmental protection initiatives, continuing the conservation programme in the natural reserve of El Merendon, declared as a protected area for water production in San Pedro Sula.

The initiatives include various measures implemented previously in 2016, amongst which:

- the "Un millon de Arboles para el Merendon" (One million trees for the Merendon) **reforestation** project: 101,738 fruit trees and others for producing wood in the affected areas were planted, reaching a total of 681,738 plants since the start of the project;
- the **environmental training**, which included 11 training courses totally 50 hours, aimed at agricultural producers benefitting from the reforestation project, to which 375 people participated;
- fire prevention, which brought about various land protection campaigns, in particular in 2017 13 fires were tackled which destroyed 51 hectares of land;
- social assistance of various kinds and technical assistance for the rural communities of Merendón.

In particular the programme for **technical assistance to the rural communities** involved training activities for the community leaders, activities on the **management and maintenance of water systems**, with the objective of enhancing their knowledge on the quality of water, the management and maintenance of the systems and the basic principles of hydraulics. In details, hygiene conditions were improved for 1,000 dwellings in districts of Manchaguala, El Palmar and Rio Frio.

Also continuing in 2017 was the implementation of the **plan for health in the workplace**, as required by the *Sistema Médico de Empresa EMS-IHSS-ASP*, with the realisation of **health campaigns** (conferences on topics such as female wellbeing, nutrition and leading a more healthy life); sports activities were also organised for the employees and, lastly, **campaigns for vaccination** against influenza, hepatitis A and B and tetanus and medical check-ups to diagnose osteoporosis, in addition to ophthalmology and dentistry check-ups.
The transition of the quality management system to the requirements of versions 2015 of standard ISO 9001 was realised in 2017. Certification of the management system according to standard ISO 17025:2005 was confirmed by the certification authority EMA (Entitad Mexicana de Accreditación) after the audit in June.

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 project is one of the first experiments of private participation in water services in the Dominican Republic.
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 30 September 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; 2,000 of which were installed in 2017. Apart from the foregoing, the company also carries out maintenance on the entire meter park.

ACEA DOMINICANA SA – MAIN COMPANY AND OPERATING DATA

Country (area)	Repubblica Dominicana (Santo Domingo, North and East areas)
inhabitants served	1,500,000
customer	Corporación del Acueducto y Alcantarillado de Santo Domingo (CAASD)
contract duration	01.10.2003 – 30.09.2023
scope of the project	Commercial management of the water service
stakeholders	Acea SpA 100%
no. of employees at 31/12/2017	179
turnover (in in thousands of Euros)	4,080

The promotion of the "Plan Deuda Cero" (Zero debt plan) aimed at users in arrears with payments continued in 2017 in the poorer areas of the capital and in Boca Chica. This year too, at media level, such activity was supported by interviews and explorations in some of the main Dominican newspapers and television channels.
Acea Dominican also continued its commitment towards **awareness campaigns** aimed at the inhabitants of the areas served: the campaigns are carried out periodically with the involvement of employees who, in weekly meetings with the local representatives, contribute towards spreading information on the **proper use of water resources** and on the importance of complying with the economic **conditions of the contract**, in order to guarantee that the local water company has the financial tools needed to improve the quality of the service supplied.

Various activities for improving and preserving the **Quality management system** continued, implemented and certified according to standard **ISO 9001:2008**.
Moreover, the development of software and applications continued, aimed at improving operational efficiency in the land and facilitated bill payment options for clients. As regards the management of human resources, Acea Dominicana, in fulfilment of the regulations provided by the Dominican law on Employment and Social Rights, has always adopted **corporate policies aimed at safeguarding the rights and dignity of its workers**. Consistently with this approach, the private health insurance policy has been renewed and a severance fund has been allocated, neither of which are compulsory in the Dominican Republic.

GRI STANDARD CONTENT INDEX: REPORTING PRINCIPLES, GENERAL STANDARDS AND MATERIAL SPECIFIC STANDARDS

The Sustainability Report was drawn up in accordance **with GRI Standards (ed. 2016): comprehensive**[112] **option**, as shown below in the GRI Content Index which includes:

- reference to Reporting Principles (GRI 101 - Foundation 2016);
- the **definition of the 56 general standards** (GRI 102: General Disclosure 2016) **and 25 specific topics** ("Topic-specific Standards": 200-Economic, 300-Environmental, 400-Social) **deemed material** 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-materiality" of certain indicators** included in material topics;
- **the extension of the "materiality" of each topic (specific 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.

STANDARD GRI CONTENT INDEX		
GRI Standard	definition of known GRI standards (responses or report of omissions or non-materiality) sections and pages of reference	Compliance with Legilsative Decree 254/2016
GRI 101: Foundation 2016 (Reporting Principles)		
GENERAL DISCLOSURES		
	ORGANISATION PROFILE	
GRI 102: General Disclosures 2016	**102-1 Name of the organisation** Acea SpA, *Corporate identity* page 24.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-2 Activities, brands, products, and services. *Corporate identity* page 24 et seq., 25 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 Localisation of operations (Number of countries where the organisation operates, and names of countries where it has significant operations and/or that are specifically relevant to the sustainability topics covered in the report). *Corporate identity* pages. 24 s.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-5 Ownership and legal form. *Corporate identity* page 26.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-6 Markets served (including geographic locations, sectors served and types of customers and beneficiaries). *Corporate identity* pages. 24 s., 30; *Relations with stakeholders* pages 62. et seq. 68 table no. 11.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-7 Scale of the organisation (including: number of employees; net sales - for private sector organisations - or net revenues -for public sector organisations; total capitalization broken down in terms of debt and equity; quantity of products or services provided). *Corporate identity* pages 24, table no 6, 30 table no. 7; *Relations with stakeholders* pages 123, table no. 35, 144.	**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 organisation'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 121 et seq., 124 et seq., 131.	**Art. 3 paragraph 2, letter d):** social aspects and aspects related to staff management
	102-9 Description of organisation's supply chain. *Relations with stakeholders* pages 116 et seq.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model

[112] 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 organisation'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; change in the location of suppliers, the structure of the supply chain, or relationships with suppliers etc.).** *Corporate identity* page 26; *Relations with stakeholders* pages 117 et seq.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-11 Precautionary Principle or approach (whether and how the organisation applies the Precautionary Principle or approach. *Corporate identity* pages. 53 et seq., 57 and table no. 8; *Relations with stakeholders* pages 151 et seq.; *Relations with the environment* page 179.	**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 organisation subscribes, or which it endorses.). *Membership to the United Nations Global Compact* pages 19 et seq.,17; *Corporate identity* pages 33, 35, 57; *Relations with stakeholders* pages 115, 116, 132, 150; *Relations with the environment* page 157.	**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 organisational level in associations or organisations 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* page 149.	**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 organisation and its strategy for addressing sustainability. *Letter to stakeholders* pages. 6-7, *Corporate identity* pages. 33 et seq., 38 et seq., 56.	**Art. 3 paragraph 7:** The responsibility for ensuring that the report is in [...] compliance is the responsibility of the directors
	102-15 Description of key impacts, risks, and opportunities. *Corporate identity* pages. 29 et seq., 31, 33, 35, 38 et seq., 53, 55, 56 et seq. *Relations with stakeholders* pages 147, 148, 151.	**Art. 3 paragraph 1, letter c):** the main risks, generated or incurred **Art. 3 paragraph 2, letter c):** the impact [...] on the environment as well as on health and safety
	ETHICS AND INTEGRITY	
	102-16 Description of the organisation's values, principles, standards, and norms of behaviour *Corporate identity* pages. 33 et seq., 50 et seq., 56, 62 chart no. 16; *Relations with stakeholders* page 115.	**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 behaviour, and organisational integrity; reporting concerns about unethical or unlawful behaviour, and organisational integrity etc.). *Corporate identity* pages 50, 55.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model **Art. 3, paragraph 2, letter e):** respect for human rights, the measures taken to prevent violations, as well as actions taken to prevent discriminatory attitudes and actions
	GOVERNANCE	
	102-18 Governance structure of the organisation, including committees of the highest governance body. Committees responsible for decision-making on economic, environmental and social topics. *Corporate identity* pages. 50 et seq., 52.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-19 Processes 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 f 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

	102-20 Executive-level responsibility for economic, environmental, and social topics (whether the organisation 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. Within the staff of the Chairman, delegated for supervising topics concerning the environmental and social impact of the Group, operates the Institutional Affairs Division of Acea SpA - within the which the Unit is allocated - which has among its duties the coordination and development of topics concerning the sustainability of the Group's activities and processes. The person responsible for this Unit is the Acea 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 and how the resulting feedback is provided to the highest governance body. During the course of the year, management was asked to attend Board meetings, making a specific informative and cognitive contribution to the meetings A meeting of the Ethics and Sustainability Committee was specifically dedicated to a comparison with the references of the Integrated Governance Index in which emerging guidelines on the matter of integrating sustainability in the corporate governance systems were explained and discussed. The BoD also carried out an induction session con with external experts, also in compliance with the requirements of the Self-Governance Code, regarding sustainability and business. *Corporate identity* pages. 33 et seq., 50 et seq., 53; *Relations with stakeholders* page 144.	**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* page 51 et seq.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-23 Chair of the highest governance body (the organisation shall report whether the Chair is also an executive officer in the organisation, his or her function within the organisation's management and the reasons for this arrangement). *Corporate identity* pages 51 et seq.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
GRI 102: General Disclosures 2016	**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 independents, 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 these selection processes and in compliance with the recommendations of the Self-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 governing body. *Corporate identity* pages 51 et seq.	**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. 50 et seq., 52.	**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 organisation's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics *Disclosing sustainability: methodological note* page 12; *Corporate identity* pages. 33 et seq., 36 et seq., 50, 52, 56.	**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 12; *Corporate identity* pages 33 et seq., 50, 51.	**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 50, 51, 52, 57; *Relations with stakeholders* page 140.	**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* pag. 12; *Corporate identity* pages. 38 et seq., 50, 51 et seq., 56	**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 organisation's risk management processes for economic, environmental and social topics. *Disclosing sustainability: methodological note* page 12, *Corporate identity* pages. 38 et seq., 48 et seq., 50, 52, et seq.	**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 12; *Corporate identity* pages. 38 et seq., 50, 56.	**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 organisation's sustainability report and ensures that all material Aspects are covered. *Disclosing sustainability: methodological note* page 12; *Corporate identity* page 52.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-33 Processes 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 functionally reports, who interacts freely 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 53, 55, 57.	**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 55, 56, 59.	**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). 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. Within the Catalogue of Group Objectives, which provides a set of indicators for assigning to Management performance targets, the contexts in which to retrace the identified objectives are defined amongst which those associated to the treatment/ remedy of non-conformities for Quality the Environment Safety and Energy. *Corporate identity* pages 50 et seq., 53; *Relations with stakeholders* page 140.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-36 Processes for determining remuneration; whether remuneration consultants are involved in determining remuneration and whether they are independent of management. No external subjects to the company were involved in determining the remuneration Policy.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model

	102-37 Stakeholders' involvement in remuneration. *Corporate identity* page 53.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-38 Ratio of the annual total compensation for the organisation'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 2017 is given by retributive multiple 7.3, which is compared to a mean value of 14.8 of peer companies. See also Remuneration Report 2017, available from the Acea website (www.acea.it) *Corporate identity* page 53.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-39 Report the ratio of percentage increase in annual total compensation for the organisation's highest-paid individual 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, in line with the Glass Lewis European guidelines, one of the main proxy advisors.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	STAKEHOLDER ENGAGEMENT	
	102-40 List of stakeholder groups engaged by the organisation. *Disclosing sustainability: methodological note* page 13; *Corporate identity* pages 58 et seq.; *Relations with stakeholders* pages 69 et seq., 81 et seq., 85 et seq., 90 et seq., 101 et seq., 104 et seq., 108 et seq., 111 et seq., 119 et seq., 122, 131, 133, 135, 137, 139, 145, 146 et seq., 149 et seq.; *Relations with the environment* page 166.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	102-41 Percentage of employees covered by collective bargaining agreements. *Relations with stakeholders* page 131.	**Art. 3 paragraph 2, letter d):** aspetti social aspects and aspects related to staff management
GRI 102: General Disclosures 2016	**102-42 Basis for identification and selection of stakeholders with whom to engage.** *Disclosing sustainability : methodological note* page 13; *Corporate identity* pages 58 et seq.; *Relations with stakeholders* pages 69 et seq. 82 et seq., 85 , 88 et seq., 91, 101 et seq., 104 et seq., 108 et seq., 111 et seq., 119 et seq., 122 et seq., 131, 133, 135, 137, 139, 143, 145, 146 et seq., 149 et seq.	**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* page 13; *Corporate identity* pages. 58 et seq.; *Relations with stakeholders* pages 69 et seq., 81 et seq., 85, 88 et seq., 90 et seq., 101 et seq., 104 et seq., 108 et seq., 111 et seq., 119 et seq., 122, 131, 133, 135 et seq., 139 et seq., 141 et seq., 143, 145 et seq., 148 et seq., 150 et seq.; *Relations with the environment* page 166.	**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 organisation has responded to those key topics and concerns, including through its reporting and the stakeholder groups, etc.). *Disclosing sustainability: methodological note* page 13; *Corporate identity* pages. 58 et seq., *Relations with stakeholders* pages 69 et seq. Table no. 12, 82 et seq., 85, 88 et seq., 90 et seq., 101 et seq., 104 et seq., 112, 119 et seq., 122, 131 et seq., 135, 145, 147 et seq., 150 et seq.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model
	REPORTING PRACTICE	
	102-45 List of all entities included in the organisation's consolidated financial statements. Specify whether any entity included in the organisation'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*, page 16; *Relations with stakeholders* pages 66, 116; *Relations with the environment* pages 160, 165, 168; *Sustainability Report* page 231.	**Art. 4 paragraph 1:** the consolidated declaration includes the data of the parent company, of 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 organisation has implemented the Reporting Principles for defining report content).** *Disclosing sustainability: methodological note* pages 13 et seq., 15 et seq., 18 et seq.: *Corporate identity* page 31 et seq.	**Art. 3 paragraph 1, letter a):** the corporate management and organisation model **Art. 4 paragraph 1:** necessary measure to ensure the understanding of the group's activity, its progress, its results and the impact produced by it
	102-47 List of the material aspects identified in the process for defining report content. *Disclosing sustainability: methodological note*, pages 13 et seq., 15, table no. 1 ; *GRI Standards Content Index* pages 206 et seq.	**Art. 4 paragraph 1:** necessary measure to ensure the understanding of the group's activity, its progress, its results and the impact produced by it
	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 2016 are adequately marked and grounded in the report. *Disclosing sustainability: methodological note*, page 16; *Relations with stakeholders* pages 117 note 78, 118, 124 note 85, 135; *Relations with the environment* page 181.	**Art. 3 paragraph 3:** the information [...] is provided with a comparison in relation to those provided in previous years
	102-49 Significant changes respect to the previous reporting period in the list of material topics and topic Boundaries. *Disclosing sustainability: methodological note*, pages 13 et seq., 15 et seq. *Environmental Accounts* page 236.	**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 12.	**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 12.	**n/a**
	102-52 Reporting cycle (for example, annual or biennial). *Disclosing sustainability: methodological note* page 12.	**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 18.	**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 12 and *GRI Standard Content Index Standard* pages 206 et seq.	**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); include any additional material topics reported on which are not covered by the GRI Standards. *GRI Standard Content Index Standard* pages 206 et seq.	**Art. 3 paragraph 3:** reporting standard used
	102-56 External assurance (the reporting organisation shall report a description of the organisation'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 organisation and the assurance provider; whether and how the highest governance body or senior executives are involved in seeking external assurance for the organisation's sustainability report). *Disclosing sustainability: methodological note* page 12 and *Opinion Letter* page 265.	**Art. 3 paragraph 10:** verification [..] of the declaration of a non-financial nature

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 29 et seq., 33. **Topic Boundary: Acea Group**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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 29 et seq., 33.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 29 et seq., 33.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 201: Economic performance in 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 30 table no. 7, 58, 63 et seq.; *Relations with stakeholders* pages 129, 144, 146.	**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 30, 35, 38 et seq., *Relations with the environment* pages 157, 175.	**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 129, 130 table no. 39.	**Art. 3 paragraph 1, letter d):** social aspects and aspects relating to staff management
	201-4 Financial assistance received from government. *Corporate identity* page 63 nota 20.	**n/a**
TOPIC	INDIRECT ECONOMIC IMPACTS	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 58 et seq.; *Relations with stakeholders* pages 74, 111, 116. **Topic Boundary: main Group companies; local community; suppliers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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 58 et seq.; *Relations with stakeholders* pages 74, 111, 116.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 59 et seq.; *Relations with stakeholders* pages 74, 116.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 203: Indirect economic impacts 2016	**203-1 Infrastructure investments and services supported (the organisation shall report: the extent of development of significant infrastructure investments; current or expected impacts oncommunities, including positive and negative impacts where relevant; whether these investments and services are commercial, in-kind, or pro bono engagements, etc.).** *Corporate identity* pages 58 et seq.; *Relations with stakeholders* pages 74 et seq., 81 et seq., 83 et seq., 85 et seq., 88 et seq., 92, 111, 150 chart no. 41.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment and on health and safety
	203-2 Significant indirect economic impacts (examples of significant identified indirect economic impacts of the organisation, including positive and negative impacts, etc.). *Corporate identity* pages 58 et seq. ; *Relations with stakeholders* pages 67, 74 et seq., 81 et seq., 83 et seq., 86, 88, 111, 114, 116 et seq., 118 table no. 33 e table no. 34 ; *Relations with the environment* page 175.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment and on health and safety

