



2018

Integrated Report

Consolidated Disclosure of
Non-Financial Information
in accordance with Italian
Legislative Decree no. 254/2016

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The A2A Group 2018 Integrated Report is completed by a specific supplement which is available for consultation on the Group website, both in Italian and in English. www.a2a.eu

Letter to stakeholders

The publication of the sustainability report for the A2A group represents an expected annual appointment, which allows us to get in touch with our stakeholders, analyze and recount the commitment and attention we dedicate to issues related to economic, environmental and social sustainability. This document, which since last year has also been the consolidated non-financial statement of the Group pursuant to Legislative Decree 254/16 (NFD), has taken on various forms and names, but continues to be drawn up according to rigorous and internationally shared standards and methodologies, in particular the Integrated Reporting Framework and the International Standards of the Global Reporting Initiative.

The report this year includes, in an initial section and in its Supplement, also the results and activities of the ACSM-AGAM group, formed in July 2018, following an aggregation project that includes the main Lombard public utilities (ACSM- AGAM S.p.A., ASPEM S.p.A., AEVV S.p.A., AEVV Energie S.r.l., Lario Reti Holding S.p.A., Acel Service S.r.l., Lario Reti Gas S.r.l. and A2A S.p.A.), with the aim of making optimal use, through the "Multiutility of Territories" model, of the wealth of skills and deep roots in the local community.

Also this year, our commitments and improvement actions have been defined in the Sustainability Plan, updated with the new time horizon 2019-2023 and integrated into the Group's Business Plan. The document is based on the four pillars of our 2030 Sustainability Policy, which refers to the 2030 Agenda of the UN, consisting of 17 objectives (Sustainable Development Goals - SDGs).

360° circular economy: more resources with less resources

We maximize the recovery of material and energy from waste, in full compliance with the objectives of the European Union. In 2018, we have sent only 0.3% of the urban waste collected to the landfill. For the next five years, we are aiming to keep this percentage below 1%.

We are investing in the recovery chain of materials from waste, in particular in the most deficit sectors in the national field: plastic and organic. In November 2018, a modern plastic selection plant was opened in Cavaglià, while a similar plant will soon be active in Muggiano (MI). In the next five years, the construction of 4 new treatment plants for the wet waste fraction is planned, for the recovery of compost and biomethane.

2018 showed positive progress in differentiated waste collection: 60% in the city of Milan and 74% in the other municipalities served by our environmental companies. In 2023, we want to reach 65% in the city of Milan, already a worldwide best practice among the big cities, and 76% in the remaining municipalities.

We have carried out circular economy interventions also in the water networks, continuing in a demanding plan to reduce grid losses (about 30 km of network replaced) and starting work on the Val Trompia purifier that will bring important environmental benefits to the whole territory that - along the river Mella - goes from Val Trompia to the Bassa Bresciana, passing through the city of Brescia.

Renewable sources, district heating and energy efficiency for the fight against climate change

Already 80% of our electricity production comes from clean, renewable and natural gas sources, in line with the guidelines of the National Energy Strategy (SEN). In 2018, we reduced CO₂ emissions per kilowatt hour produced by 10% compared to 2017, thanks to the greater weight of renewable sources. In fact, we have increased the installed photovoltaic capacity, reaching 94 MW in 2018 and aiming for 250 MW in 2023.

Essential in our model of sustainable city is district heating, which continues to evolve in terms of diversification of sources and reduction of the contribution of fossil fuels. A first reconversion intervention is planned for the Lamarmora cogeneration plant in Brescia, which will enable the start of the first coal-free thermal season in 2022, ahead of the national coal phase out target set for 2025.

For us, decarbonization also means orienting the final market - our customers - to more responsible and aware consumption choices. This year we have sold over 2,000 GWh of green energy and over 5,500 Led kits. Furthermore, thanks to energy efficiency interventions on industrial customers, we have contributed to avoiding the emission of over 1.8 million tons of CO₂ into the atmosphere, with the aim of achieving a CO₂ saving of 6.5 million tonnes in 2023.

Reliable networks and intelligent services to simplify the everyday life of citizens and customers

A liveable and modern city needs, first of all, cutting-edge infrastructure, taking into account the impact of climate change. In 2018, we continued the impressive

activity planned in Milan to improve the resilience of the electricity grid (77% of the joints replaced); in Brescia we participate, with our technological contribution, in the “Brescia Smart Living” and “Oltre la strada” projects, which will enhance and revitalize some areas of the city in a smart and sustainable way; twenty-eight municipalities in Brescia have chosen A2A Smart City to develop connectivity networks that enable the development of new digital services, while nine Municipalities have entrusted us with the task of replacing public LED lighting systems. We aim to increasingly become leaders in the development of smart cities, with the goal by 2023, to realize over 200 smart services, in 40 municipalities. In 2018 we have already activated more than 700 parking spaces in smart parking and 6,000 smart environmental bins. We are also committed to contributing to more sustainable mobility, driving electric mobility through major investments in recharging networks, which will enable us to manage 1,600 columns by 2023. In 2018, cars powered with 100% renewable energy through our infrastructure, traveled over 8 million km with zero emissions. Also in 2018, we have maintained high service standards for our customers, as evidenced by both the ARERA surveys and other customer satisfaction surveys carried out during the year, confirming the continuity of our commitment to quality and transparency.

Attention to people and communities for sustainable development

We are also a company that is attentive to people’s needs. Aware that they are the true engine of business success, we promote projects for skills development, gender equality, worker safety and the balance between work and private life. In 2018, the per capita training hours increased by 8.6% compared to 2017, while the weighted accident index was reduced by 21%. The experimentation of smart working continued, which currently allows 18% of employees (25% in 2023) to work one day a week in smart mode, i.e. outside the office. We have also decided to increase, from 14% to 20% in the next 5 years, the percentage of female coverage on the total of roles of responsibility. We are close to the communities. We do this also through the involvement and awareness of new generations on environmental issues, in particular in dialogue with the world of school: in 2018, almost 60,000 students and teachers were involved in visits to facilities and environmental education activities, and we set

ourselves the goal of reaching over 80 thousand participants by 2023. Our “forumAscolto” territorial engagement program continued, with the implementation of a forum in the Piedmont area, as well as the finalization of the projects emerging from the Milan forum and the call promoted downstream of the Friuli Venezia Giulia forum. Furthermore, in 2018, the 15 winning projects of the “Doniamo Energia” call for proposals were launched, promoted by our non-profit organization Banco dell’Energia together with the Cariplo Foundation. 6,000 people in situations of economic vulnerability benefited of these projects. Given the success of the initiative, a second edition of fundraising was activated in 2018, with the aim of raising 1 million euro by July 31, 2019.

A Group strongly linked to the territories but with a view to the whole world

In 2018, A2A decided to request a solicited rating from Standard Ethics, in order to obtain an external and independent assessment, which represents the level of adherence of the company to the principles of sustainability and corporate social responsibility as set out by the European Union, the OECD and the UN. The positive assessment received comforted and encouraged us to introduce some improvements, in particular in the governance of sustainability. These include the updating of the A2A Code of Ethics, which is now explicitly inspired by the Universal Declaration of Human Rights of the UN, the ILO Fundamental Conventions and the OECD Guidelines. Moreover, this year, given the growing interest of investors in sustainability, we have signed, first in Italy, a sustainable credit line of 400 million euro that sees the interest rate of the loan anchored to the achievement of specific environmental KPIs combined with the ESG annual ratings of Standard Ethics.

In short, these are our commitments and our contribution in pursuing sustainable development. We want to thank all the people who are part of the A2A Group, who every day contribute to generating value with their commitment, their skills and their enthusiasm and all our stakeholders with whom we share this value every day.

The Chairman
Giovanni Valotti



The Chief Executive Officer
Luca Valerio Camerano



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Methodological Note

As a large Public Interest Entity, in accordance with Legislative Decree 254/16 and subsequent amendments and additions, the A2A Group publishes this document representing the Group's Consolidated Non-Financial Declaration (NFD) for the year 2018.

The document (including its Supplement) represents the eleventh financial statements that report A2A's activities for its material sustainability issues, for the companies included in the scope of consolidation for the year ended December 31, 2018. The Integrated Report has been prepared in accordance with the **GRI Standards** of the *Global Reporting Initiative* (GRI) and, for some indicators, refers to the *GRI G4 Electric Utilities Sector Supplement*. The document also takes as a reference the **Integrated Reporting Framework** (IR Framework), outlined by the *International Integrated Reporting Council* (IIRC).

Adopting the principles of the Integrated Report requires presenting the way in which an organisation creates value over time. We therefore decided to adopt a structure for our report based on the various types of capital, which constitute the variables that determine how value is created:

- **Financial Capital:** set of economic resources involved in the production processes;
- **Manufacturing Capital:** real estate, infrastructure and physical means (plant, machinery, etc.) used for the production of the services offered by the company;
- **Natural Capital:** all processes and environmental resources contributing towards the production of services offered by the company;
- **Human Capital:** all the expertise, skills and experience of the people that work at the company;
- **Intellectual Capital:** intangible resources represented by organisational knowledge and intellectual property of the Group;
- **Relational Capital:** the company's ability to create relations with external stakeholders and share values in order to increase individual and collective well-being.

Through the analysis of the types of capital that influence, and are in turn influenced by, the Group's activities, A2A aims to provide a clear account of the existing, necessary integration between economic and social and environmental aspects in company decision-making processes, but also in the definition of the Group's strategy, governance and business model.

The initial chapters of the document describes the Group's **Business Model** and the **management tools applied**, through which the various capitals are used to create value over time. A structured process of **materiality analysis**, to which reference is made in paragraph 4.2, has made it possible to define the contents to be reported as they are relevant for both

the Group and its stakeholders. On the basis of the issues that emerged as material, the GRI standards and the related qualitative and quantitative disclosures to be presented in the NFD and its Supplement are selected. The **description of the material matters, the associated risks and the management methods**, including the policies applied by the company, are reported at the start of each capital, together with an overview of the input/output/outcome model of the business model, highlighting inputs and outcomes of the specific capital. This representation is mainly intended for communication purposes, insofar as the Group outputs, i.e. the public utility services and support processes, with which it supplies the communities, can only be obtained through the combination of the various capitals. Within each chapter, the **actions** and **KPIs** (Key Performance Indicators) relative to the specific capital, are therefore described.

According to the cover of the **GRI Standards** and **Specific Standard Disclosure** indicators associated with the material aspects and summarised in the **GRI Content Index**, the NFD was prepared "**in accordance with the GRI Standards: Core option**".

In order to comply with the requirements of Italian Legislative Decree no. 254/16, in 2017, the A2A Group equipped itself with an internal procedure aimed at drafting the NFD - **Procedure 201.0128 "Non-Financial Declaration Reporting Flow"** - which defines the organisational structures involved, the methods used to collect, process and control the non-financial data included in this document. This procedure was updated with effect from January 1, 2019, with the inclusion of the **passage of formal approval in the Board of Directors of the materiality matrix**, preparatory to the preparation of the issues to be discussed in the Group NFD, and the presentation of the document in the Shareholders' Meeting.

The data collection, processing and control process was handled through the implementation of specific **software** managed by the CSR structure, which allows for the definition, for each section of the NFD, of the data owner and various approval levels, through to the company's senior management. Financial capital figures are aligned with the Consolidated Financial Statements, while manufacturing capital figures - and relational capital figures for customers and users - are derived from A2A's management control systems. The data represented in natural capital was handled by the Environment structure and collected via the EMS (Environmental Management System) software. The main conversion and emission factors for environmental KPIs are reported as a note in each section where they are reported. Where present, site-specific factors have been used as the basis for the calculation methods.

In this document and its Supplement, where necessary a specific note has been included, to indicate changes in the 2016 and 2017 performance data with respect to that reported in the 2017 Integrated Report.

This document, submitted to the Board of Directors of A2A S.p.A. on April 3, 2019, was then **subjected to a limited audit**, with regard to aspects relating to GRI reporting, by an external company, in accordance with the criteria laid down by the "International Standard on Assurance Engagements 3000 Revised" (ISAE 3000 Revised), which at the end of the work carried out issued the report attached to this document.