TOPIC	PROCUREMENT PRACTICES	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* page 56; *Relations with stakeholders* pages 114 et seq. **Topic Boundary: main Group companies; suppliers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with stakeholders* pages 114 et seq.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 114 et seq.	**Art. 3 paragraph 1, letter b):** the policies applied 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 116 et seq., 118 table no. 34	**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 54, 56; *Relations with stakeholders* pages 137 et seq. **Topic Boundary: Acea Group**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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 54, 56; *Relations with stakeholders* pages 137 et seq.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 54, 56; *Relations with stakeholders* pages 137 et seq.	**Art. 3 paragraph 1, letter b):** the policies practised 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 54.	**Art. 3 paragraph 1, letter c):** the main risks generated or suffered **Art. 3 paragraph 2, letter f):** fight against both active and passive corruption
	205-2 Communication and training about anti-corruption policies and procedures (total number and percentage of employees that the organisation's anti-corruption policies and procedures have been communicated to, etc.). The frontal training activity issued by the Internal Audit Function in 2017 continued, involving about 100 employees from Acea Energia and Acea8cento, having as subject matter Model 231 and the corporate Code of Ethics, with particular reference to the whistleblowing procedure and irregularities committed by employees, also traceable to specific cases of passive corruption. The top management of Acea SpA (Chairman, CEO and 2 members of the BoD) and about 100% of Managers holding positions in the BoD of the Companies within the *Sustainability Report* boundary have been trained on decree 231/01 – which contemplates corruption among the alleged crimes - and on the related normatives and internal policies put in place as safeguards (Code of Ethics and MOG 231). Furthermore, 1,220 employees and senior managers in the companies within the boundary undertook e-learning courses in the context of 231. Business partners entering into relations with Acea are required to be familiar with and sign the Acea Code of Ethics. *Relations with stakeholders* pages 137 et seq.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 2, letter f):** fight against both 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 registered.	**Art. 3 paragraph 2, letter f):** fight against both active and passive corruption

TOPIC	ANTI-COMPETITIVE CONDUCT	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Relations with stakeholders* pages 115, 137. **Topic Boundary: Acea Group**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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. *Relations with stakeholders* pages 115, 137.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** lthe policies applied by the company
	103-3 Evaluation of the management approach. *Relations with stakeholders* pages 115, 137.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 206: Anti-competitive conduct 2016	**206-1 Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices (Number of legal actions pending or completed including any decisions or judgments).** *Relations with stakeholders* page 147.	**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* page 56; *Environmental accounts* page 231. **Topic Boundary: main Group companies**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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* page 56; *Environmental accounts* page 231	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Environmental accounts* page 231.	**Art. 3 paragraph 1, letter b):** the policies applied 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 organisation's primary products and services, by non-renewable and renewable materials used).** *Relations with the environment* page 177 and table no. 63; *Environmental accounts* pages 231, 239, 241, 242.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment
	301-2 Percentage of recycled input materials used to manufacture the organisation's primary products and services. **Non material:** in light of the materials used (301-1), which are mainly chemical, the indicator is not material.	**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. Non 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 31 et seq., 33, 56; *Relations with stakeholders* page 137; *Relations with the environment* page 161. **Topic Boundary: main Group companies; suppliers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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 31 et seq., 33, 56; *Relations with stakeholders* page 137; *Relations with the environment* page 161.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company

GRI 103: Management approach 2016	**103-3 Evaluation of the management approach.** *Corporate identity* pages 31 et seq., 33, 56; *Relations with stakeholders* page 137; *Relations with the environment* page 161.	**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 stakeholders* page 106; *Relations with the environment page* 174.	**Art. 3 paragraph 2, letter a):** use of energy resources
	302-2 Energy consumption outside of the organization. *Relations with the environment* pages 175 et seq.	**Art. 3 paragraph 2, letter a):** use of energy resources
	302-3 Energy intensity. *Relations with the environment* pages 174, 175.	**Art. 3 paragraph 2, letter a):** use of energy resources
	302-4 Limitation of energy consumption. *Relations with stakeholders* page 106; *Relations with the environment* pages 175, 176 et seq.	**Art. 3 paragraph 2, letter a):** use of energy resources
	302-5 Reductions in energy requirements of products and services. **Non material:** The Group does not sell products or services for which the indicator could be considered as materials.	**Art. 3 paragraph 2, letter a):** use of energy resources
TOPIC	WATER	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 31 et seq., 33, 56; *Relations with the environment* pages 158, 168. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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 31 et seq., 33, 56; *Relations with the environment* pages 158, 168.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 31 et seq., 33, 56; *Relations with the environment* pages 158, 168.	**Art. 3 paragraph 1, letter b):** the policies applied 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.** The division by source of water withdrawals is illustrated by single operator in the *Environmental accounts*. Civil and process water consumption is shown in table no. 63 of *Relations with the environment*. *Relations with the environment* pages 177 et seq. e table no. 63; *Environmental accounts* pages 236, 237.	**Art. 3 paragraph 2, letter a):** the use of water resources
	303-2 Water sources significantlyaffected by withdrawal of water. *Relations with the environment* page 158.	**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* pages 177 et seq. e table no. 63.	**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* page 56; *Relations with the environment* page 157. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with the environment* page 157, 171.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with the environment* page 157.	**Art. 3 paragraph 1, letter b):** the policies applied 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* page 157 et seq.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment

GRI 304: Biodiversity 2016	**304-2 Significant impacts of activities, products, and services on biodiversity.** *Relations with the environment* pages 157 et seq., 159, 164.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment
	304-3 Habitats protected or restored. *Relations with the environment* pages 157 et seq., 159.	**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. **Non material:** at the current time this item is not monitored, because in the territories in which the Group operates, we are not aware of the presence of species listed in the red list.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment
TOPIC	ISSUES	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* page 56; *Relations with the environment* pages 157, 179 et seq. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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* page 56; *Relations with the environment* pages 157, 179 et seq.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with the environment* pages 157, 179 et seq.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 305: Issues 2016	**305-1 Direct (Scope 1) GHG emissions.** The CO_2 biogenic was calculated for the Environment area and in 2017 it was equal to about 276,000 tonnes. *Relations with the environment* pages 180, 181 table no. 67; *Environmental accounts* pages 244, 246.	**Art. 3 paragraph 2, letter b):** greenhouse gas emissions
	305-2 Energy indirect (Scope 2) GHG emissions *Relations with the environment* pages 180, 181 table no. 67; *Environmental accounts* pages 244 et seq.	**Art. 3 paragraph 2, letter b):** greenhouse gas emissions
	305-3 Other indirect (Scope 3) GHG emissions. *Relations with the environment* page 180.	**Art. 3 paragraph 2, letter b):** greenhouse gas emissions
	305-4 GHG emissions intensity. *Relations with the environment* pages 181 e table no. 67.	**Art. 3 paragraph 2, letter b):** greenhouse gas emissions
	305-5 Reduction of GHG emissions as a direct result of reduction initiatives. All the initiatives are of a voluntary nature, with the exception of a regulatory obligation, which is not quantitative, concerning the change in voltage from 220 to 400V in the LV network: the impact of such intervention in 2017 was about a 2000 MWh reduction on the total (i.e. 720 tonnes of CO_2 out of the total 2,600 for Areti). *Relations with the environment* pages 164, 175, 176 s., 177 table no. 62, 181 table no. 67.	**Art. 3 paragraph 2, letter b):** greenhouse gas emissions
	305-6 Emissions of ozone-depleting substances (ODS). *Relations with the environment* page 181; *Environmental accounts* pages 239, 242.	**Art. 3 paragraph 2, letter b):** lgreenhouse gas emissions
	305-7 Nitrogen oxides (NO_x), sulphur oxides (SO_x), and other significant air emissions. *Relations with the environment* page 181 table no. 66; *Environmental accounts* pages 244 et seq.	**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* page 56; *Relations with the environment* page 171, *Environmental accounts* page 231. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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* page 56; *Relations with the environment* page 171, *Environmental accounts* page 231.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with the environment* page 171, *Environmental accounts* page 231.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 306: The effluents and wastes 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. *Environmental accounts* page 237.	**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 80,576 t; the total non hazardous waste products is equal to 196,724 t (of which 135,741 is sludge, sand and gratings).a percentage of the hazardous and non hazardous waste sent for recycling is equal to 57%. Differentiated collection obtained about 1,030 tonnes of paper in 2017 (-7% compared to 2016) and 604 tonnes of plastic (-0.4% compared 2016). There is no detailed information at this time 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. *Relations with the environment* page 167, *Environmental accounts* pages 244, 245, 246.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment
	306-3 Total number and volumes of significant spillages. In 2017, 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 Weight of waste classified as hazardous according to the Basel Convention (Annexes I, II, III and VIII) that is not transported, imported, exported or processed and their percentage transported abroad. **Non-material:** flows of waste abroad are monitored for each company. No movement of waste abroad was recorded for 2017.	**Art. 3 paragraph 2, letter c):** the impact [...] on the environment
	306-5 Identity, dimension, safeguarding and value of the biodiversity of the water bodies and related ecosystems struck significantly by drains and washing water of the organisation. 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* page 56; *Relations with stakeholders* page 137; *Relations with the environment* page 159. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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* page 56; *Relations with stakeholders* page 137; *Relations with the environment* page 159.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* page 137; *Relations with the environment* page 159.	**Art. 3 paragraph 1, letter b):** the policies applied 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* page 147; *Relations with the environment* page 159.	**Art. 3 paragraph 1, letter b):** the policies applied 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* page 56; *Relations with stakeholders* page 116; *Relations with the environment* pages *157, 175.* **Topic Boundary: main Group companies; suppliers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with stakeholders* pages 116, 119, 120, 121; *Relations with the environment* pages 157, 175.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 115, 116, 121; *Relations with the environment* pages 157, 175.	**Art. 3 paragraph 1, letter b):** the policies applied 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.** 100% of suppliers registered for qualification systems. By way of compulsory requirement for registration with the Acea active qualification systems, in fact, all suppliers must fill in self-assessment questionnaires, which include social and environmental questions. *Relations with stakeholders* pages 115, 119, 120, 121, 122; *Relations with the environment* pages 157, 175, 180.	**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 119, 120, 121, 122; *Relations with the environment* pages 157, 175, 180.	**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 **Art. 3 paragraph 2, letter c):** the 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* page 56; *Relations with stakeholders* pages 124, 136. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with stakeholders* pages 124, 136.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 124, 136.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 401: Employment 2016	**New employee hires and employee turnover. Total number and rate, by age group, gender and region.** *Relations with stakeholders* pages 115, 123, 124, 126 table no. 36, 127 table no. 37, 128.	**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 140	**Art. 3 paragraph 2, letter d):** aspects relating to staff management

GRI 401: Employment 2016	**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 running from two months before and three months after delivery 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. **382 employees** in 2017 made use of **parental leave**, of whom 142 were men and 240 were women. **Everyone**, at the end of the leave period, **returned to work**.	**Art. 3 paragraph 2, letter d):** aspects relating to staff management **Art. 3 paragraph 2, letter e):** action taken to prevent discriminatory action or behaviour
TOPIC	LABOR/MANAGEMENT RELATIONS	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Relations with stakeholders* page 131. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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. *Relations with stakeholders* page 131.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Relations with stakeholders* page 131.	**Art. 3 paragraph 1, letter b):** the policies applied 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 collettive agreements.** *Relations with stakeholders* pages 131 et seq.	**Art. 3, paragraph 2, letter d):** method by which dialogue is entertained 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* page 56; *Relations with stakeholders* pages 135, 137, 148. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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* page 56; *Relations with stakeholders* pages 135, 137, 148.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 135, 137, 148.	**Art. 3 paragraph 1, letter b):** the policies applied 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. Therefore, by means of 65 appointed figures who take part in formal commissions (comprising management and worker representatives), in order to monitor and consult worker health and safety protection, as envisaged by Italian Legislative Decree no. 81/08, 100% of workers are represented. *Relations with stakeholders* page 133.	**Art. 3 paragraph 2, letter c):** the impact [...] on health and safety **Art. 3 paragraph 2, letter d):** aspects relating to staff management