Scope

The NFD includes all full subsidiaries consolidated on a line-by-line basis into the Consolidated Financial Statements, to which, however, a concept of relevance and significance is applied. Indeed, companies can be excluded from the social and environmental performance data, with business that is not relevant or companies purchased/sold/liquidated during the year.

Consequently, with the exception of "Financial Capital" and the chapter entitled "The A2A Group", for which the scope coincides with that of the Consolidated Financial Statements, the companies in liquidation and the following in the list are excluded from the list of consolidated companies in the remaining Capitals:

- LumEnergia, whose data collection process is costly and difficult to integrate with companies in the same Group business. The omission of information relating to it does not prejudice the correct and balanced understanding of the Group's performance (supply points managed less than 1% of the total of those managed by the commercial companies of the Group).
- the ACSM-AGAM Group, which, although fully consolidated in A2A's Consolidated Financial Statements, will draw up its own NFD as an obligated party pursuant to Legislative Decree 254/16. The main **KPIS** of the Group's performance will be represented and aggregated on page 9 and on pages from 51 to 59 in the Supplement.

On July 1, 2018, in fact, the merger and demerger transactions were effective between ACSM-AGAM, Aspem, AEVV, Lario Reti Holding and A2A S.p.A., which constituted the multi-utility of the North. The aggregation project consists of the following phases:

- merger by incorporation into ACSM-AGAM of A2A IDRO4, Aspem, AEVV Energie, ACEL Service, AEVV and Lario Reti Gas;
- partial demerger of A2A Energia S.p.A. in favour of ACSM-AGAM mainly concerning a business unit consisting of contractual relationships with customers in the province of Varese in the energy sector;
- reorganization of ACSM-AGAM consisting in the rationalization of the assets received following the merger and demerger above, through the execution of various contributions in newly established companies - fully controlled by ACSM-AGAM - or in other existing companies already controlled by ACSM-AGAM or of which the latter became a partner following the merger.

As mentioned above, the ACSM-AGAM Group, being subject to the obligation of Legislative Decree 254/16, publishes its own Declaration of Non-Financial Information approved by the Board of Directors on March 28, 2019.

It is also noted that the plants - owned or leased - are consolidated 100% if they are included in the assets of the consolidated companies. In this sense, the data on the activity of the Acerra Waste-to-energy plant and the Thermoelectric plant of Scandale, are not considered. The Group's jointly owned material plants are consolidated proportionally. According to this principle, for environmental data, the Mincio Thermoelectric plant was 45% consolidated.

It should be noted that, as part of the process of integration between the subsidiaries and in line with the objective of simplifying the corporate structure of the Group, A2A Recycling was established as of December 31, 2018, resulting from the merger by incorporation of the companies belonging to the Rieco-Resmal Group.

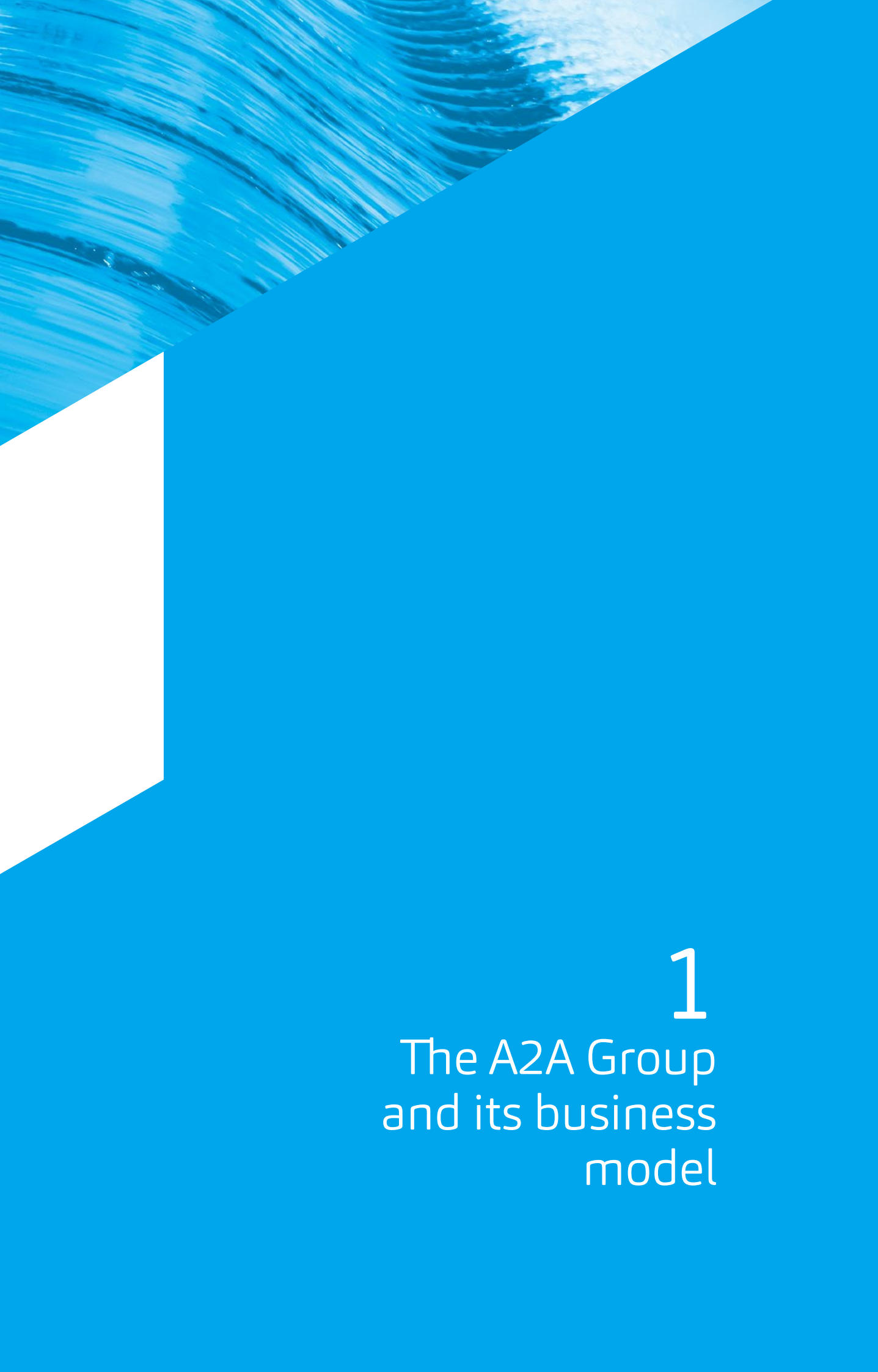
Reference should be made to the box on page 66 for acquisitions made during the year by A2A Rinnovabili.

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1

The A2A Group
and its business
model

1.1 The Group

The A2A Group is Italy's leading multi-utility company, at the top of the production, sale and distribution of gas and electricity, district heating, environmental services and the integrated water cycle. Committed to a constant process of integration in the territories, the Group focuses on research and invests in new technologies for the smart cities of tomorrow.

Its business areas are attributable to the Business Units (BU) illustrated below.

Generation and Trading

The activities of the Business Unit are related to the management of the generation plant portfolio of the Group. This Business Unit also includes the activity of trading on domestic and foreign markets of all energy commodities (gas, electricity, environmental certificates).

International

The Business Unit includes the provision of know-how and technologies for the realization of waste pre-treatment plants.

Market

The activities of the Business Unit are aimed at the sale of electricity and natural gas to customers in the free market and protected market, the management of public lighting and traffic regulation systems. Furthermore, it deals with providing energy efficiency and electric mobility services.

A2A Smart City

The company is the reference operator within the Group that develops and manages the technological infrastructures enabling integrated and networked digital services.

Environment

This Business Unit's activity relates to the management of the integrated waste cycle, which ranges from collection and street sweeping to the treatment, disposal and recovery of materials and energy.

Other Companies and Corporate

Corporate services include guidance, strategic direction, coordination and control of industrial management, as well as services to support business and operational activities.

All these Business Units, where possible, operate in coordination to offer integrated services to citizens, as evidenced by the A2A value chain, in which the main activities of the Group are represented throughout their supply chain, from the raw material to the end customer.

Networks & District Heating

This Business Unit's activity mainly consists of the technical and operational management of networks for the distribution of electricity, the transport and distribution of natural gas and the management of the entire integrated water cycle. It also produces and sells heat conveyed through district heating networks and offers management services for heating systems owned by third parties.

1.2 Size of the organization and geographical location

In the following section, regarding the size of the organization and location of the geographical areas of activity, the information includes the ACSM-AGAM Group, in order to provide complete information on the structure of the A2A Group, in line with the economic results which include, for the second half of 2018, the results of the multi-utility of the North. For further details on the results of the ACSM-AGAM Group, see the Supplement to this document.

Revenues (M€)	
2017	2018
5,796	6,494

Economic added value distributed (M€)	
2017	2018
1,655	1,814

Total order (M€)	
2017	2018
1,003	1,536

Percentage ordered from Italian suppliers	
2017	2018
95%	92%

Electricity produced (GWh _e)	
2017	2018
17,895	19,675

RES percentage of the total	
2017	2018
25%	31%



Thermal energy produced (GWh _t)	
2017	2018
2,726	2,802

Water treated (Mm ³)	
2017	2018
52	52

Waste collected (Kt)	
2017	2018
1,605	1,671

Waste treated (Kt)	
2017	2018
3,366	3,547

Separate Collection Index	
2017	2018
63.2%	68.0%



Electricity sold to end customers (GWh _e)	
2017	2018
8,289	10,826

Green energy sold (GWh _e)	
2017	2018
1,273	2,229

Electricity distributed (GWh _e)	
2017	2018
11,747	11,913

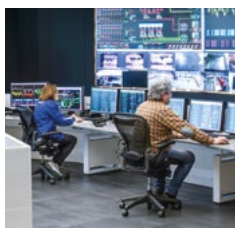
Gas sold to end customers (Mm ³)	
2017	2018
1,629	1,925

Gas distributed (Mm ³)	
2017	2018
2,480	2,745

Heat/cold sold (GWh)	
2017	2018
2,682	2,768



Water distributed (Mm ³)	
2017	2018
69	72



Total number of employees	
2017	2018
11,416	12,080

Number of hires	
2017	2018
906	956

Turnover rate	
2017	2018
5.9%	6.3%

Scope 1 emissions (kt CO _{2eq})	
2017	2018
8,057	7,636

Scope 2 emissions (kt CO _{2eq})	
2017	2018
122	124

Sponsorships (M€)	
2017	2018
1.3	1.2

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Plants and services of the A2A Group

PLANTS		
ENERGY	Thermoelectric	
	Hydroelectric	
	Photovoltaic	
WASTE	Waste-to-energy	
	Waste treatment	
	Material recovery	
	Landfill	
SERVICES		
WASTE	Waste collection	
DISTRIBUTION AND TRANSPORT	Electricity distribution	
	Gas distribution	
	Gas transport	
DISTRICT HEATING	District heating	
WATER	Integrated water service	
LIGHTING	Public lighting	