GRI 403: Occupational Health and Safety 2016	**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 2017, the absenteeism rate is 3.79% (3.78% male absenteeism rate and 3.84% female absenteeism rate). *Relations with stakeholders* pages 122, 132 and chart no. 38, 133, 135, table no. 40.	**Art. 3 paragraph 2, letter c):** the impact [...] on health and safety **Art. 3 paragraph 2, letter d):** aspects relating to staff management
	403-3 Workers with high incidence or high risk of diseases related to their occupation. *Relations with stakeholders* pages 133, 135.	**Art. 3 paragraph 2, letter c):** the impact [...] on health and safety **Art. 3 paragraph 2, letter d):** aspects relating to staff management
	403-4 Health and safety topics covered in formal agreements with trade unions. *Relations with stakeholders* pages 131, 133.	**Art. 3 paragraph 2, letter c):** the impact [...] on health and safety **Art. 3 paragraph 2, letter d):** aspects relating to staff management [...] method by which dialogue is entertained with the corporate parties
TOPIC	TRAINING AND EDUCATION	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* page 56; *Relations with stakeholders* pages 135, 136, 141. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with stakeholders* pages 135, 136, 141.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 135, 136, 141.	**Art. 3 paragraph 1, letter b):** the policies applied 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 138 and chart no. 39 and table no. 41.	**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 135, 136 et seq.	**Art. 3 paragraph 2, letter d):** aspects relating to staff management
	404-3 Percentage of employees receiving regular performance and career development reviews. In 2017, 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 141.	**Art. 3 paragraph 2, letter d):** aspects relating to staff management
TOPIC	DIVERSITY AND EQUAL OPPORTUNITIES	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Relations with stakeholders* pages 129, 142 et seq. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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. *Relations with stakeholders* pages 129, 142 et seq.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Relations with stakeholders* pages 129, 142 et seq.	**Art. 3 paragraph 1, letter b):** the policies applied 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.** The figure, relative to all companies in the scope of the consolidated non-financial Statement, is presented in the Report, divided up by gender; data on age and other diversity indicators is not available. *Corporate identity page* 51; *Relations with stakeholders* pages 126 and chart no. 35 and table no. 36, 128 and table nos. 38, 141, 142 et seq.	**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 129 and chart no. 37.	**Art. 3 paragraph 2, letter d):** social aspects and aspects relating to staff management
TOPIC	LOCAL COMMUNITIES	
GRI 103: Management approach 2016	**103-1 Explanation of the material topic and its Boundary.** *Corporate identity* pages 56, 58 et seq; *Relations with stakeholders* pages 69 et seq., 74, 82, 85, 88, 89, 91, 108, 146, 147 et seq. **Topic Boundary: main Group companies and various stakeholders.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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 56, 58 et seq.; *Relations with stakeholders* pages 69 et seq., 74, 82, 85, 88, 89, 91, 108, 146, 147 et seq.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* pages 56, 58 et seq.; *Relations with stakeholders* pages 69 et seq., 74, 82, 85, 88, 89, 91, 108, 146, 147 et seq.	**Art. 3 paragraph 1, letter b):** the policies applied 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* page 13; *Corporate identity* pages 55, 57, table no. 8, 58 et seq.; *Relations with stakeholders* pages 69, 81 et seq., 85 et seq., 88 et seq., 91, 105, 108 et seq., 112, 114 et seq., 119, 120 et seq., 122, 150; *Relations with the environment* page 166.	**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 58 et seq.; *Relations with stakeholders* pages 147 et seq.; *Relations with the environment* page 160.	**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* page 56. **Topic Boundary: main Group companies; suppliers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56. *Relations with stakeholders* pages 119, 120 et seq.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56. *Relations with stakeholders* pages 115, 121.	**Art. 3 paragraph 1, letter b):** lthe policies applied 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.** 100% of suppliers registered for qualification systems. By way of compulsory requirement for registration with the Acea active qualification systems, in fact, all suppliers must fill in self-assessment questionnaires, which include social and environmental questions. *Relations with stakeholders* pages 119, 122.	**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 **Art. 3 paragraph 2, letter c):** the impact [...] on health and safety
	414-2 Negative social impacts in the supply chain and actions taken. *Relations with stakeholders* pages 119, 122.	**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.** *Relations with stakeholders* pages 146 et seq. **Topic Boundary: mail Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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. *Relations with stakeholders* pages 146 et seq.	**Art. 3 paragraph 1 letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Relations with stakeholders* pages 146 et seq.	**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 146.	**Art. 3 paragraph 2, letter f):** fight against both 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* page 56; *Relations with stakeholders* pages 87 et seq. 89 et seq., 147 et seq.; *Relations with the environment* pages 164, 168. **Topic Boundary: main Group companies; customers; community.**	**Art. 4, paragraph 1:** : the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with stakeholders* pages 87 et seq. 88 et seq. 90, 91 et seq., 147 et seq. *Relations with the environment* pages 164, 168.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56. *Relations with stakeholders* pages 87 et seq. 89 et seq., 147 et seq. *Relations with the environment* pages 164,168.	**Art. 3 paragraph 1, letter b):** the policies applied 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 55, 57 table no. 8; *Relations with stakeholders* pages 87, 89, 90 et seq., 92, 150; *Relations with the environment* pages 164, 168 et seq.	**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 159.	**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.** *Relations with stakeholders* pages 69, 74 et seq. 76 et seq., 82, 83, 85, 101 et seq., 103 et seq., 122, 147. **Topic Boundary: main Group companies; customers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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. *Relations with stakeholders* pages 74 et seq. 76 et seq. 80, 82 et seq., 85 et seq., 101 et seq., 103 et seq., 122, 147.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Relations with stakeholders* pages 74 et seq. 76 et seq., 82 et seq., 85 et seq., 101 et seq., 103 et seq., 122, 147.	**Art. 3 paragraph 1, letter b):** the policies applied 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 parameters relating to the quality of water distributed and in respect of the quality performance of the services managed (commercial, contractual and technical - of continuity), in the water area and energy area, subject to regulation by the sector authority, monitored by corporate procedures and communicated. *Relations with stakeholders* pages 74 et seq., 76 et seq., 77 table no. 13, 80 table no. 14 and 15, 82 et seq., 83 table no. 19, 85, 87 and table no. 21, 90 and table no. 24, 93 et seq., 94 table no. 28, 96 table no. 29, 98 table no. 30, 100 et seq., 103 et seq., 106 table no. 32; *Relations with the environment* page 168.	**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 74 et seq., 76 et seq., 77 table no. 13, 80 table nos. 14,and 15, 82 et seq. 83 table no. 19, 93 et seq., 94 table no. 28, 96 table no. 29, 98 table no. 30, 101 et seq., 104 et seq., 106 table no. 32, 147.	**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 122,147.	**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* page 56; *Relations with stakeholders* pages 103, 137, 151. **Topic Boundary: main Group companies; customers.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4, paragraph 1:** 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* page 56; *Relations with stakeholders* page 103, 137, 151.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 103, 137, 151.	**Art. 3 paragraph 1, letter b):** the policies applied 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.** In 2017, one case of complaint was recorded as brought against Acea Energia with regards to a report for hypothetical violation of the procession of personal data and consequent related recording of information sent by the Company to the Privacy Authority. In respect of the case signalled, no fines have been applied by the Authority.	**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* page 56; *Relations with stakeholders* pages 76, 83, 93, 147. **Topic Boundary: main Group companies.**	**Art. 4, paragraph 1:** the consolidated declaration includes the data of the parent company and its fully consolidated subsidiaries **Art. 4 paragraph 1:** 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* page 56; *Relations with stakeholders* pages 76, 83, 93, 101, 102, 105, 110, 147.	**Art. 3 paragraph 1, letter a):** the business management and organisational model **Art. 3 paragraph 1, letter b):** the policies applied by the company
	103-3 Evaluation of the management approach. *Corporate identity* page 56; *Relations with stakeholders* pages 76, 83, 93, 105, 147	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them
GRI 419: 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 sancyions etc.).** *Relations with stakeholders* pages 82 note 44, 102, 147; *Relations with the environment* page 159.	**Art. 3 paragraph 1, letter b):** the policies applied by the company [...] and the results achieved through them

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ENVIRONMENTAL ACCOUNTS

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REFERENCE PERIMETER

The perimeter 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, Gori, Acquedotto del Fiora, 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 signaled in the text. Please see the chapter *Water Company data sheets and overseas activities* (outside the perimeter of the *Non-Financial Statement*).

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 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**, the **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, **both the renewable and non-renewable ones**, used are explained in the three areas. In particular, among the renewable resources listed we highlight the consumption of 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 AREA

- ENERGY GENERATION (THERMOELECTRIC + HYDROELECTRIC + PHOTOVOLTAIC + ELECTRICITY FROM WASTE AND BIOGAS)
- DISTRIBUTION OF ELECTRICITY
- PRODUCTION AND DISTRIBUTION OF HEAT
- PUBLIC LIGHTING
- CONTROLS AND MEASUREMENTS

ENVIRONMENT AREA

- SOLID URBAN WASTE DISPOSED
- PRODUCTION OF COMPOST
- ANALYSIS AND MEASUREMENTS

WATER AREA

- DRINKING WATER SUPPLY
- NON-DRINKING WATER SUPPLY
- WATER DISTRIBUTION
- ADDUCTION/PURIFICATION WASTE WATER
- ANALYSIS AND MEASUREMENTS

The data is provided for the 2015-2017 three-year period and aggregated in three homogeneous categories:
- **The product supplied,**
- **the resources used,**
- **the waste produced.**

The service indicators and the principal environmental performance indicators are explained below for every area.

THE PRODUCTS - ENERGY AREA

The financial statement data relative to the generation of electricity refer to Acea Produzione and Acea Ambiente - Waste-to-Energy.

ELECTRICITY - GENERATION	u. m.	2015	2016	2017	Δ% 2017/2016
Summary data					
Total gross electricity produced (1) = (3+11+16)	**GWh**	**783.07**	**737.39**	**837.88**	**13.6**
Total net electricity produced (2) = (10+15+18)	**GWh**	**728.07**	**681.84**	**776.31**	**13.9**
From fossil fuels (thermoelectric) (5 + 0.47x $15_{San\ Vittore}$ +0.58x 16_{Terni})	*GWh*	*170.16 21.7% di (1)*	*166.29 22.6% di (1)*	*229.44 27.4% di (1)*	*38.0*
From renewable sources (Hydroelectric, solar, biodegradable waste fraction) (4+0.53x$15_{San\ Vittore}$ +0.42 x 16_{Terni} +16 +19)	*GWh*	*612.91 78.3% di (1)*	*571.11 77.5% di (1)*	*608.43 72.6% di (1)*	*6.5*
Acea Produzione - Thermoelectric					
Total gross electricity produced (3) = (4+5)	**GWh**	**462.26**	**399.73**	**420.18**	**5.1**
Total gross hydroelectric energy (4)	**GWh**	**449.19**	**389.68**	**380.48**	**-2.4**
A. Volta Castel Madama	*GWh*	*15.67*	*0.00*	*6.93*	*-*
G. Ferraris Mandela	*GWh*	*12.21*	*10.71*	*3.27*	*-69.5*
G. Marconi Orte	*GWh*	*62.53*	*62.69*	*56.31*	*-10.2*
Sant'Angelo	*GWh*	*177.19*	*132.62*	*128.42*	*-3.2*
Salisano	*GWh*	*179.21*	*181.26*	*182.82*	*0.9*
Other minor	*GWh*	*2.38*	*2.40*	*2.72*	*13.6*
Total gross thermoelectric energy (5)	**GWh**	**13.08**	**10.05**	**39.70**	**294.9**
From diesel *Montemartini power plant* (*)	GWh	1.84	1.18	2.15	82.2
From natural gas	GWh	11.24	8.88	37.55	323.1
Tor di Valle cogeneration	*GWh*	*11.24*	*8.88*	*8.22*	*-7.4*
Tor di Valle CAR module	*GWh*	*-*	*-*	*29.33*	*-*
Total losses of electricity (6) = (7+8+9)	**GWh**	**12.81**	**10.90**	**8.76**	**-19.6**
Self consumption hydro plants (7)	*GWh*	*2.29*	*2.09*	*2.0*	*-5.3*
Self consumption thermo plants (Tor di Valle, Montemartini) (8)	*GWh*	*4.18*	*4.17*	*2.27*	*-45.6*
First processing losses	*GWh*	*6.34*	*4.63*	*4.51*	*-2.6*
Total net electricity produced by Acea Produzione (10) = (3-6)	**GWh**	**449.46**	**388.84**	**411.42**	**5.8**
Production Area - Photovoltaic					
Gross photovoltaic electrical energy (11) (**)	**GWh**	**13.93**	**10.91**	**11.58**	**6.1**
Total losses of electricity (12)	GWh	0.28	0.32	0.34	6.3
Net photovoltaic energy (13) = (11-12)	**GWh**	**13.65**	**10.59**	**11.24**	**6.1**
Acea Ambiente - Waste-to-energy					
Total gross electricity produced (14) = (15)+(16)	**GWh**	**306.87**	**326.75**	**384.25**	**17.6**
San Vittore del Lazio plant (15)	*GWh*	*225.35*	*243.68*	*301.15*	*23.6*
Terni plant (16)	*GWh*	*81.52*	*83.07*	*83.10*	*0.0*
Self consumption + losses from first processing (17)	**GWh**	**41.91**	**44.34**	**51.30**	**15.7**
San Vittore del Lazio plant	*GWh*	*32.88*	*35.68*	*42.78*	*19.9*
Terni plant	*GWh*	*9.03*	*8.66*	*8.52*	*-1.6*
Total net electricity produced (18) = (14-17)	**GWh**	**264.96**	**282.41**	**332.95**	**17.9**
Acea Ambiente - Biogas					
Total gross electricity produced from biogas (19)	**GWh**	**-**	**17.69**	**21.87**	**23.6**
Orvieto plant	*GWh*	*-*	*17.69*	*21.87*	*23.6*
Self consumption (20)	**GWh**	**-**	**1.10**	**1.17**	**6.9**
Total electricity transferred in network (21) = (19-20)	**GWh**	**-**	**16.60**	**20.69**	**24.7**

(*) The Montemartini power plant is maintained operational but in reserve mode.
(**) Compared to the data published, for the 2016-2017 two-year period the FV production of Parco della Mistica, directed to ALL srl from 29.12.2015, of about 5 GWh both in 2016 and in 2017.

THERMAL ENERGY - GENERATION	u. m.	2015	2016	2017	Δ% 2017/2016
Acea Produzione					
Total gross thermal energy produced Tor di Valle power plant (22)	**GWh_t**	**80.20**	**90.03**	**96.19**	**6.8**
Total losses of of thermal energy (23)	GWh_t	7.98	23.95	20.14	-15.9
Distribution losses	*GWh_t*	*5.82*	*17.83*	*14.06*	*-21.1*
Production losses	*GWh_t*	*2.16*	*6.11*	*6.08*	*-0.6*
Net thermal energy sold (24) =(22-23)	**GWh_t**	**72.21**	**66.08**	**76.05**	**15.1**

ELECTRICITY - TRANSPORT AND SALE	u. m.	2015	2016	2017	Δ% 2017/2016
In Rome and Formello - summary data					
Supply from Acea Group (25)	GWh	2.35	3.00	3.21	7.0
Electricity from the market (26)	GWh	11,197.77	10,798.59	10,832.86	0.3
from Single Buyer	*GWh*	*2,839.87*	*2,675.92*	*2,620.42*	*-2.1*
From importation	*GWh*	*389.12*	*390.20*	*389.13*	*-0.3*
From wholesalers + other producers	*GWh*	*7,968.78*	*7,732.47*	*7,823.31*	*1.2*
electricity requested on the grid (27) =(25+26) = (28+29+30+31+32)	**GWh**	**11,200.12**	**10,801.60**	**10,836.07**	**0.3**
Distribution, transport and commercial losses (28)	*GWh*	*690.62 6.17% of (27)*	*699.58 6.45% of (27)*	*747.40 6.90% of (27)*	*6.8*
Uses for own transmission and distribution (29)	*GWh*	*30.05*	*32.45*	*40.39*	*24.5*
Net electricity transferred to third parties (30)	*GWh*	*2.67*	*2.52*	*2.59*	*2.8*
Net electricity conveyed from Acea to clients of the open market (31)	**GWh**	**7,525.98**	**7,309.74**	**7,393.80**	**1.2**
Net electricity sold by Acea Energia to clients of the open market on distribution company grid (Areti)	*GWh*	*5,644.24*	*5,673.51*	*5,847.37*	*3.1*
Net electricity sold by other sellers to clients of the open market on distribution company grid (Areti)	*GWh*	*1,881.74*	*1,636.22*	*1,546.43*	*-5.5*
Net electricity sold to managed clients (32)	**GWh**	**2,950.80**	**2,757.30**	**2,651.9**	**-3.8**
Sale in Italy - summary data					
Net electricity sold by Acea on the open market - including sale on Rome (33)	**GWh**	**6,467.5**	**5,558.80**	**4,190.90**	**-24.6**
Acea Energy	*GWh*	*6,092.0*	*5,163.4*	*3,852.1*	*-25.4*
other Associated companies	*GWh*	*375.5*	*395.0*	*338.8*	*-14.3*
Net electricity sold by Acea in Italy (open market + managed) (32+33)	**GWh**	**9,418.3**	**8,316.1**	**6,842.8**	**-17.7**

PUBLIC LIGHTING	u. m.	2015	2016	2017	Δ% 2017/2016
Luminous flux to Rome (34)	**Mlumen**	**3,376**	**2,750**	**1,991**	**-27.6**

CONTROLS AND MEASUREMENTS	u. m.	2015	2016	2017	Δ% 2017/2016
measurement and control activity (35)	**no.**	**371**	**410**	**371**	**-9.5**
Electro-magnetic field measurements	*no.*	*22*	*23*	*25*	*8.7*
Noise measurements	*no.*	*14*	*18*	*27*	*50.0*
PCB chemical analyses	*no.*	*75*	*76*	*43*	*-43.4*
Waste classification	*no.*	*43*	*43*	*28*	*-34.9*
Transformer diagnostics	*no.*	*199*	*217*	*216*	*-0.5*
other	*no.*	*18*	*33*	*32*	*-3.0*

THE PRODUCTS - ENVIRONMENT AREA

The data refers to the three composting plants (the one located in Aprilia and the two located, respectively, in Monterotondo Marittimo and Sabaudia) and the waste management plant of Orvieto, all in Acea Ambiente and 100% Acea SpA. The Sabaudia plant, in order to permit the implementation of ordinary and extraordinary maintenance operations, suspended conferments in September 2016 and was inactive throughout 2017. The Aprilia plant, which obtained the release on 21.12.2015 (and resumed activity on 1.06.2016), starting on 14.12.2017 was once again seized by the Public Prosecutor's Office of Latina[1]. The percentage changes are not calculated for this plant since they are not very significant considering the various operating times.

NON-HAZARDOUS WASTE DISPOSED AND RECOVERED - ORVIETO PLANT	u. m.	2015	2016	2017	Δ% 2017/2016
Total incoming waste (36) = (36A)+(37)	**t**	**93,865**	**96,541**	**88,273**	**-8.6**
Waste sent for treatment (36A)	**t**	**31,484**	**55,328**	**58,297**	**5.4**
Of which: waste sent to the anaerobic digester and aerobic treatment	*t*	*6,926*	*29,846*	*42,506*	*42.4*
Of which: sent for aerobic treatment or just shredding		*n.a.*	*n.a.*	*15,791*	-
Waste sent directly to landfill (37)	**t**	**62,523**	**40,894**	**29,976**	**-26.7**
Waste sent to landfill after treatment (37A)	**t**	**20,956**	**29,886**	**13,625**	**-54.4**
Waste recovered (38)	**t**	**7,031**	**3,887**	**336**	**-91.4**
High quality compost (39)	**t**	**0**	**1,339**	**4,578**	**241.9**
Reduction through stabilisation (40) = (36) – (37+37A+38+39)	**t**	**3,355**	**20,536**	**39,759**	**93.6**

PRODUCTION OF COMPOST	u. m.	2015	2016	2017	Δ% 2017/2016
Total incoming organic waste (41) = (42+43+44)	**t**	**19,509.9**	**45,051.07**	**56,474.33**	**25.4**
Incoming sludge (42)	**t**	**11,390.98**	**16,999.50**	**10,593.60**	**-37.7**
Aprilia plant	*t*	*0.00*	*6,393.94*	*5,464.54*	-
Monterotondo Marittimo plant	*t*	*4,986.98*	*4,867.80*	*5,129.06*	*5.4*
Sabaudia plant	*t*	*6,404.00*	*5,737.76*	*0.00*	-
Incoming green (43)	**t**	**8,118.94**	**12,596.45**	**11,220.33**	**-10.9**
Aprilia plant	*t*	*0.00*	*5,705.00*	*8,585.21*	-
Monterotondo Marittimo plant	*t*	*2,155.94*	*2,202.43*	*2,635.12*	*19.6*
Sabaudia plant	*t*	*5,963.00*	*4,689.02*	*0.00*	-
Organic fraction from separate incoming collection and other agrifood waste (44)	**t**	**0.00**	**15,467.18**	**34,660.40**	**124.1**
Aprilia plant	*t*	*0.00*	*15,439*	*33,141.62*	-
Monterotondo Marittimo plant		-	*27.78*	*1,518.78*	-
High quality compost produced (45)	**t**	**7,203.0**	**12,654.00**	**13,150.00**	**3.9**
Aprilia plant	*t*	*0.0*	*5,000.0 (*)*	*10,850.0*	-
Monterotondo Marittimo plant	*t*	*3,167.0*	*2,100.0*	*2,300.0*	*9.5*
Sabaudia plant	*t*	*4,036.0*	*5,554.0*	*0.0*	-
Non-compostable material for disposal (46)	**t**	**118.03**	**3,364.08**	**9,163.36**	**172.4**
Aprilia plant	*t*	*118.03*	*3,364.08*	*9,163.36*	-
Monterotondo Marittimo and Sabaudia plants	*t*	*0.00*	*0.00*	*0.00*	-
Reduction through stabilisation (47) = (42+43+44-45-46)	**t**	**12,306.9**	**29,045.1**	**34,161.0**	**17.6**

LIQUIDS TO PURIFICATION	u. m.	2015	2016	2017	Δ% 2017/2016
Liquids to purification (48)					
Liquids to purification - Sabaudia plant	**t**	**14,648**	**10,489**	**0**	**-**

[1] It is a precautionary seizure with reference to aspects correlated to the odour emissions relative to summer 2017.