Liguria

Lombardy

Milan



Brescia



Sondrio



Bergamo



Pavia



Varese



Como



Mantua



Lodi



Cremona



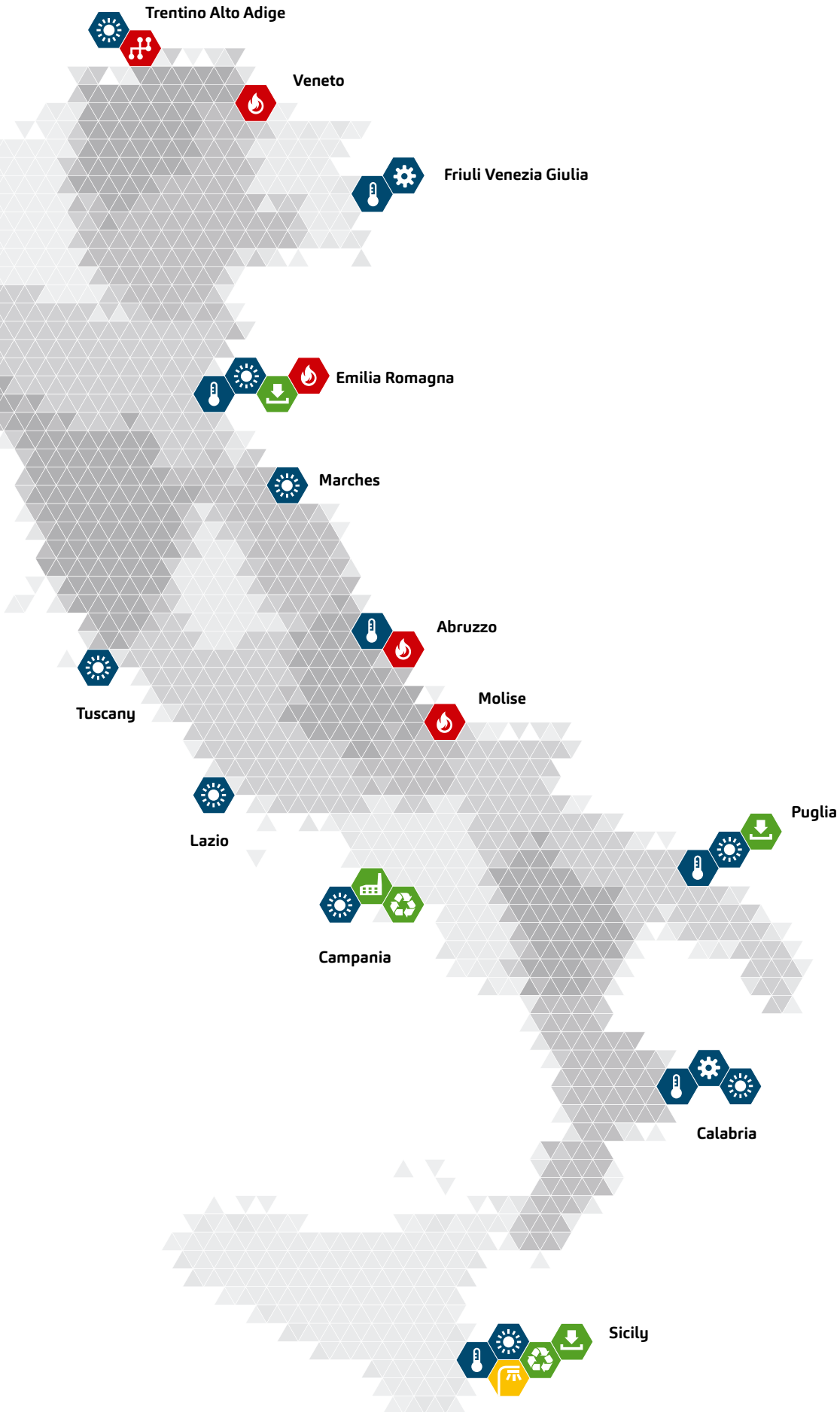
Monza



Lecco



Sardinia



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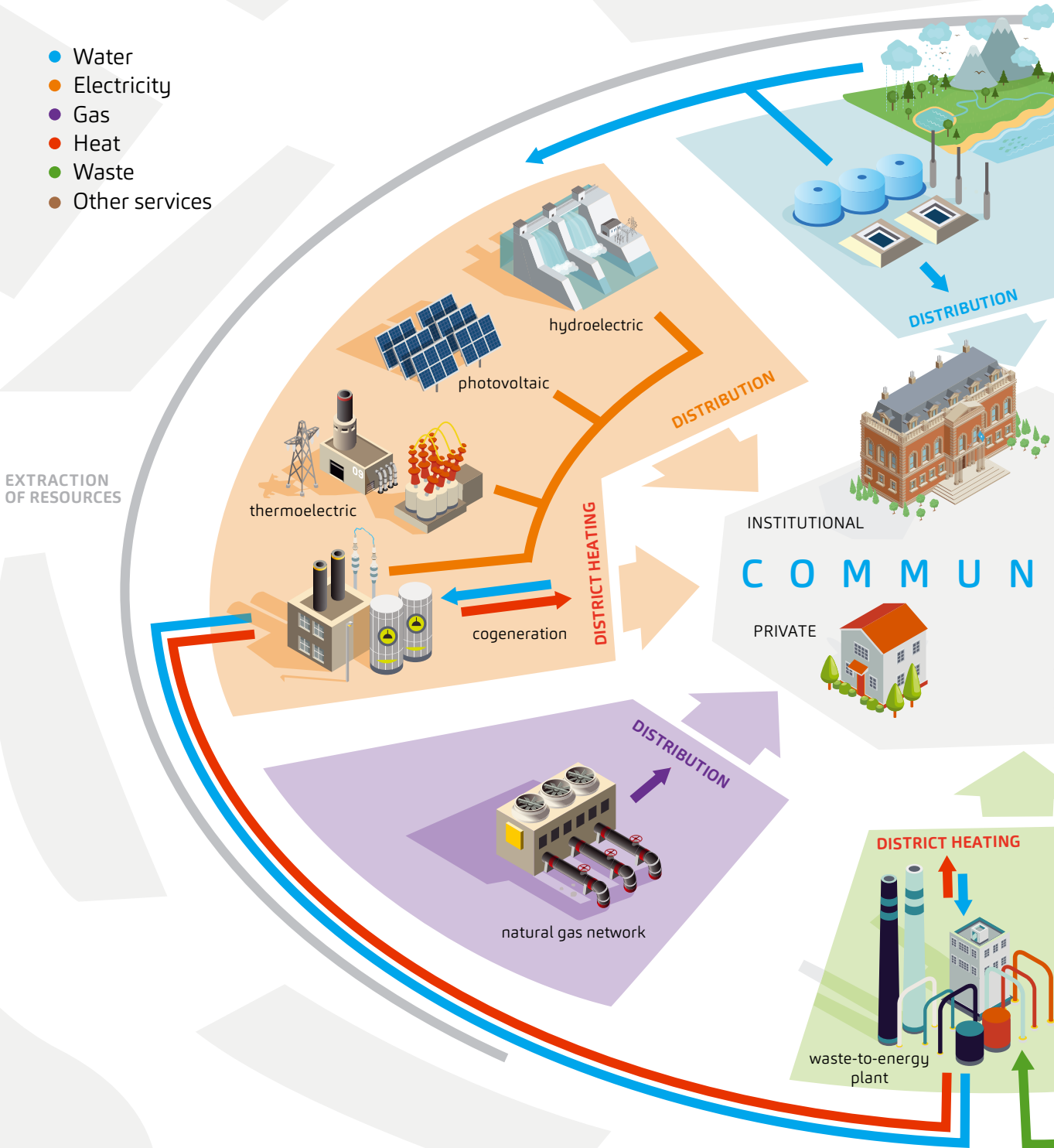
10 Relational capital