ANALYTICAL DETERMINATIONS ON WASTE AND ON QUALITY COMPOST	u. m.	2015	2016	2017	Δ% 2017/2016
total analytical determinations (49)	**no.**	**73**	**95**	**104**	**9.5**
Analytical determinations on compost - Orvieto plant	*no.*	*0*	*0*	*0*	*-*
Analytical determinations on compost - Aprilia, Monterotondo Marittimo and Sabaudia plants	*no.*	*17*	*35*	*30*	*-14.3*
Analytical determinations on waste - Orvieto plant	*no.*	*56*	*60*	*62*	*3.3*

(*) Figure adjusted compared to that published in the 2016 Sustainability Report: it represents the total quantity produced in 2016.

THE PRODUCTS - WATER AREA

The water data **summarised at the national level** include all the principal water companies of the Acea Group: Acea Ato 2, Acea Ato 5 (Lazio), Gesesa (Campania), Gori (Campania), Umbra Acque (Umbria), Acque, Publiacqua and Acquedotto del Fiora (Tuscany). The details of the water balances are only presented for the companies operating in the reporting perimeter of the *Sustainability Report* (pursuant to Italian Legislative Decree 254/2016): Acea Ato 2, Acea Ato 5 and Gesesa. Please see the chapter *Water Company data sheets and overseas activities* for the water balance sheets of the other companies of the Group.
The **water balance items have been recalculated** for the three-year period **following the criteria provided by the ARERA.**

SUMMARISED WATER DATA OF THE GROUP IN ITALY(*)	u. m.	2015	2016	2017	Δ% 2017/2016
Total drinking water collected from the environment or from other systems (50)	**Mm³**	**1,423.8**	**1,445.8**	**1,406.3**	**-2.7**
Total drinking water released into network (51)	**Mm³**	**1,285.5**	**1,297.6**	**1,263.5**	**-2.6**
Total drinking water supplied (52)	**Mm³**	**667.0**	**668.0**	**658.0**	**-1.5**

(*) The 2016 data has been adjusted after consolidation of certain items by the water companies of the Group. Some 2017 items were estimated and will be consolidated in the months following publication.

SUMMARY WATER DATA OF THE OPERATING COMPANIES IN THE DNF PERIMETER: ACEA ATO 2, ACEA ATO 5 AND GESESA	u. m.	2015	2016	2017	Δ% 2017/2016
Total drinking water collected from the environment or from other systems	**Mm³**	**859.9**	**890.6**	**857.1**	**-3.8**
Total drinking water released into network	**Mm³**	**744.1**	**763.2**	**734.6**	**-3.8**
Total drinking water supplied	**Mm³**	**389.8**	**391.7**	**383.6**	**-2.1**
Acea Ato 2 for historic network of Rome (*)					
Drinking water collected from the environment (53)	**Mm³**	**619.4**	**635.9**	**612.0**	**-3.8**
Purified from Lake Bracciano	*Mm³*	*36.7*	*32.0*	*22.6*	*-29.4*
From wells	*Mm³*	*19.8*	*20.5*	*33.1*	*61.5*
From springs	*Mm³*	*562.9*	*583.5*	*556.1*	*-4.7*
Drinking water transferred to Municipalities located along the route of the aqueducts (54)	Mm³	66.7	69.1	70.5	2.0
Drinking water released into non-potable network (55)	Mm³	11.4	11.2	8.8	-21.4
Drinking water returned to the environment / technical operating amounts (56)	Mm³	48.1	45.6	55.4	21.5
Drinking water released into the historic network of Rome (57) = (53)-(54+55+56)	**Mm³**	**493.2**	**510.1**	**477.4**	**-6.4**
Drinking water supplied through the historic network of Rome (58)	**Mm³**	**274.3**	**271.1**	**270.2**	**-0.3**
Assessment of the losses according to Ministerial Decree no. 99/97 and in conformity with the ARERA requirements					
Overall losses (quantity A17 Ministerial Decree 99/97) (59)	Mm³	217.5	237.7	205.9	-13.4
Actual losses (quantities A13+A15 as per Ministerial Decree 97/99) (60)	Mm³	209.1 42.4% of (57)	229.5 45.0% of (57)	197.2 41.3% of (57)	-14.0
Water balance non-potable network of Rome					
Non-potable water collected from the environment (61)	**Mm³**	**25.9**	**24.6**	**23.2**	**-5.4**
From the Tiber River treated (Grottarossa Plant)	*Mm³*	*4.7*	*9.2*	*10.7*	*15.9*
From springs	*Mm³*	*9.8*	*4.2*	*3.8*	*-9.5*
Drinking water released into non-potable network	*Mm³*	*11.4*	*11.2*	*8.8*	*-21.4*
Non-potable water supplied to the Municipality of Rome (62)	**Mm³**	**13.2**	**12.0**	**12.1**	**0.8**
Non-potable water supplied to other municipalities (63)	**Mm³**	**0.03**	**0.01**	**0.01**	**-**

Acea Ato 2 for Ato 2 – Central Lazio (Rome + municipalities acquired at 31.12.2017)(*)	u. m.	2015	2016	2017	Δ% 2017/2016
drinking water collected from the environment and from other systems (64)	**Mm³**	**735.6**	**761.7**	**735.9**	**-3.4**
Purified from Lake Bracciano	*Mm³*	*36.7*	*32.0*	*22.6*	*-29.4*
From wells	*Mm³*	*92.4*	*99.9*	*114.6*	*14.7*
From springs	*Mm³*	*601.0*	*624.6*	*592.9*	*-5.1*
From other aqueduct systems	*Mm³*	5.5	5.2	5.8	*11.5*
drinking water transferred to other aqueduct systems (65)	Mm³	35.7	36.8	29.5	-19.8
drinking water released into non-potable network (66)	Mm³	11.4	11.2	8.8	-21.8
drinking water returned to the environment / technical operating amounts (67)	Mm³	58.9	60.2	67.8	12.6
drinking water released into the Ato 2 network (68) = (64) - (65+66+67)	**Mm³**	**629.6**	**653.5**	**629.8**	**-3.6**
Total drinking water released into the Ato 2 network (69)	**Mm³**	**362.8**	**364.7**	**360.5**	**-1.2**
Assessment of the losses according to Ministerial Decree no. 99/97 and in conformity with the ARERA requirements					
Overall losses (quantity A17 Ministerial Decree 99/97) (70)	Mm³	300.9	324.1	297.2	-8.3
Actual losses (quantities A13+A15) (71)	Mm³	290.8 (46.6% of 68)	314.1 (48.1% of 68)	286.7 (45.5% of 68)	-8.7
Acea Ato 5 for Ato 5 – Southern Lazio - Frosinone (85 municipalities)					
drinking water collected from the environment and from other systems (72)	**Mm³**	**107.7**	**107.4**	**97.4**	**-9.3**
From wells	*Mm³*	*60.2*	*73.0*	*65.9*	*-9.7*
From springs	*Mm³*	*47.5*	*34.4*	*31.5*	*-8.4*
From other aqueduct systems	*Mm³*	*5.4*	*8.3*	*8.4*	*1.2*
drinking water released into network (73)	**Mm³**	**103.3**	**96.5**	**89.6**	**-7.2**
drinking water supplied (74)	**Mm³**	**27.0**	**27.0**	**23.1**	**-14.4**
Assessment of the losses according to Ministerial Decree no. 99/97 and in conformity with the ARERA requirements					
Overall losses (quantity A17 Ministerial Decree 99/97) (75)	Mm³	75.0	72.8	64.9	-10.9
Actual losses (quantity A13+A15 Ministerial Decree 99/97) (76)	Mm³	69.6 (67.4% of 73)	64.4 (66.7% of 73)	58.1 (64.8% of 73)	-9.8
Gesesa – Ato - Calore Irpino - Benevento (21 municipalities)					
drinking water collected from the environment (**)	**Mm³**	**5.9**	**5.9**	**8.1**	**37.3**
From wells	*Mm³*	*5.2*	*4.9*	*6.6*	*34.7*
From springs	*Mm³*	*0.7*	*1.0*	*1.5*	*50.0*
drinking water collected from other aqueduct systems	**Mm³**	**5.3**	**7.3**	**7.4**	**1.4**
drinking water released into network	**Mm³**	**11.2**	**13.2**	**15.2**	**15.2**
drinking water supplied	**Mm³**	**11.0**	**12.6**	**14.1**	**11.9**
Assessment of the losses according to Ministerial Decree no. 99/97 and in conformity with the ARERA requirements					
Overall losses (quantity A17 Ministerial Decree 99/97)	Mm³	4.5	5.53	6.79	22.8
Actual losses (quantity A13+A15 Ministerial Decree 99/97)	Mm³	4.2 (37.5% of the quantity released)	5.50 (41.7% of the quantity released)	6.75 (44.4% of the quantity released)	22.7

(*) The 2016 data of the water balance for the Acea Ato 2 network have been adjusted to updated certain items. The 2017 amounts relative to the municipal balances and the minor sources are estimated and may be consolidated after publication.
(**) For the 2016 and 2017 years, the measurement of the amounts collected from the environment is partly estimated.

TOTAL WASTE WATER TREATED BY THE COMPANIES OF THE GROUP IN ITALY - SUMMARY DATA	u. m.	2015	2016	2017	Δ% 2017/2016
waste water treated in the principal treatment plants of the companies of the Group in Italy (77)	**Mm³**	**895.9**	**872.7**	**815.4 (*)**	**-6.6**

TOTAL WASTE WATER TREATED BY THE COMPANIES OPERATING IN THE DNF PERIMETER (ACEA ATO 2, ACEA ATO 5 AND GESESA(**) - SUMMARY DATA)	u. m.	2015	2016	2017	Δ% 2017/2016
Waste water treated in the principal treatment plants of Acea Ato 2, Acea Ato 5 (79) + (80)	Mm^3	650.1	621.9	574.7	-7.6

WASTE WATER TREATED BY ACEA ATO 2	u. m.	2015	2016	2017	Δ% 2017/2016
Waste water treated in the principal treatment plants (78)	Mm^3	528.1	514.3	467.1	-9.2
Rome South	*Mm^3*	*296.7*	*288.1*	*276.9*	*-3.9*
Rome North	*Mm^3*	*96.5*	*95.7*	*75.2*	*-21.4*
Rome East	*Mm^3*	*96.1*	*94.8*	*83.0*	*-12.4*
Rome Ostia	*Mm^3*	*26.6*	*24.9*	*20.9*	*-16.1*
CoBIS	*Mm^3*	*7.5*	*6.7*	*7.0*	*4.5*
Fregene	*Mm^3*	*4.7*	*4.1*	*4.1*	*-*
Other - Municipality of Rome	Mm^3	16.0	14.8	14.0	-5.4
Other - outside the Municipality of Rome	Mm^3	79.0	66.1	72.5	9.7
Total waste water treated by Acea Ato 2 (79)	Mm^3	623.1	595.2	553.6	-7.0

WASTE WATER TREATED BY ACEA ATO 5	u. m.	2015	2016	2017	Δ% 2017/2016
Waste water treated in the principal treatment plants (80)	Mm^3	27.0	26.7	21.1	-21.0

(*) The waste water treated of the Acquedotto del Fiora and Umbra Acque are estimated to be the same at the 2016 figure since the 2017 figure has not been received.
(**) The Gesesa company does not currently have flow meters at the entrance of the purification plants.

ANALYTICAL DETERMINATIONS ON DRINKING WATER AND WASTE WATER IN THE GROUP IN ITALY - SUMMARY DATA (*)	u. m.	2015	2016	2017	Δ% 2017/2016
analytical determinations on Group total drinking water (81)	no.	1,147,716	1,188,656	1,144,365	-3.7
analytical determinations on Group total waste water (82)	no.	486,425	448,123	470,239	4.9

ANALYTICAL DETERMINATIONS ON DRINKING WATER AND ON WASTE WATER OF THE OPERATING COMPANIES IN THE DNF PERIMETER: ACEA ATO 2, ACEA ATO 5 AND GESESA - SUMMARY DATA	u. m.	2015	2016	2017	Δ% 2017/2016
Analytical determinations on drinking water of Acea Ato 2, Acea Ato 5 and Gesesa	no.	447,613	462,320	409,375	-11.5
Analytical determinations on waste water of Acea Ato 2, Acea Ato 5 and Gesesa	no.	217,149	186,754	211,890	13.5

ANALYTICAL DETERMINATIONS ACEA ATO 2	u. m.	2015	2016	2017	Δ% 2017/2016
analytical determinations on Ato 2 drinking water	no.	359,090	370,720	311,929	-15.9
analytical determinations on Ato 2 waste water	no.	191,552	151,446	184,201	21.6

ANALYTICAL DETERMINATIONS ACEA ATO 5	u. m.	2015	2016	2017	Δ% 2017/2016
analytical determinations on drinking water Ato 5	no.	83,910	85,500	91,157	6.6
analytical determinations on waste water Ato 5	no.	21,681	31,258	21,421	-31.5

GESESA ANALYTICAL DETERMINATIONS	u. m.	2015	2016	2017	Δ% 2017/2016
analytical determinations on Gesesa drinking water	no.	4,613	6,100	6,289	3.1
analytical determinations on Gesesa waste water	no.	3,916	4,050	4,268	5.4

(*) The number includes both the determinations performed independently by each company, and those carried out by the in-house company, Acea Elabori. Some data of the preceding two-year period have been adjusted.

THE RESOURCES USED - ENERGY AREA

The data on the resources used refer to Acea Produzione, Acea Ambiente - Waste-to-energy and Areti.

GENERATION, TRANSPORT AND SALE OF ELECTRICITY AND HEAT, PUBLIC LIGHTING	u. m.	2015	2016	2017	Δ% 2017/2016
Natural gas					
Electricity and heat generation (83) = (84+85)	**Nm^3 x 1,000**	**14,853**	**14,849**	**18,351**	**23.6**
Thermoelectric and AP heat production (84)	**Nm^3 x 1,000**	**11,363**	**11,314**	**15,134**	**33.8**
Tor di Valle auxiliary boilers - for district heating	*Nm^3 x 1,000*	*7,247*	*7,958*	*4,334*	*-45.5*
Tor di Valle cogeneration	*Nm^3 x 1,000*	*4,116*	*3,357*	*2,942*	*-12.4*
Tor di Valle CAR module	*Nm^3 x 1,000*	-	-	*7,857*	-
Waste-to-energy (85)	**Nm^3 x 1,000**	**3,490**	**3,535**	**3,217**	**-9.0**
San Vittore del Lazio waste-to-energy plant	*Nm^3 x 1,000*	*2,109*	*2,816*	*2,719*	*-3.4*
Terni waste-to-energy plant	*Nm^3 x 1,000*	*1,381*	*719*	*498*	*-30.7*
Diesel for thermoelectric generation					
thermoelectric production and Terni plant (86)	**l x 1,000**	**757**	**564**	**924**	**63.8**
Montemartini power plant	*l x 1,000*	*748*	*492*	*865*	*-34.2*
Terni plant	*l x 1,000*	*9*	*72*	*60*	*-16.7*
CSS (Secondary Solid Fuel from waste) processed					
San Vittore del Lazio waste-to-energy plant (87)	**t x 1,000**	**239.871**	**281.917**	**345.639**	**22.6**
Waste-to-energy paper mill pulper					
Terni waste-to-energy plant (88)	**t x 1,000**	**99.892**	**99.768**	**99.970**	**0.2**
Biogas for the production of electricity					
Orvieto plant (89)	**Nm^3x 1,000**		**10,459**	**12,695**	**21.4**
Water					
Derivation from hydroelectric production (90)	**Mm^3**	**3,514.77**	**3,176.99**	**2,899.00**	**-8.8**
Process water (91)	**Mm^3**	**0.1179**	**0.1395**	**0.1498**	**7.4**
Water for civilian/sanitary uses (92)	**Mm^3**	**0.2770**	**0.3078**	**0.3413**	**10.9**
Miscellaneous materials					
Dielectric mineral oil in operation (93)	**t**	**9,885**	**9,871**	**9,979**	**1.1**
Dielectric mineral oil - reintegrations	t	3.21	2.74	1.58	-57.2
SF_6 in operation (94)	**t**	**29.64**	**29.75**	**29.80**	**0.1**
SF_6 - reintegrations	t	0.6	0.7	0.6	-14.3
Cooling fluids (HCFC type) in operation (95)	**t**	**1.27**	**1.33**	**1.33**	**-**
Cooling fluids (HCFC type) - reintegrations	t	0.008	0.000	0.000	-
Miscellaneous chemicals (96)	**kg**	**7,993,950**	**8,351,458**	**9,694,690**	**16.1**
acidity regulator	*kg*	*60*	*120*	*0*	-
Sodium chloride	*kg*	*53,000*	*93,000*	*79,500*	*-14.5*
Sodium hydroxide (caustic soda)	*kg*	*105,410*	*106,938*	*190,330*	*78.0*
Sodium bicarbonate	*kg*	*6,731,810*	*7,007,300*	*8,035,000*	*14.7*
Hydrochloric acid	*kg*	*109,310*	*11,760*	*198,770*	*77.9*
Ammonia solution	*kg*	*655,440*	*725,340*	*793,090*	*9.3*
Activated carbon	*kg*	*338,500*	*307,000*	*398,000*	*29.6*
Oils and fats / miscellaneous lubricants (97)	**kg**	**6,332**	**1,098**	**3,776**	**243.9**

GENERATION, TRANSPORT AND SALE OF ELECTRICITY AND HEAT, PUBLIC LIGHTING (follows)	u. m.	2015	2016	2017	Δ% 2017/2016
Electricity					
Consumption for distribution of electricity (98)= (28)	*GWh*	*690.62*	*699.58*	*747.40*	*6.8*
Consumption for production of electricity (99)= (1)-(2)	*GWh*	*55.00*	*55.55*	*61.56*	*10.8*
Consumption for offices (50% of the electricity consumed by the Parent Company) (100)	*GWh*	*5.10*	*4.96*	*5.01*	*1.0*
Other consumption (100 B)	*GWh*	*-*	*-*	*1.16*	*-*
Other personal uses (101)	*GWh*	*30.05*	*32.45*	*41.49*	*24.5*
total (102) = (98+99+100+100B+101)	**GWh**	**780.77**	**792.55**	**855.53 (*)**	**-**
Public lighting					
Consumption for public lighting (103)	**GWh**	**167.34**	**167.85**	**115.64**	**-31.1**

(*) The consumption cannot be compared with the previous year since the estimate of consumption not reported previously was included.

THE RESOURCES USED - ENVIRONMENT AREA

The data on the resources refers to the three composting plants of Acea Ambiente (all 100% Acea SpA): the one located in Aprilia and the two located, respectively, in Monterotondo Marittimo and Sabaudia, and the waste waste management plant of Orvieto.

WASTE DISPOSAL - ORVIETO PLANT	u. m.	2015	2016	2017	Δ% 2017/2016
Process water (104)	m^3	2,468	3,425	6,251	82.5
Miscellaneous chemicals (105)	t	1.7	7.3	251.9	-
Electricity (106)	GWh	0.600	3.557	3.959	11.3
Diesel (107)	l	262,618	249,422	257,953	3.4
Water for civilian/sanitary uses (108)	m^3	1,353	4,227	1,330	-68.5

PRODUCTION OF COMPOST	u. m.	2015	2016	2017	Δ% 2017/2016
Process water (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (109)	m^3	572	3,946	8,553	116.8
miscellaneous chemicals (posting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (110)	t	53.20	70.83	101.5	43.3
electricity (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (111)	GWh	1.551	1.924	3.691	91.8
diesel (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (112)	l x 1,000	91.60	127.50	138.02	8.3

THE RESOURCES USED - WATER AREA

The data refers to the water companies of the Group included in the perimeter of the *Sustainability Report*: Acea Ato 2, Acea Ato 5 and Gesesa.

COLLECTION, SUPPLY AND DISTRIBUTION DRINKING AND NON-POTABLE WATER	u. m.	2015	2016	2017	Δ% 2017/2016
Miscellaneous materials and natural resources					
Reagents for purification and disinfection (113)	**t**	**2,405.70**	**2,922.00**	**2,996.35**	**2.5**
Reagents for chemical analyses (114)	**t**	**1.50**	**1.40**	**1.50**	**3.4**
gas for chemical analyses (115)	**MNm³**	**5.24**	**5.26**	**5.52**	**4.9**
Cooling fluids (HCFC type) in operation (116)	**t**	**1.27**	**1.33**	**1.33**	**-**
Cooling fluids (HCFC type) - reintegrations	t	0.008	0.000	0.000	-
Electricity					
Water pumping plants (117)	*GWh*	*225.94*	*242.18*	*277.13*	*14.4*
Offices/personal uses (50% energy consumed by the Parent Company) (118) = (100)	*GWh*	*5.10*	*4.96*	*5.01*	*1.0*
Chemical laboratory (119)	*GWh*	*1.23*	*1.12*	*1.12*	*-*
total electricity consumed (120) = (117+118+119)	**GWh**	**232.27**	**248.27**	**283.26**	**14.1**
Drinking water					
civilian/sanitary uses (121)	*Mm³*	*1.63*	*1.63*	*1.00*	*-38.5*
Process uses	*Mm³*	*n.a.*	*n.a.*	*0.83*	*-*
offices (50% of the drinking water consumed by the Parent Company) (122)	*Mm³*	*0.13*	*0.19*	*0.16*	*-15.8*
total drinking water consumed (123) = (121+122)	**Mm³**	**1.76**	**1.81**	**1.99**	**9.9**

PURIFICATION WASTE WATER	u. m.	2015	2016	2017	Δ% 2017/2016
Miscellaneous materials and natural resources					
Reagents for purification waste water (124)	**t**	**6,770**	**6,495**	**7,333**	**12.9**
Polyelectrolyte for sludge dehydration	*t*	*1,257*	*1,680*	*1,883*	*4.6*
Sodium hypochlorite for final disinfection	*t*	*3,027*	*2,575*	*2,693*	*4.6*
Ferric chloride for sludge dehydration	*t*	*642*	*86*	*9*	*-89.7*
peracetic acid	*t*	*1,809*	*1,969*	*2,332*	*18.4*
Other (anti-foaming, etc.)	*t*	*35*	*186*	*417*	*124.6*
Oil and fat (125)	**t**	**4.9**	**5.4**	**5.7**	**5.6**
Electricity					
Sewage and purification (126)	**GWh**	**193.3**	**189.4**	**178.8**	**-5.6**
Fuels					
Methane for dryers and power generators (127)	**Nm³x 1,000**	**-**	**-**	**982.5**	**-**
Biogas produced and consumed on site (128)	**Nm³x 1,000**	**-**	**-**	**1,006.0**	**-**

FUELS USED BY THE COMPANIES OF THE GROUP FOR TRANSPORT AND HEATING

TYPE OF FUEL	u. m.	2015	2016	2017	Δ% 2017/2016
Transport (Group car fleet)					
Petrol (129)	l x 1,000	290.4	157.1	95.4	-39.3
Diesel (130)	l x 1,000	1,189.8	1,711.4	2,702.0	57.9
Heating					
Diesel (131)	l x 1,000	2.3	4.5	2.7	-40
Methane (132)	Nm^3 x 1,000	766.4	463.0	461.0	-0.4
LPG (133)	l x 1,000	34.3	32.8	32.2	-1.7

EMISSIONS AND WASTE - ENERGY AREA

The data on the emissions and waste refer to Acea Produzione, to the waste-to-energy plants of Acea Ambiente and Areti.

EMISSIONS INTO THE ATMOSPHERE	u. m.	2015	2016	2017	Δ% 2017/2016
CO_2 (134) = (135+136+137) (*)	**t**	**260,670**	**272,295**	**369,546**	**35.7**
Acea Produzione (135) (*)	*t*	*25,440*	*24,610*	*33,507*	*36.2*
Areti – from SF_6 (136)	*t*	*12,540*	*14,820*	*14,100*	*-4.9*
Waste-to-energy (137)	*t*	*222,690*	*232,865*	*321,939*	*38.3*
NO_x (138) = (139+140)	**t**	**190.86**	**171.13**	**198.20**	**15.8**
Acea Produzione (139)	*t*	*55.20*	*46.88*	*53.53*	*14.2*
Waste-to-energy (140)	*t*	*135.66*	*124.25*	*144.67*	*16.4*
CO (141) = (142+143)	**t**	**6.75**	**6.28**	**6.81**	**8.4**
Acea Produzione (142)	*t*	*3.61*	*3.56*	*2.18*	*-38.8*
Waste-to-energy (143)	*t*	*3.14*	*2.72*	*4.63*	*70.2*
SO_2 (144) = (145+146)	**t**	**0.22**	**0.28**	**0.42**	**50.0**
Acea Produzione (145)	*t*	*0.03*	*0.02*	*0.03*	*50.0*
Waste-to-energy (146)	*t*	*0.19*	*0.26*	*0.39*	*50.0*
Powders (147) = (148+149)	**t**	**0.32**	**0.55**	**0.55**	**-**
Acea Produzione (148)	*t*	*0.04*	*0.03*	*0.05*	*66.7*
Waste-to-energy (149)	*t*	*0.28*	*0.52*	*0.50*	*-4.5*
HCl (150)	**t**	**2.65**	**3.00**	**2.98**	**-0.7**
Waste-to-energy	*t*	*2.65*	*3.00*	*2.98*	*-0.7*
HF (151)	**t**	**0.20**	**0.09**	**0.12**	**33.3**
Waste-to-energy	*t*	*0.20*	*0.09*	*0.12*	*33.3*
Organic Carbon (152)	**t**	**1.79**	**1.40**	**1.88**	**34.6**
Waste-to-energy	*t*	*1.79*	*1.40*	*1.88*	*34.6*

OTHER EMISSIONS AND WASTE	u. m.	2015	2016	2017	Δ% 2017/2016
waste water treated (153)	**Mm^3**	**0.0006**	**0.0002**	**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 (ITALIAN LEGISLATIVE DECREE No. 152/06)	u. m.	2015	2016	2017	Δ% 2017/2016
Hazardous waste - excluding waste-to-energy area (154)	**t**	**1,254.34**	**324.17**	**409.26**	**26.2**
Production energy own area (*)	*t*	*1,252.80*	*323.58*	*406.42*	*25.6*
Proportion for the activities performed by the parent company (**)	*t*	*1.54*	*0.59*	*2.84*	*381.4*
Hazardous waste from waste-to-energy (155)	**t**	**54,405.71**	**73,035.04**	**80,031.71**	**9.6**
Non-hazardous waste - excluding waste-to-energy area (156)	**t**	**958.34**	**947.23**	**1,497.71**	**58.1**
Production energy own area (*)	*t*	*920.50*	*902.71*	*1,354.56*	*50.1*
Proportion for the activities performed by the parent company (**)	*t*	*37.84*	*44.52*	*143.15*	*221.5*
Non-hazardous waste from waste-to-energy (157)	**t**	**8,011.30**	**7,381.94**	**16,640.18**	**125.4**

(*) The Acea Produzione data is estimated.
(**) 50% of the waste produced by the parent company.

EMISSIONS AND WASTE - ENVIRONMENT AREA

The data refers to the three composting plants of Acea Ambiente: the one located in Aprilia and the two located, respectively, in Monterotondo Marittimo and Sabaudia, and the waste waste management plant of Orvieto.

WASTE (ITALIAN LEGISLATIVE DECREE No. 152/06)	u. m.	2015	2016	2017	Δ% 2017/2016
hazardous waste - composting plants of Aprilia, Monterotondo Marittimo and Sabaudia including leachate (158)	t	847.66	562.12	33.95	-94.0
Non- hazardous waste - composting plants of Aprilia, Monterotondo Marittimo and Sabaudia including leachate (159)	t	5,676.57	16,448.62	18,070.23	9.9
Hazardous waste Orvieto Plant (160)	t	1.0	9.7	14.9	53.5
Non-hazardous waste Orvieto Plant including leachate (161)	t	18,641.32	20,193.18	16,500.16	-18.3

EMISSIONS INTO THE ATMOSPHERE	u. m.	2015	2016	2017	Δ% 2017/2016
CO_2 – Orvieto plant and composting plants (161 B)	t	-	-	932	-
Powders (162)	t	2.58	0.68	<0.012	-
Total organic compounds (COT) (163)	t	≤9.64	0.28	<0.30	-
Ammonia (164)	t	≤0.58	0.80	<0.10	-
Volatile inorganic compounds (SIV) (165)	t	≤4.05	2.42	<1.64	-

EMISSIONS AND WASTE - WATER AREA

The data refers to the Acea Ato 2, Acea Ato 5 and Gesesa water companies.

WASTE PRODUCED	u. m.	2015	2016	2017	Δ% 2017/2016
Specific waste from purification of waste water					
Total purification sludge (166)	**t**	**151,654**	**137,175**	**118,915**	**-13.3**
Acea Ato 2 purification sludge (167)	*t*	*139,341*	*122,947*	*107,205*	*-12.8*
Acea Ato 5 purification sludge (168)	*t*	*11,856*	*13,098*	*10,580*	*-19.2*
Gesesa purification sludge	*t*	*300*	*457*	*1,130*	*147.3*
total sand and slabs from purification (169)	**t**	**28,921**	**10,955**	**16,826**	**53.6**
Acea Ato sand and slabs (170)	*t*	*28,733(*)*	*10,813*	*16,733*	*54.7*
Acea Ato 5 sand and slabs (171)	*t*	*184*	*120*	*81*	*-32.5*
Gesesa sand and slabs	*t*	*4*	*22*	*12*	*-45.5*
Waste (pursuant to Italian Legislative Decree no. 152/06)					
Total hazardous waste (172) = (173+174+175)	**t**	**81.1**	**114.0**	**86.5**	**-24.2**
Acea Ato 2 and Acea Elabori production (173)	*t*	*79.1*	*113.4*	*75.7*	*-33.3*
Acea Ato 5 production (174)	*t*	*0.5*	*0.02*	*8.0*	*-*
Proportion for the activities performed by the parent company (175)(*)	*t*	*1.5*	*0.6*	*2.8*	*366.7*
Total non-hazardous waste (176) = (177+178+179+180)	**t**	**7,185.6**	**19,101.5**	**8,239.1**	**-56.9**
Acea Ato 2 and Acea Elabori production (177)	*t*	*558.9*	*565.0*	*524.9*	*-7.1*
Acea Ato 5 production (178)	*t*	*6,570*	*18,492.0*	*7,571*	*-59.1*
Gesesa Production		*18.9*	*28.7*	*34.6*	*20.4*
Proportion for the activities performed by the parent company (179)(*)	*t*	*37.8*	*44.5*	*143.2*	*221.8*
Other emissions and waste					
CO_2 from methane for dryers (179B)	**t**	**-**	**-**	**2,026**	**-**
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			

(*) 50% of the waste produced by the parent company.