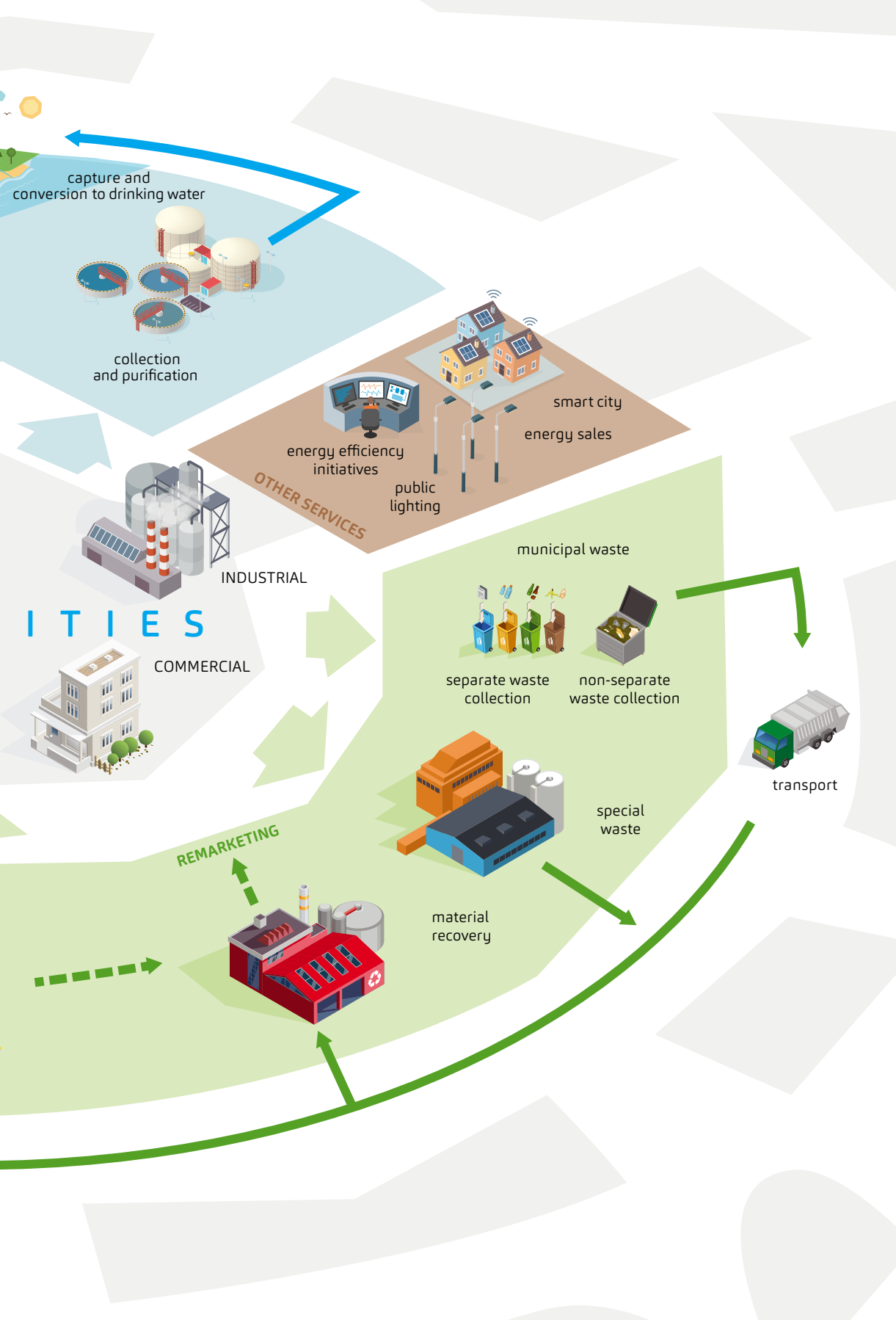
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1.3 A2A's value chain

- Water
- Electricity
- Gas
- Heat
- Waste
- Other services





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1.4 The A2A business model

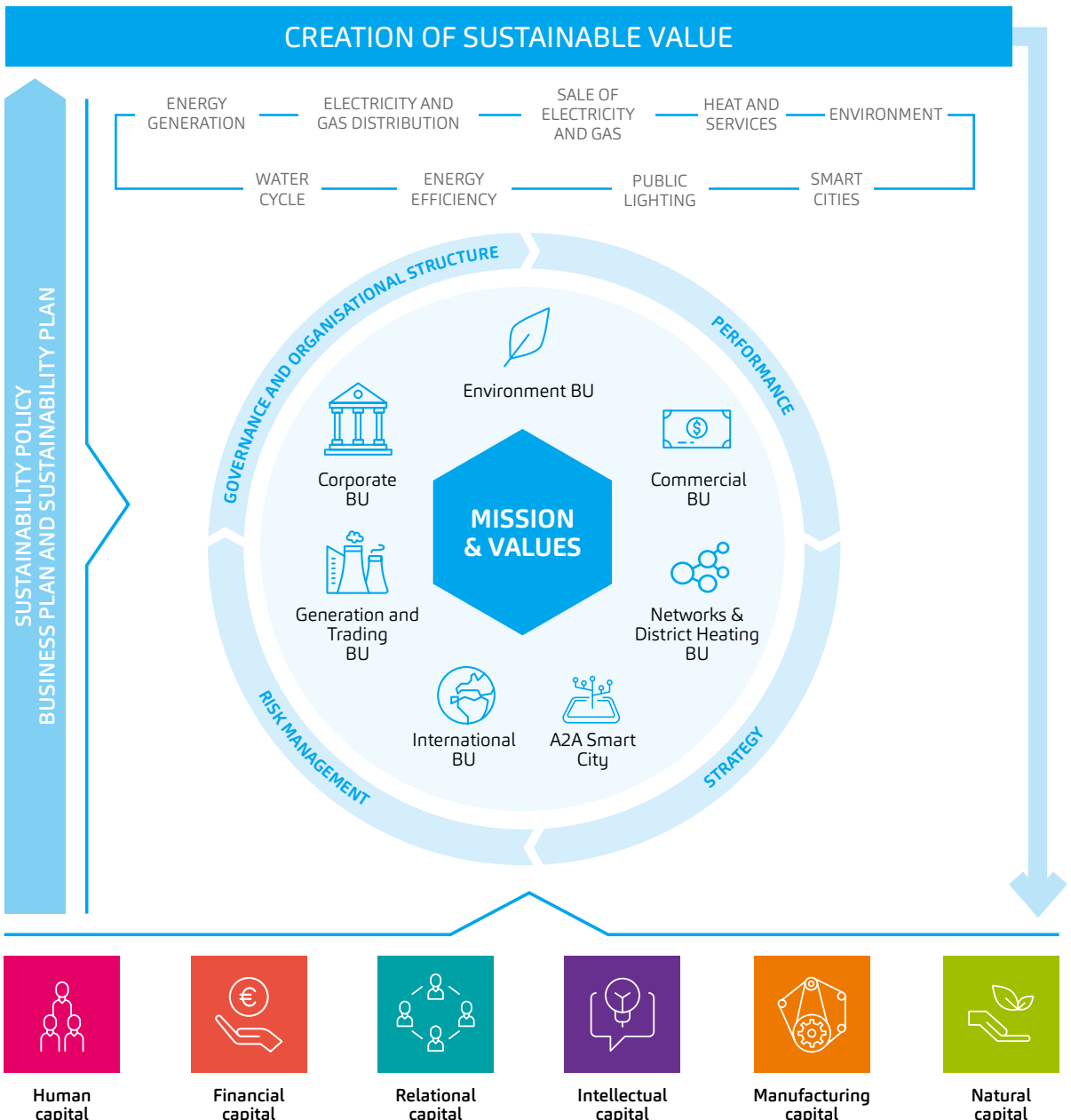
The A2A Business Model seeks to create shared sustainable value for the company over time and for its reference community.

In actual fact, the services offered by the Group look to the future and are focussed on improving the quality of life of local residents and businesses operating in the reference territories, by offering essential services, guaranteed by the highest quality and efficiency standards: waste collection, sale of electricity and natural gas, water treatment, distribution networks, public lighting and IoT (Internet of Things) technologies for smart cities. The solidity of A2A's presence meets with the change of sectors that evolve constantly, giving rise to a constant path of sustainable growth.

The six capitals (Financial, Manufacturing, Natural, Human, Intellectual and Relational) are behind the business model, on which the organisation depends in order to guarantee its services. Aware that maintaining and preserving these capitals can be the only key for sustainable growth and a solid presence in the long-term, A2A has defined a system of values, organisational instruments, policies and operating systems that, as a whole, support the Group's various business units in sustainable management.

Part of the capital is consumed in the generation of the services offered by A2A to the community in which it operates; this is why A2A has defined a strategy that integrates business objectives with sustainability objectives, defining an Industrial Plan through to

Figure 1_The A2A Group business model



2023 and a Sustainability Policy through to 2030, aimed at returning value to each capital, to keep their capacity unaltered, with a view to sustainable development.

The Group's **values** represent the cultural identity of A2A and the rules of conduct that guide people in their daily activities. The Group's values, along with its mission, underlie its business model, which consolidates and encourages increasingly deep integration with local communities and their members, due to a business plan that allows development opportunities to be identified for the business and its stakeholders.

The Group's ambition is to establish a **multi-utility model integrated into the local community**, suited to the people who live there, capable of creating and distributing progressive, long-lasting social value to all of its stakeholders.



The A2A Group mission

We aim to be a **Group capable of providing cities with essential services** that meet the highest standards of quality and efficiency due to their **sustainability, optimal relationship with the local community and openness to change.**

Our strategy aims to develop a repositioning process for a **more modern multi-utility**, leader in the environment, smart grids and new energy models, with a more balanced and profitable position, able to **seize the opportunities that will be presented by the green economy and smart cities.**

The A2A Group's values

Respect for the Human fundamental rights: maintain a professional relationships with all stakeholders, geared toward the respect for the dignity and fundamental rights recognised by national and supra-national law to all mankind.

Excellence in results: achieve results and satisfy customers with competence, determination, recognizing excellent contributions.

Responsibility: commit to give their best, answering for their actions.

Team spirit: overcoming obstacles through cooperation, a shared vision, and a focus on the individual.

Innovation: tackling change and evolution through brainstorming, flexibility, and thinking outside the box.

Sustainability: keeping an eye on the impact of one's choices on the environment and on the community.

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Governance

On May 15, 2017, the Shareholders' Meeting appointed for three years, with the mechanism of the list vote, the Board of Directors (BoD) consisting of 12 members, as indicated in the table below.

POSITION	NAME	YEAR OF BIRTH	EXECUTIVE (E) - NON EXECUTIVE (NE)	INDEPENDENCE - CODE
Chairman (C)	Giovanni Valotti	1962	E	-
Deputy Chairman (DC)	Alessandra Perrazzelli	1961	NE	X
CEO / General Director	Luca Valerio Camerano	1963	E	-
Director	Giambattista Brivio	1946	NE	X
Director	Giovanni Comboni	1957	NE	-
Director	Enrico Corali	1964	NE	X
Director	Luigi De Paoli	1949	NE	X
Director	Alessandro Fracassi	1969	NE	X
Director	Maria Chiara Franceschetti	1969	NE	X
Director	Guadiana Giusti	1962	NE	X
Director	Secondina Ravera	1966	NE	X
Director	Norberto Rosini	1959	NE	X

Note: C: Chairman - M: Member

In compliance with the provisions of the Code of Corporate Governance for Listed Companies, the Board of Directors conducted its assessment for the year 2018, on the size, composition and functioning of the Board and its Committees. The results of the Board Review were presented and discussed during the session of the Board of Directors of February 26, 2019. All the information relative to the A2A governance model is given in the **Report on Corporate Governance and Ownership Structures** published together with this document and available on the website www.a2a.eu.