THE EMISSIONS OF CARBON DIOXIDE FROM TRANSPORT AND PACKAGING

COMPANIES OF THE GROUP	u. m.	2015	2016	2017	Δ% 2017/2016
Transport					
CO_2 (180)	**t**	**3,815.7**	**4,890.6**	**7,370.7**	**50.7**
Heating					
CO_2 (181)	**t**	**1,644**	**1,018**	**1,008**	**-1.0**

KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) - ENERGY AREA

Environmental Key Performance Indicators

INDICATOR	u. m.	2015	2016	2017
Energy used for the processes				
A Consumption in distribution of electricity	TJoules (GWh)	1,341.8 (373.0)	1,283.8 (356.6)	1,244.9 (345.8)
B consumption in the production of electricity (figure 99)		197.1 (54.72)	200.0 (55.55)	221.6 (61.56)
C heat lost in the district heating network (Figure 23)		28.7 (7.98)	86.2 (23.95)	72.5 (20.14)
D Consumption for public lighting (Item 103)		602.42 (167.34)	604.26 (167.85)	416.30 (115.64)
E Environment Area consumption (106+111)		7.9 (2.2)	19.8 (5.5)	27.5 (7.7)
F water distribution (Item 120-118)		797.4 (221.5)	846.0 (235.0)	1,001.7 (278.3)
G water purification (Item 126)		695.5 (193.2)	681.8 (189.4)	643.7 (178.8)
H electricity for offices (Item 100+118)		36.7 (10.2)	35.6 (9.9)	36.1 (10.0)
Consumption for heating offices		29.2 (8.1)	18.1 (5.0)	17.9 (5.0)
Water area dryer consumption		-	-	36.4 (10.1)
L mobility (Item 129+130)		48.4 (13.4)	66.5 (18.5)	100.1 (27.8)
Indirect consumption + consumption through mobility + heating		**3,785.1 (1,051.6)**	**3,842.1 (1,067.2)**	**3,818.7 (1,060.8)**
M loss of energy in the conversion from primary source to electricity		4,887.5 (1,408.3)	5,394.4 (1,498.4)	6,358.5 (1,766.3)
Total energy consumption (sum A: M)		**8,672.6 (2,459.9)**	**9,236.5 (2,565.6)**	**10,177.2 (2,827.1)**
EMISSIONS, EFFLUENTS AND WASTE				
Greenhouse gas emissions (CO_2) (Item (134+161 B+179 B + 180 + 181)	**t**	**266,129**	**278,204**	**380,883 (*)**
Emissions of SO_2 , NO_x and other significant gases by type				
NO_x (138)	**t**	**190.86**	**171.13**	**198.20**
CO (141)	**t**	**6.75**	**6.28**	**6.81**
SO_2 (144)	**t**	**0.22**	**0.28**	**0.42**
Emission indicators/Acea Produzione (Acea Produzione and Acea Ambiente - Waste-to-energy)				
NO_x /thermoelectric production	**g/kWh**	**1.12**	**0.97**	**0.86**
CO_2 /thermoelectric production	**g/kWh**	**776**	**764**	**838**
CO_2/gross total production	**g/kWh**	**316.9**	**349.2**	**424.2**
SO_2 /thermoelectric production	**g/kWh**	**0.0**	**0.0**	**0.0**

(*) For the first time, in 2017, the emission quantities of CO_2 of the composting and Orvieto plants and the water area dryers were included.

INDICATOR	u. m.	2015	2016	2017
PRODUCTS AND SERVICES: ELECTRICITY				
Performance of the electrical production process of Acea Produzione				
Gross average performance thermoelectric production (calculation 1)	%	**25.8**	**25.0**	**37.3**
Tor di Valle power plant (electrical performance cogeneration only)		26.0	25.2	24.0
Tor di Valle power plant - CAR module		-	-	46.0
Montemartini power plant		24.9	24.2	25.7
Gross average thermoelectric production out included thermal energy recovered (calculation 2)		**66.8**	**73.3**	**86.6**
Gross average performance hydroelectric production (calculation 3)		**80.5**	**81.9**	**82.4**
Gross average performance overall production (calculation 4)		**78.2**	**80.4**	**78.1**
Gross average total production performance including thermal energy recovered (calculation 5)		**79.8**	**81.1**	**83.2**

Performance of the electrical production process - waste-to-energy plants				
San Vittore del Lazio				
CSS produced/gross energy produced - San Vittore	**kt/GWh**	**1.064**	**1.157**	**1.148**
Gross performance CSS conversion into electricity (calculation 6)	**kWh /kg CSS**	**0.94**	**0.86**	**0.87**
Electrical performance (calculation 7)	**%**	**19.5**	**19.6**	**19.4**
total waste produced/hours worked	**t/h**	**2.74**	**3.55**	**3.31**
Terni				
Gross performance Pulper conversion into electricity (calculation 8)	**kWh /kg pulper**	**0.82**	**0.83**	**0.83**
Electrical output (calculation 9)	**%**	**18.1**	**16.5**	**17.1**
total waste produced/hours worked	**t/h**	**2.0**	**2.0**	**2.0**

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 territory (Total length HV lines in cable / length HV overhead + cable lines) x 100	**%**	**42.53**	**43.09**	**44.0**
Public lighting illumination efficiency (Item 34 / Item 103)	**Lumen/ kWh**	**20.2**	**16.4**	**17.2**
Average performance lamps installed (Item 34 / electrical power)	**Lumen/W**	**84.9** (39,759 kW)	**84.3** (32,641 kW)	**101.8** (32,641 kW)
Specific consumption per lamp (Item 2013 / no. lamps)	**kWh/ No. lamps**	**760.03** (220,175)	**761.31** (220,474)	**515.15** (224,480)
Percentage of roads illuminated (*)	**% (km of roads illuminated/total km of roads)**	**86.6** (6,156/7,110)	**86.7** (6,165/7,110)	**88.3** (6,281/7,110)
No. operating and laboratory checks /GWh net electricity sold (Item 35) / (Item 32)	**n./GWh**	**0.13**	**0.15**	**0.14**
Reintegrations of SF_6/km electricity distribution network	**kg/km**	**0.0197**	**0.0211**	**0.0194**
Total losses of electricity (Item 28) / (Item 27) (**)	**% energy requested**	**6.2**	**6.5**	**6.9**

(*) It is an 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 AREA

Environmental Key Performance Indicators

INDICATOR	u. m.	2015	2016	2017
Carbon footprint				
WATER SERVICE				
total CO_2/m^3 of water supplied (integrated water service) (*)	$kgCO_2/m^3$	0.39	0.39	0.43
CO_2/m^3 of water supplied (water distribution process)	$kgCO_2/m^3$	0.21	0.22	0.26
CO_2/m^3 of water treated (purification process)	$kgCO_2/m^3$	0.11	0.11	0.11
SERVICE: DRINKING WATER				
Assessment parameters according to Ministerial Decree no. 99/97 and in conformity with the ARERA requirements				
Acea Ato 2 network				
Primary performance (R1): (Item 69) / (Item 68)	%	57.6	55.8	57.2
performance at consumption (R2): (Item 69 + A 11) / (Item 68) A 11 =1.38 Mm^3 for 2017	%	59.6	58.1	57.5
net performance (R3): (Item 69 + A 11 + A 12) / (Item 68) A 12 =1.65 Mm^3 for 2017	%	59.8	58.3	57.7
PRODUCT: DRINKING WATER				
Acea Ato 2 network				
Linear index of the total losses during distribution (according to Ministerial Decree no. 99/97: A 17 / km network) (Item 70) / (network km including Rome and Fiumicino user branches)	Mm^3x1,000/km	26.0 (11,346.3 km)	28.5 (11,117 km)	26.2 (11,339 km)
Linear index of the actual losses during distribution (according to Ministerial Decree no. 99/97 and ARERA provisions): (A15+A13) / km network) (Item 71) / (network km including Rome and Fiumicino user branches)	Mm^3x1,000/km	25.6 (11,346.3 km)	27.6 (11,117 km)	25.3 (11,339 km)
Specific consumption of electricity per water network (Acea Ato 2 network energy consumption) / (Item 68)	kWh/m^3	0.252	0.264	0.318
Intensity of the checks on drinking water distributed (Item 81 - Acea Ato 2 drinking water) / (Item 68)	n./Mm^3	570	567	495
Index of drinking water additive (Item 113 - Acea Ato 2 network) / (Item 68)	g/m^3	3.3	4.0	4.3
Acea Ato 5 network				
Linear index of the total losses during distribution (according to Ministerial Decree no. 99/97: A 17 / km network)	Mm^3x1,000/km	-	-	15.0 (4,330 km)
Linear index of the actual losses during distribution (according to Ministerial Decree no. 99/97 and ARERA provisions: (A15+A13) / km network)	Mm^3x1,000/km	-	-	14.5 (4,330 km)
Specific consumption of electricity per water network (Acea Ato 5 network energy consumption) / (Item 73)	kWh/m^3	0.594	0.630	0.750
Intensity of the checks on drinking water distributed (Item 81 - Acea Ato 5 drinking water) / (Item 73)	no./Mm^3	812	886	1,017
Index of drinking water additive (Item 113 - Acea Ato 5 network) / (Item 73)	g/m^3	2.9	2.7	2.9
Gesesa network				
Linear index of the total losses during distribution (according to Ministerial Decree no. 99/97: A 17 / km network)	Mm^3x1,000/km	9.9 (457 km)	4.5 (1,220 km)	5.3 (1,270 km)
Linear index of the actual losses during distribution (according to Ministerial Decree no. 99/97 and ARERA provisions: (A15+A13) / km network)	Mm^3x1,000/km	9.1 (457 km)	4.5 (1,220 km)	5.3 (1,270 km)
Specific consumption of electricity per water network (energy consumption / input)	kWh/m^3	0.499	0.623	0.625

INDICATOR (follows)	u. m.	2015	2016	2017
Intensity of checks on drinking water distributed	n./Mm^3	413	462	415
Index of drinking water additive	g/m^3	3.41	3.41	3.96
SERVICE: PURIFICATION WASTE WATER				
Acea Ato 2				
Sludge disposed (Item 168)	t	139,341	122,947	107,205
sand and slabs removed (Item 171)	t	28,733	10,813	16,733
COD input	t	163,451	198,946	203,889
COD removed	t	143,709	180,755	181,639
Efficiency of COD removal	%	88	91	89
SST input	t	113,971	121,876	137,117
SST removed	t	103,959	113,284	127,695
Efficiency of SST removal	%	91	93	93
Efficiency of BOD removal	%	90	90	89
total N input (such as NH_4+NO_2+NO_3+ organic)	t	14,375	22,870	18,871
Total N removed	t	8,157	17,365	13,076
Efficiency of N removal (**)	%	67	72	70
Acea Ato 2 additivation index	g/m^3	9.7	9.8	12.2
Acea Ato 2 specific consumption of electricity by purification process	kWh/m^3	0.282	0.288	0.290
Acea Ato 5				
Sludge disposed (item 167)	t	11,856	13,098	10,580
sand and slabs removed (Item 171)	t	184	120	81
COD input	t	7,020	9,012	9,772
COD removed	t	5,805	7,000	7,842
Efficiency of COD removal	t	81	78	84
Total N input	t	-	1,172	1,167
Total N removed	t	-	1,013	1,003
Efficiency of removal N (NH_4^+)	%	85	89	91
SST input	t	-	-	7,876
SST removed	t	-	-	7,096
Efficiency of SST removal	%	80	82	95
Acea Ato 5 additivation index	g/m^3	27.5	24.3	27.9
Acea Ato 5 specific consumption of electricity by purification process	kWh/m^3	0.619	0.620	0.787
Gesesa (***)				
Sludge disposed	t	300	457	1,130
sand and slabs removed	t	4	22	12
CONFORMITY				
Penalties paid for non-conformities relative to rules/agreements of an environmental nature (****)	euro	75,469	414,491	319,666

(*) Emissions defined "Scope 2", in other words resulting from the consumption of electricity by the water companies in question.
(**) Value calculated as sum (NH_4+NO_2+NO_3+N organic). The 2015 and 2016 data does not coincide with the data published due to an updated of the database used for the calculation. The 2017 nitrogen removal data does not include the contribution of the Rome East treatment plant because it was undergoing significant maintenance operations during the period.
(***) Gesesa has an investment plan scheduled that includes the installation of input flow meters at the purification plants during the coming two-year period.
(****) Penalties paid in 2017 by Acea Ato 2, Acea Ato 5, Gesesa and the Terni waste-to-energy plant.

KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) - ENVIRONMENT AREA

Environmental Key Performance Indicators

INDICATOR	u. m.	2015	2016	2017
Non-hazardous waste disposed in landfill/total incoming waste (Item 37)/(Item 36)	t/t	0.89	0.73	0.49
Waste disposed in landfill/energy consumer net of photovoltaic energy (Item 37+37A) / (Item 106)	t/kWh	0.14	0.02	0.01
Compost produced/incoming waste (Item 39 + 45)/(Item 36 + Item 41)	t/t	0.06	0.10	0.12
Compost produced/electricity consumed (Item 39 +45)/(Item 106 + 111)	kg/kWh	3.35	2.55	2.32

DESCRIPTION OF THE CALCULATIONS USED TO DETERMINE THE ELECTRICAL GENERATION EFFICIENCY

Calculation 1

$$\text{Efficiency}_{(thermoelectric)} = \frac{\text{Energy}_{thermoelectric}\ (kWh)}{\text{Energy}_{diesel}\ (kWh) + \text{Energy}_{methane}\ (kWh)}$$

Where:

$\text{Energy}_{thermoelectric}$ = gross electricity produced with the thermoelectric cycle

$$\text{Energy}_{diesel}\ (kWh) = \frac{\text{(diesel (l) x 0.835 x PCI}_g\ (kcal/kg)}{860\ (kcal/kWh)}$$

Energy equivalent to the diesel consumed (86)

$$\text{Energy}_{methane}\ (kWh) = \frac{\text{methane (Nm}^3\text{) x PCI}_m\ (kcal/Nm^3)}{860\ (kcal/kWh)}$$

Energy equivalent to the methane consumed (84)

PCI_g = 10,000 kcal/kg (calorific value lower than diesel)

PCI_m = 8,500 kcal/Nm^3 (calorific value lower than methane)

860 = conversion coefficient of the energy from kcal to kWh

0.835 = diesel specific weight (kg/l)

NB *the calorific values used for Acea Produzione are those actually derived from the measurements of the gas and diesel suppliers*

Calculation 2

$$\text{Efficiency}_{(thermoelectric)} = \frac{\text{Energy}_{thermoelectric}\,(kWh) + \text{Energy}_{thermal}\,(kWh)}{\text{Energy}_{diesel}\,(kWh) + \text{Energy}_{methane}\,(kWh)}$$

$\text{Energy}_{thermal}$ = Gross thermal energy produced

$\text{Energy}_{thermoelectric}$ = Gross thermoelectric energy produced

$$\text{Energy}_{diesel}\,(kWh) = \frac{\text{(diesel (l) x 0.835 x PCI}_g\,(kcal/kg)}{860\,(kcal/kWh)}$$

Energy equivalent to the diesel consumed: (86)

$$\text{Energy}_{methane}\,(kWh) = \frac{\text{methane (Nm}^3\text{) x PCI}_m\,(kcal/Nm^3)}{860\,(kcal/kWh)}$$

Energy equivalent to the methane consumed (84)

PCI_g = 10,000 kcal/kg (calorific value lower than diesel)

PCI_m = 8,500 kcal/Nm^3 (calorific value lower than methane)

860 = conversion coefficient of the energy from kcal to kWh

0.835 = diesel specific weight (kg/l)

NB *the calorific values used for Acea Produzione are those actually derived from the measurements of the gas and diesel suppliers*

Calculation 3

$$\text{Efficiency (hydroelectric)} = \frac{\text{Hydroelectric energy (MWh) x } 3.6 \times 10^9}{[m(kg) \times 9.8\,(m/s^2)\,xh(m)]\,(Joule)}$$

Where:

3.6×10^9 = conversion factor of the water energy from joule to MWh

m = secondary water for hydroelectric production

9.8 = acceleration of gravity at sea level

h = falling height of the water (hydro system - turbine)

$\text{Energy}_{hydroelectric}$ = energy produced during 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 efficiency of production

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 (thermoelectric and thermal) produced

η_i = Hydroelectric efficiency

η_T = Efficiency (thermoelectric + thermal)

Efficiency (average) = average efficiency of production

Calculation 6

$$\text{Recovery efficiency (kWh/kg)} = \frac{\text{Gross electricity produced (kWh)}}{\text{RDF (kg)}}$$

$\text{Energy}_{\text{gross energy produced}}$ (kWh) = gross electricity produced at San Vittore = (Item 12)

Calculation 7

$$\text{Electric efficiency} = \frac{\text{Electricity produced (kWh)}}{\text{Internal energy CSS (kWh)+Methane internal energy (kWh)}}$$

Where:

Electricity produced = electricity produced at San Vittore = (Item 12)

$$\text{Methane internal energy} = \frac{Sm^3\ CH_4 \times PCI_m\ (kcal/\ Sm^3)}{860\ (kcal/kWh)}$$

PCI_m = PCI methane = approx. 8,500 kcal/Sm^3

860 = conversion coefficient of the energy from kcal to kWh.

$$\text{Internal energy CSS (kWh)} = \frac{\text{CSS (kg)} \times PCI_{css}\ (kcal/kg)}{860\ (kcal/kWh)}$$

PCI_{css} = 3,583 kcal/kg (15,000 kJ/kg) - calorific value lower on average than the CSS

860 = conversion coefficient of the energy 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 at Terni= (Item 13)

Calculation 9

$$\text{Efficiency} = \frac{\text{Electricity produced (kWh)}}{\text{Pulper internal energy (kWh)+methane internal energy (kWh)}}$$

Where:

Electricity produced = Electricity produced at Terni = (Item 13)

$$\text{Methane internal energy (kWh)} = \frac{Sm^3\ CH_4 \times PCI_m\ (kcal/\ Sm^3)}{860\ (kcal/kWh)}$$

PCI_m = PCI methane = approx. 8,500 kcal/Sm^3

860 = conversion coefficient of the energy from kcal to kWh.

$$\text{Pulper internal energy (kWh)} = \frac{\text{pulper (kg)} \times PCI_p\ (kcal/kg)}{860\ (kcal/kWh)}$$

PCI_p = PCI pulper = 3,635 kcal/kg (15,216 kJ/kg) - calorific value lower on average than the pulper

860 = conversion coefficient of the energy 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 Departments.
The responsibility for the correct preparation of the data pertains to the individual production units, pending the implementation of a standardised Environmental Management System, capable of coding the procedures in order to obtain a regular flow of numerical information.
Before their final acceptance, however, the official data underwent a validation process that anticipated four control steps:

1. Comparison with historical data to highlight and justify possible large deviations;
2. At least two repetitions of the acquisition process;
3. Feed-back to the Departments responsible for the final validation of the data;
4. Random check carried out by auditing firm.

The numerical data have been divided into the three categories:

- estimated;
- calculated;
- measured.

In the event of data resulting from estimates, the utmost attention was paid to the verification of the reasonableness of the basic criteria used, with the objective of resorting as little as possible, in the future, to this type of measurement of the sizes of environmental significance.
When data was achieved through calculation, the algorithm used was briefly explained to permit full understanding of the mathematical result.
Lastly, when the data was measured, an uncertainty estimate to be associated with the number was provided.

ADDITIONAL INFORMATION ON THE NUMERICAL DATA PROVIDED IN THE ENVIRONMENTAL ACCOUNTS

PRODUCTS - ENERGY AREA

Figure 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. From 29.12.2015, the FV branch of Arse was merged into Acea Produzione, except for the installations called Parco della Mistica, transferred to ALL srl. For the 2016-2017 two-year period, the FV of Parco della Mistica is not reported because it is outside the perimeter. 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 (CSS - secondary solid fuel - for San Vittore del Lazio and paper mill pulp for the Terni plant) is composed of both biodegradable organic material, therefore neutral on the balance of the CO_2, and by non-biodegradable organic substance (plastic, resins, etc.). In 2017, the renewable quota for San Vittore was equal to around 53%, the Terni quota was approx. 42%.
17	Self-consumption of the two waste-to-energy plants of San Vittore del Lazio and Terni + initial transformation losses at San Vittore. 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 at San Vittore. The data for the three-year period cannot be compared because Line 1 of San Vittore only worked 12 months in 2017 (after revamping). 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 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. The thermal energy is produced by Galleri boilers and the cogeneration plant, composed of a gas turbine and a regenerative heated water generator supplied by hot discharge fumes of the gas turbine.
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 the 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 by the generating companies on Borsa (Stock Exchange) or through bilateral agreements.
26	Net electricity acquired on the market by: • Single Buyer of 2,620.4 GWh • Import of 389.1 GWh • Market of 7,823.3 GWh 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). 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. These are exchanges of energy between distribution companies. The figure is measured with an uncertainty of ± 0.5%

PRODUCTS - ENERGY AREA

Figure 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 Energy, 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 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 in Italy. Includes the electricity sold in Rome and Formello (figure 28). The total sale on the open market and managed market is obtained by adding the figures (29) and (30). The figure is estimated.
34	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.
35	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 AREA

Figure no.	Explanation - comment
36	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.
36 A	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.
37	Waste disposed directly in landfill. The figure is measured with an uncertainty of ± 1 %
38	Waste recovered and not sent to landfill. It is glass, paper and cardboard, iron and plastic. In 2017, only iron was recovered. The figure is calculated.
39	Compost produced at the Orvieto plant. Passing only through the aerobic process to the combination, in 2016, of the anaerobic process with the aerobic one, an optimization of the product was achieved, now High Quality Compost. The figure is measured with an uncertainty of ± 1 %
40	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.
41	Total incoming organic waste. They are the amounts arriving at the plants of Aprilia, Monterotondo Marittimo and Sabaudia, which include: sludge, green and organic fraction. The figure is calculated.
42	Incoming sludge. It is the quantity of sludge entering the composting plants of Aprilia (LT), Monterotondo Marittimo (GR) and Sabaudia (LT). The figure is measured with an uncertainty of ± 1 %
43	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 %
44	Organic fraction of sorted collection (FORSU) entering the composting plant of Aprilia and FORSU and other agrifood waste arriving at the Monterotondo Marittimo plant. Starting in 2017, the types accepted at the Monterotondo plant increased. The figure is calculated.
45	High Quality Compost. It is the quantity of high quality compost produced at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The data represents the quantities produced during the three-year period (not the amount sold). The production of compost is estimated based on the quantities transported daily to maturation. During that phase, process losses occur so that at the time of the sale the compost will be approx. 20-25% less. The figure is measured with an uncertainty of ± 1 %
46	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 %
47	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.
48	Liquids entering the Sabaudia plant and sent to purification. The figure is calculated.
49	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 AREA

Figure no.	Explanation - comment
50	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 (Rome), Acea Ato 5 (Frosinone); Gori (Sarnese Vesuviano); Acque (Pisa); Publiacqua (Firenze); Acquedotto del Fiora (Grosseto); Umbra Acque (Umbria). The figure is calculated.
51	Total drinking water transported to the distribution networks of the companies listed at number 44, without the losses due to the supply phase at the sources. The figure is estimated.
52	Total drinking water supplied to the respective clients by the companies listed in number 44. The figure is estimated.
53	Total drinking water collected at the sources, without the high discharges, by the Acea Ato 2 company and released into the aqueduct system of the "historic" network of Rome and Fiumicino. It includes the water collected from Lake Bracciano, purified. The figure is measured with an uncertainty of ± 3%, except for the smaller sources - 2017, for which it is estimated.
54	Total drinking water transferred to Municipalities located along the route of the aqueducts. The 2017 figure is estimated and may undergo consolidation after publication.
55	Drinking water released into non-potable network. These are events that occur at the time of extraordinary maintenance or interventions which make the dedicated non-potable resource insufficient. The figure is estimated.
56	Drinking water returned to the environment / technical operating amounts with reference to the "historic" distribution network of Rome and Fiumicino. The figure is calculated.
57	Drinking water released (Quantity A09 of Ministerial Decree 99/07). This is the total drinking water transported to the "historic" distribution network of Rome and Fiumicino less the losses due to the supply phase at the sources. The figure is estimated.
58	Total drinking water supplied in the "historic" network of Rome and Fiumicino. The figure includes consumption due to the Acea Ato 2 users, the water fountains, the water houses, etc.
59	Total distribution losses - "historic" network of Rome and Fiumicino. It is the A17 size of Ministerial Decree no. 99/97 defined as the quantity of water lost during distribution: A17 = A9-(A10+A11+A12), overall distribution losses where, for the data starting in 2016, the following applies: • Quantity A9 of Ministerial Decree 99/97 - total volume of water released into network. • Quantity A10 of Ministerial Decree 99/97 - measured amount of water delivered to the user. • Quantity A12 of Ministerial Decree 99/97 - amount of water consumer, invoiced, but not measured; • Quantity A12 of Ministerial Decree 99/97 - As per provisions of ARERA (formerly AEEGSI), the Item is identified with the "amount of the water consumed (authorised) not measured and not invoiced", estimated as 0.005*A10; • Quantity A14 of Ministerial Decree 99/97 - amount of water apparently lost due to unauthorised consumption and therefore not invoiced (fraud), estimated by the ARERA as 0.002*A10; • Quantity A16 of Ministerial Decree 99/97 - amount of water apparently lost due to measurement errors attributable to the meters installed on the utilities, estimated by the ARERA as 0.02*A10 (Resolution 1/2016) and since 2015 as 0.03*A10 (Resolution 5/2016). The figure is estimated.
60	Actual distribution losses - amount defined by the ARERA as A09-A10-A11-A12-A14-A16. The figure is estimated.
61	Total non-potable water derived from the environment including losses. The figure is estimated.
62	Total non-potable water supplied to Rome and Fiumicino. The figure, calculated, corresponds to the total amount of water invoiced.
63	Total non-potable water supplied to Municipalities other than Rome and Fiumicino. It is a small estimated quantity.
64	Total drinking water collected at the sources, without the high discharges, by the Acea Ato 2 company and released into the aqueduct system of the Ambito Territoriale Ottimale 2 of Central Lazio ("historic" network of Rome and Fiumicino + Municipalities acquired). The figure is measured with an uncertainty of ± 3%, except for the smaller sources in 2017, for which it is estimated.
65	Total drinking water transferred to other aqueduct systems. The 2017 figure is estimated and may undergo consolidation after publication.
66	Drinking water released into non-potable network. These are events that occur at the time of extraordinary maintenance or interventions which make the dedicated non-potable resource insufficient. The figure is estimated.
67	Drinking water returned to the environment / technical operating amounts with reference to the Acea Ato 2 distribution network (Rome and Fiumicino + municipalities acquired at 31.12.17). The figure is calculated.
68	Total of the drinking water transported to the Acea Ato 2 distribution network (Rome and Fiumicino + municipalities acquired at 31.12.17). The figure is calculated.
69	Total drinking water supplied (in other words measured at the meters, where present) to the clients connects to the Acea Ato 2 network (Rome and Fiumicino + municipalities acquired at 31.12.17). The figure represents the estimated consumption due to the entire territory served. Since 2014, the amount supplied includes the "other aqueduct systems", as per provisions of the ARERA.

PRODUCTS - WATER AREA

Figure no.	Explanation - comment
70	Total distribution losses - Acea Ato 2 (Rome and Fiumicino + municipalities acquired at 31.12.17) network. It is the A17 quantity of Ministerial Decree no. 99/97 defined as the quantity of water lost during distribution: See Item 53 for details.
71	Actual distribution losses - Acea Ato 2 (Rome and Fiumicino + municipalities acquired at 31.12.17) network. It is the sum of the quantities (A15+A13) of Ministerial Decree no. 99/97. See Item 54.
72, 73, 74	Respectively: quantity of water collected from the environment, released into the distribution network and supplied to their clients by Acea Ato 5 (Frosinone).
75	Overall distribution losses of Acea Ato 5 (Frosinone). It is the A17 quantity of Ministerial Decree no. 99/97 defined as the quantity of water lost during distribution: See Item 53 for details.
76	Actual distribution losses of Acea Ato 5 (Frosinone). It is the sum of the quantities (A15+A13) of Ministerial Decree no. 99/97. See Item 54 for details.
77	Total waste water treated in the principal treatment plants of the Group's water companies: Acea Ato 2, Acea Ato 5, Gori, Umbra Acque, Publiacqua, Acque, Acquedotto del Fiora. The figure is calculated.
78	Total waste water sent to the principal treatment plants of Acea Ato 2 and treated. The total figure is calculated.
79	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.
80	Total waste water sent to the treatment plants and treated by Acea Ato 5. The figure is calculated.
81	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.
82	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.

RESOURCES USED - ENERGY AREA

Item no.	Explanation - comment
83 = 84 + 85	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.
86	Total quantity of diesel used to generate electricity at the Montemartini power plant (turbogas) of Acea Produzione and for operations at the waste-to-energy plant of Terni. 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 inspection activities. The consumption pertaining to the waste-to-energy plant increased during 2016 due to the internalisation of the transport service of a sector of the plant. The figure is measured with an uncertainty of ± 2%.
87	Quantity of CSS (Secondary Solid Fuel from waste) sent to waste-to-energy in the San Vittore del Lazio plant. The figure is measured with an uncertainty of ± 1%.
88	Quantity of pulp send to waste-to-energy in the Terni plant. The figure is measured with an uncertainty of ± 1%.
89	Quantity of biogas used to produce electricity. The figure is measured with an uncertainty of ± 1%.
90	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.
91	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. It is aqueduct and well water. The figure is calculated.
92	Quantity of aqueduct water used by the companies included in the energy area, for civilian/sanitary uses. It is consumption of the Acea Produzione and Areti companies of the waste-to-energy plants and 50% of the consumption of the Holding Company. The figure, calculated, refers to the consumption invoiced.
93	It represents the total quantity of dielectric mineral oil present in the primary and secondary cabins. Since 2014, 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 relative to the reintegratons 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 figure. The figure is estimated.
94	It represents the total quantity of gaseous insulation (SF_6) in the Areti plants. The figure is estimated. The figure referred to the reintegrations represents the total quantity of SF_6 released ex-novo into the production circuit during the year. The figure is estimated.
95	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. In 2017 the reintegrations were zero since certain sites were decommissioned. Both figures are calculated by attributing all the gas supplied overall by the parent company in equal parts (50%) to the energy area and the water area. The figure matches Item 116.
96	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. Since 2014, the activated carbon consumed in the waste-to-energy plants has also been included. The figure is calculated.
97	Quantity of lubricating oils and fats used by Acea Produzione. The figure is measured with an uncertainty of ± 0.5%.
98	The figure matches Item 28.
99	Matches the difference between Items 1 and 2.
100	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.
100B	Consumption of electricity at other sites and plants, including the consumption of the waste-to-energy plants (Terni and San Vittore). The figure is estimated.
101	Other uses of the electricity in the energy area. The figure is calculated.
102	Total electricity consumer by the product systems included in the energy area. The figure is calculated.
103	Total electricity consumed for public lighting in the municipality of Rome. The significant reduction in 2017 is the result of the replacement of tens of thousands of lamps with LED technology, starting at the end of 2016. The figure is calculated based on the consistencies of the installations in operation during the year.

RESOURCES USED - ENVIRONMENT AREA

Item no.	Explanation - comment
ORVIETO PLANT	
104	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.
105	Total chemical substances used at the Orvieto plant. The 2015 figure is discontinuous (decreasing) because of the revamping of the site which ended in November of that year. The figure is calculated.
106	Electricity consumed in the Orvieto plant. The figure is measured with an uncertainty of ± 1%
107	Total quantity of diesel consumed at the Orvieto plant. The figure is measured with an uncertainty of ± 2%.
108	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.
PRODUCTION OF COMPOST	
109	Quantity of water consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is close to zero since almost all the water used at the Aprilia plant comes from recirculation, following purification with reverse osmosis technology. In 2017, consumption was not significant and approx. 455 cubic metres was used at the Sabaudia plant, while at the Monterotondo Marittimo plant approx. 2,500 cubic metres was consumed. The total water consumption not from recirculation was therefore negligible.
110	Total chemical substances used at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
111	Electricity consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The lower 2015 figure is due to the shut-down of the Aprilia plant that year. The figure is measured with an uncertainty of ± 1%
112	Total quantity of fuel consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is measured with an uncertainty of ± 2%.

RESOURCES USED - WATER AREA

Item no.	Explanation - comment
113	The figure represents the sum of the consumption of reagents for the purification and disinfection of the water in the water companies: Acea Ato 2 and Acea Ato 5. 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.
114	Total quantity of chemical reagents used by the Acea Elabori company to carry out the official duties, namely the analytical checks for the companies of the Acea Group. The figure is measured.
115	Total volume of pure gases for analysis, used by the Acea Elabori company. The figure is measured.
116	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. Both figures are calculated by attributing all the gas supplied overall by the parent company in equal parts (50%) to the energy area and the water area. Item 116 matches Item 95.
117	Electricity used for the drinking water and non-potable water pumping stations. The increase in the figure since 2015 is due mainly to the increasingly dry climate conditions that have entailed in certain cases the recourse to back-up pumping stations. The figure is measured with an uncertainty of ± 1%
118	Electricity consumed by the processes not directly connected to the production phase (offices). The figure, the same as Item 100, is calculated at 50% of the electricity consumed overall by the parent company.
119	Electricity used by the Acea Elabori company. It includes all the energy relative to the various fields of activity Acea Elabori, not only the analytical laboratory activities. The figure is estimated.
120	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.
121	Quantity of drinking water used by the companies: Acea Ato 2 and Acea Ato 5, for civilian/sanitary uses. The figure, calculated, refers to the consumption invoiced.
122	Quantity of water consumed for civilian/sanitary uses within facilities not directly tied to production phases (offices). The figure is calculated at 50% of the water consumed overall by the parent company. The estimating methodology changed in 2016.
123	It is the sum of the figures 114 and 115. The figure is calculated.
124	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.
125	Total quantity of lubricating oil and fat used for the equipment of the water area (pumps, centrifuges, motors, etc.). The figure is calculated.

RESOURCES USED - WATER AREA

Item no.	Explanation - comment
126	Electricity used to run the waste water purification plants and to operate the sewer network. The figure is measured with an uncertainty of ± 1%
127	Quantity of methane used in the dryers and generators. The figure is measured.
128	Quantity of biogas produced and consumed on site. The figure is measured.

FUELS USED BY THE GROUP (TRANSPORT AND HEATING)

Item no.	Explanation - comment
129	Total quantity of petrol used for the vehicle fleet of the Acea Group. 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). Starting in 2015, the older petrol vehicles have been decommissioned.
130	Total quantity of diesel used for the vehicle fleet of the Acea Group. 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). In 2017, the figure includes the fuel consumed by the vehicles of the company included for the first time in this year's perimeter (Acea Ambiente and Aquader). The 2017 increase is also due to the increase in mixed-use vehicles assigned to Executives and Managers and the increase in the trips after the WFM went into operation.
131	Total quantity of diesel used for heating work areas and for the supply of the generators. Only the consumption of Acea Ato 2 and Acea Ato 5 is included for the 2015-2016 two-year period. The figure is measured with an uncertainty of ± 0.5%.
132	Total quantity of natural gas used for heating the work spaces. The perimeter includes: Acea, Areti; Acea Produzione (offices of Via Aeronautica), Acea Ato 2, Acea Ato 5, ARIA, Acea Elabori, Acea Energia. The figure is measured with an uncertainty of ± 0.5%.
133	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 figure is measured with an uncertainty of ± 0.5%.

EMISSIONS AND WASTE - ENERGY AREA

Item no.	Explanation - comment
134	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 CSS and pulper. Includes the equivalent CO_2 estimated on the basis of the reintegrations of SF_6. The figure is calculated as the sum of Items 135, 136 and 137. The 2017 increase is due mainly to Line 1 going into operation (starting September 2016). Estimated figure.
135	Quantity of carbon dioxide released into the atmosphere by the Acea Produzione power plants. The figure is calculated in accordance with current legislation.
136	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 22,800 times the CO_2.
137	Quantity of carbon dioxide released into the atmosphere by the Acea Ambiente waste-to-energy plants. Since 30.09.2016 Line 1 of San Vittore also went into operation, causing the increase in the emissions, in particular in 2017. The figure is calculated in accordance with current legislation.
138	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 CSS 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.
139	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.
140	Quantity of nitrogen oxides ($NO + NO_2$) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
141	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.
142	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.

FUELS USED BY THE GROUP (TRANSPORT AND HEATING)

Item no.	Explanation - comment
143	Quantity of carbon oxide (CO) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
144	Total quantity of sulphur dioxide (SO_2) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the CSS 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.
145	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.
146	Quantity of sulphur dioxide (SO_2) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
147	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 CSS 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.
148	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.
149	Quantity of powders released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
150	Quantity of hydrochloric acid (HCl) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
151	Quantity of hydrofluoric acid (HF) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
152	Quantity of organic carbon (CO) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
153	Total quantity of waste water, treated, resulting from the thermoelectric energy production activities. The figure is measured with an uncertainty of ± 2%.
154	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by the companies of the Acea Group excluding the waste-to-energy area. The figure is measured with an uncertainty of ± 2%
155	Hazardous waste (Italian Legislative Decree no. 152/06) disposed 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%
156	Total quantity of non-hazardous waste (Italian Legislative Decree no. 152/06) disposed by the companies of the Acea Group excluding the waste-to-energy area. The figure is measured with an uncertainty of ± 2%
157	Non-hazardous waste (Italian Legislative Decree no. 152/06) disposed by the waste-to-energy area. It is essentially heavy ashes and slag resulting from the incineration processes. The increase in the 2017 figure is attributable to the different classification of the water disposed (as non-hazardous waste in 2017 and as hazardous waste in 2016) at San Vittore del Lazio. The figure is measured with an uncertainty of ± 2%

EMISSIONS AND WASTE - ENVIRONMENT AREA

Item no.	Explanation - comment
158	Hazardous waste (Italian Legislative Decree no. 152/06) disposed by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
159	Non-hazardous waste (Italian Legislative Decree no. 152/06) disposed by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
160	Hazardous waste (Italian Legislative Decree no. 152/06) disposed by the Orvieto plant. The figure is measured with an uncertainty of ± 2%
161	Non-hazardous waste (Italian Legislative Decree no. 152/06) disposed by the Orvieto plant. The figure is measured with an uncertainty of ± 2%
161 B	Emissions of CO_2 of the Orvieto plant resulting from combustion on site and by the fuels for OTMs not included in the motor pool data. Estimated figure.
162, 163, 164, 165	They are powders, Total Organic Compounds (COT), ammonia and volatile inorganic substances (SIV) issued at the Aprilia plant. The presence of the "≤" symbol identifies values of concentration equal or lower than the limits detectable by the instruments used in the laboratory, therefore it indicates only an upper limit. The 2017 value of the ammonia refers to the October audit. The data is calculated starting from the measurement of the concentrations.

EMISSIONS AND WASTE - WATER AREA

Item no.	Explanation - comment
166	Total quantity of purification sludge disposed by the Acea Ato 2 and Acea Ato 5 companies. They are non-hazardous waste. The figure is measured with an uncertainty of ± 2%
167	Total quantity of purification sludge disposed by the Acea Ato 2 company. The figure that dropped sharply in 2017 results mainly from the Rome East treatment plants where an anaerobic digester and a dryer are in operation. The figure is measured with an uncertainty of ± 2%
168	Total quantity of purification sludge disposed by the Acea Ato 5 company. The figure is measured with an uncertainty of ± 2%
169	Total quantity of sand and slabs disposed by the Acea Ato 2 and Acea Ato 5 companies. The figure is measured with an uncertainty of ± 2%
170	Total quantity of sand and slabs disposed by the Acea Ato 2 company. The 2015 figure includes 16,932 tons of sand and slabs removed in the Rome South plant, as a result of extraordinary cleaning of the oxidation compartment. The 2017 figure increased compared to 2016 for maintenance activity on the treatment plant of Rome East. The figure is measured with an uncertainty of ± 2%
171	Total quantity of sand and slabs disposed by the Acea Ato 5 company. The figure is measured with an uncertainty of ± 2%
172	Total quantity of hazardous waste (Italian Legislative Decree no. 152/06) disposed by Acea Ato 2, Acea Elabori and Acea Ato 5, to which was added an amount produced by the Parent Company and attributed in equal parts to the two Areas: Energy and Water. The figure is calculated.
173	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by Acea Ato 2 and Acea Elabori. The figure is measured with an uncertainty of ± 2%
174	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by Acea Ato 5. The figure is measured with an uncertainty of ± 2%
175	Proportion of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by the parent company and attributed to the Water Area. The same proportion was attributed to the Energy Area. The much larger quantity produced in 2017 depends on the closing during that year of the Valleranello site, one of the Acea historical logistical sites, with the resulting disposal of many different materials, some hazardous.
176	Total quantity of non-hazardous waste (Italian Legislative Decree no. 152/06) disposed by Acea Ato 2, Acea Elabori and Acea Ato 5, to which was added an amount produced by the Parent Company and attributed in equal parts to the two main areas of business: energy and water. The figure is calculated.
177	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by Acea Ato 2 and Acea Elabori. The figure is calculated.
178	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by Acea Ato 5. The figure is estimated.
179	Proportion of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed by the Parent Company and attributed to the Water Area. The same proportion was attributed to the Energy Area. The much larger quantity produced in 2017 depends on the closing during that year of the Valleranello site, one of the Acea historical logistical sites, with the resulting disposal of many different materials, also non-hazardous.

CO_2 EMISSION FROM TRANSPORT AND HEATING

Item no.	Explanation - comment
180	Total quantity of carbon dioxide issued by the motor pool of the Acea Group. For the entire three-year period, it was calculated using the consumption of fuel and the emission coefficients (ISPRA 2015). The increase in 2017 depends first of all on both the WFM model which is now operational and determined an increase in the operating capacity against a larger number of vehicles on the road at the same time, and on the new companies included in this year's parameter (Acea Ambient and Aquaser).
181	Total quantity of carbon dioxide emitted by the systems used to air-condition the work spaces. The 2015 figure is calculated using the consumption of fuel and the emission coefficients (ISPRA 2015).

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RELAZIONE DELLA SOCIETÀ DI REVISIONE INDIPENDENTE SULLA DICHIARAZIONE CONSOLIDATA DI CARATTERE NON FINANZIARIO AI SENSI DELL'ARTICOLO 3 DEL DLGS 254/2016 E DELL'ARTICOLO 5 DEL REGOLAMENTO CONSOB 20267

ACEA SPA

ESERCIZIO CHIUSO AL 31 DICEMBRE 2017

pwc

Relazione della società di revisione indipendente sulla dichiarazione consolidata di carattere non finanziario

ai sensi dell'articolo 3 del DLgs 254 del 30 dicembre 2016 e dell'articolo 5 del Regolamento CONSOB 20267

Al consiglio di amministrazione di Acea SpA

Ai sensi dell'articolo 3, comma 10, del Decreto Legislativo 30 dicembre 2016, n. 254 (di seguito "Decreto") e dell'articolo 5 del Regolamento CONSOB n. 20267, siamo stati incaricati di effettuare l'esame limitato ("*limited assurance engagement*") del "Bilancio di Sostenibilità 2017 del Gruppo Acea (Dichiarazione consolidata non finanziaria ai sensi del D. Lgs. n. 254/2016, redatta secondo gli Standard GRI)" di Acea SpA e sue controllate (il Gruppo) relativo all'esercizio chiuso al 31 dicembre 2017 predisposto ex articolo 4 del Decreto e approvato dal consiglio di amministrazione in data 14 marzo 2018 (di seguito "DNF").

Responsabilità degli amministratori e del collegio sindacale per la DNF

Gli amministratori sono responsabili per la redazione della DNF in conformità a quanto richiesto dagli articoli 3 e 4 del Decreto e ai "Global Reporting Initiative Sustainability Reporting Standards" definiti nel 2016 dal GRI - Global Reporting Initiative (di seguito "GRI Standards"), da essi individuato come standard di rendicontazione.

Gli amministratori sono altresì responsabili, nei termini previsti dalla legge, per quella parte del controllo interno da essi ritenuta necessaria al fine di consentire la redazione di una DNF che non contenga errori significativi dovuti a frodi o a comportamenti o eventi non intenzionali.

Gli amministratori sono responsabili inoltre per l'individuazione del contenuto della DNF, nell'ambito dei temi menzionati nell'articolo 3, comma 1, del Decreto, tenuto conto delle attività e delle caratteristiche del Gruppo e nella misura necessaria ad assicurare la comprensione dell'attività del Gruppo, del suo andamento, dei suoi risultati e dell'impatto dallo stesso prodotti.

Gli amministratori sono infine responsabili per la definizione del modello aziendale di gestione e organizzazione dell'attività del Gruppo, nonché, con riferimento ai temi individuati e riportati nella DNF, per le politiche praticate dal Gruppo e per l'individuazione e la gestione dei rischi generati o subiti dallo stesso.

Il collegio sindacale ha la responsabilità della vigilanza, nei termini previsti dalla legge, sull'osservanza delle disposizioni stabilite nel Decreto.

Indipendenza della società di revisione e controllo della qualità

Siamo indipendenti in conformità ai principi in materia di etica e di indipendenza del Code of Ethics for Professional Accountants emesso dall'International Ethics Standards Board for Accountants,

PricewaterhouseCoopers SpA

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basato su principi fondamentali di integrità, obiettività, competenza e diligenza professionale, riservatezza e comportamento professionale. La nostra società di revisione applica l'International Standard on Quality Control 1 (ISQC Italia 1) e, di conseguenza, mantiene un sistema di controllo qualità che include direttive e procedure documentate sulla conformità ai principi etici, ai principi professionali e alle disposizioni di legge e dei regolamenti applicabili.

Responsabilità della società di revisione

È nostra la responsabilità di esprimere, sulla base delle procedure svolte, una conclusione circa la conformità della DNF rispetto a quanto richiesto dal Decreto e ai GRI Standards. Il nostro lavoro è stato svolto secondo quanto previsto dal principio International Standard on Assurance Engagements ISAE 3000 (Revised) - Assurance Engagements Other than Audits or Reviews of Historical Financial Information (ISAE 3000 Revised), emanato dall'International Auditing and Assurance Standards Board (IAASB) nelle modalità previste per gli incarichi di limited assurance. Tale principio richiede la pianificazione e lo svolgimento di procedure al fine di acquisire un livello di sicurezza limitato che la DNF non contenga errori significativi. Pertanto, il nostro esame ha comportato un'estensione di lavoro inferiore a quella necessaria per lo svolgimento di un esame completo secondo l'ISAE 3000 Revised ("*reasonable assurance engagement*") e, conseguentemente, non ci consente di avere la sicurezza di essere venuti a conoscenza di tutti i fatti e le circostanze significativi che potrebbero essere identificati con lo svolgimento di tale esame.

Le procedure svolte sulla DNF si sono basate sul nostro giudizio professionale e hanno compreso colloqui, prevalentemente con il personale della società responsabile per la predisposizione delle informazioni presentate nella DNF, nonché analisi di documenti, ricalcoli e altre procedure volte all'acquisizione di evidenze ritenute utili.

In particolare, abbiamo svolto le seguenti procedure:

1. analisi dei temi rilevanti in relazione alle attività e alle caratteristiche del gruppo rendicontati nella DNF, al fine di valutare la ragionevolezza del processo di selezione seguito alla luce di quanto previsto dall'articolo 3 del Decreto, tenendo presente lo standard di rendicontazione utilizzato;
2. analisi e valutazione dei criteri di identificazione del perimetro di consolidamento, al fine di riscontrarne la conformità a quanto previsto dal Decreto;
3. comparazione tra i dati e le informazioni di carattere economico-finanziario incluse nella DNF e i dati e le informazioni inclusi nel bilancio consolidato del gruppo Acea;
4. comprensione dei seguenti aspetti:
   - modello aziendale di gestione e organizzazione dell'attività del gruppo Acea, con riferimento alla gestione dei temi indicati nell'articolo 3 del Decreto;
   - politiche praticate dall'impresa connesse ai temi indicati nell'articolo 3 del Decreto, risultati conseguiti e relativi indicatori fondamentali di prestazione;
   - principali rischi, generati o subiti connessi ai temi indicati nell'articolo 3 del Decreto.

   Relativamente a tali aspetti sono stati effettuati inoltre riscontri con le informazioni contenute nella DNF ed effettuate le verifiche descritte nel successivo punto 5;
5. comprensione dei processi che sottendono alla generazione, rilevazione e gestione delle informazioni qualitative e quantitative significative incluse nella DNF. In particolare, abbiamo svolto interviste e discussioni con il personale della direzione di Acea SpA e con il personale di

Acea Ato 2 SpA, Areti SpA, e Acea Produzione SpA e abbiamo svolto limitate verifiche documentali, al fine di raccogliere informazioni circa i processi e le procedure che supportano la raccolta, l'aggregazione, l'elaborazione e la trasmissione dei dati e delle informazioni di carattere non finanziario alla funzione responsabile della predisposizione della DNF.

Inoltre, per le informazioni significative, tenuto conto delle attività e delle caratteristiche del gruppo Acea:

- a livello di gruppo,
  a) con riferimento alle informazioni qualitative contenute nella DNF, e in particolare al modello aziendale, politiche praticate e principali rischi, abbiamo effettuato interviste e acquisito documentazione di supporto per verificarne la coerenza con le evidenze disponibili;
  b) con riferimento alle informazioni quantitative, abbiamo svolto sia procedure analitiche che limitate verifiche per accertare su base campionaria la corretta aggregazione dei dati;

- per Acea SpA, Acea Ato 2 SpA, Areti SpA, e per la centrale di Tor di Valle (Rm) di Acea Produzione SpA che abbiamo selezionato sulla base della loro attività, del loro contributo agli indicatori di prestazione a livello consolidato e della loro ubicazione, abbiamo effettuato visite in loco nel corso delle quali ci siamo confrontati con i responsabili e abbiamo acquisito riscontri documentali circa la corretta applicazione delle procedure e dei metodi utilizzati per il calcolo degli indicatori.

Conclusioni

Sulla base del lavoro svolto, non sono pervenuti alla nostra attenzione elementi che ci facciano ritenere che la DNF del gruppo Acea relativa all'esercizio chiuso al 31 dicembre 2017 non sia stata redatta, in tutti gli aspetti significativi, in conformità a quanto richiesto dagli articoli 3 e 4 del Decreto e ai GRI Standards.

Altri aspetti

Con riferimento all'esercizio precedente chiuso al 31 dicembre 2016, il gruppo Acea aveva predisposto un Bilancio di sostenibilità, i cui dati sono utilizzati a fini comparativi all'interno della DNF. Detto Bilancio di sostenibilità era stato sottoposto in via volontaria ad un esame limitato in conformità all'ISAE 3000 da altro revisore, che aveva espresso delle conclusioni senza rilievi.

Roma, 29 marzo 2018

PricewaterhouseCoopers SpA

Massimo Rota
(Revisore legale)

Paolo Bersani
(Procuratore)

2017
SUSTAINABILITY REPORT

ACEA GROUP

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