The information given on the fees of the Board of Directors is available in the **Report on Remuneration** available on the website www.a2a.eu.

2.1 Sustainability governance

Responsibility for sustainability issues is born by the **Sustainability and Territory Committee**, tasked with playing an evaluative, advisory and propositional role in assisting the Group's BoD, Chairman and Chief Executive Officer in defining guidelines, orientations and initiatives relating to the promotion of a strategy and tools that integrate sustainability into business processes, so as to ensure the creation of value over time for the shareholders and all other stakeholders.

The Committee must be composed of no fewer than three directors and at least one member must have adequate experience in the field of the environment, sustainability and corporate social responsibility, to be assessed by the BoD upon appointment. The Committee reports to the BoD on the activity performed with quarterly frequency. In 2018, the Sustainability and Territory Committee met 9 times.

	INDEPENDENCE - CFA	CONTROL AND RISKS COMMITTEE	REMUNERATION AND APPOINTMENTS COMMITTEE	SUSTAINABILITY AND TERRITORY COMMITTEE
	-	-	-	C
	X	-	C	-
	-	-	-	-
	X	-	-	M
	X	M	-	-
	X	M	-	-
	X	C	-	-
	X	-	-	M
	X	-	-	M
	X	M	-	-
	X	-	M	-
	X	-	M	-

During the meetings different aspects were analysed and discussed, such as

- updating of the Sustainability Plan, for the five-year period 18-22;
- preparation of the 2018 Integrated Report;
- alignment on the progress of the projects emerging from the territorial forums and planning of the call "for ideas" opened in Friuli Venezia Giulia;
- validation of the contents included in the Territorial Sustainability Reports drawn up in 2018;
- analysis of the results obtained in the various ethical ratings to which A2A is subject, also in line with international requests on issues such as

climate change and sustainable finance;

- organization of the first forumAscolto in Piedmont;
- identification of material issues for the 2018 Integrated Report.

Under the scope of director training, aimed at providing suitable knowledge of the sector, company dynamics and their evolution, in 2018 too, an induction session was held for the BoD on sustainability matters.

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2.2 Corporate governance guidelines

A2A has equipped itself with various instruments aimed at supporting the company in guaranteeing an effective, efficient and transparent management, namely:

- **Code of Ethics;**
- **Organisation, Management and Control Model pursuant to Italian Legislative Decree no. 231/01;**
- **Anti-Corruption Policy;**
- **Group Tax Strategy;**
- **Quality, Environment and Safety Policy;**
- **Quality, Environment and Safety Management Systems;**
- **A2A Group's Sustainability Policy.**

➔ All documents mentioned above are available at www.a2a.eu

Code of Ethics

All of the A2A Group's activities and relations, both internal and external, are inspired by observance of the principles, values and rules of conduct set out in the **Code of Ethics**. The Code of Ethics of the A2A Group, updated in 2018 and approved by the Board of Directors of A2A S.p.A. on May 31, 2018, is an integral part of the **Model pursuant to Italian Legislative Decree 231/01** and defines the fundamental ethical principles, rules of conduct and responsibilities that the Group recognizes, respects and assumes as a binding value and imperative that all recipients of the same are required to comply with (members of the Board of Directors, members of the control body, managers, employees, collaborators on an ongoing basis, suppliers and business partners).

The main updates include an explicit reference to the UN Universal Declaration of Human Rights, the ILO Fundamental Conventions and the OECD Guidelines.

The Code identifies requirements aimed at ensuring that the enterprise's activities are inspired by the following principles:

- recognition and protection of the dignity, liberty and equality of human beings;
- protection of workers and freedom of union association;
- protection of health, safety, the environment and biodiversity;
- integrity, transparency, honesty and loyalty in action.

INTERNATIONAL TRADE COMPLIANCE

Some governments and bodies such as the United Nations and the European Union apply restrictive measures against countries, companies and individuals to ensure international security or stability and to combat: terrorism, nuclear proliferation activities, violations of human rights, the annexation of foreign territories and the deliberate destabilization of a sovereign country. This generally takes the form of preventing and/or limiting the provision of funds, financial assistance, economic support or certain types of goods and services to those affected by such measures.

The A2A Group is **subject to *International Trade Compliance* regulations** issued by the Italian Government and the European Union and applies, for contractual commitments with funding bodies, the provisions of specific laws and regulations issued by some other countries and intergovernmental organizations of an international nature. In this sense, the A2A Group has adopted a **specific procedure for regulating information flows, the procedures for verifying counterparties and the standards of clauses to be used in commercial contracts and agreements.**

Organization, Management and Control Model pursuant to Italian Legislative Decree 231/01

On May 31, 2018, the Organization, Management and Control Model of A2A S.p.A. was updated pursuant to Legislative Decree 231/01, also valid for 52 Group companies which in turn have adopted their own. The Board of Directors of each of the above companies has appointed a Supervisory Body entrusted with the task of supervising the functioning and compliance of the Model and its constant updating.

In 2018, **6,972 hours of training** were provided on the subject of Legislative Decree 231/01 in e-learning and classroom mode, which involved **37% of employees**; therefore, at December 31, 2018, the total percentage of employees involved was 77%.

All Group stakeholders can report through appropriate channels of confidential information, any violation or suspected violation of the Code, to the Supervisory Body or Internal Audit organisational structure.

Reports can be made through the communication channels established (e.g. e-mail, ordinary mail) and as per the "Management of anonymous and other reports of the A2A Group" guideline published on the Group website. Employees of the A2A Group may also report illegal conduct or violations of the 231 Model of companies of which they have become aware in the context of their employment relationship. Reports may also be anonymous and must contain precise and useful elements for understanding what has been reported. The A2A Group guarantees the protection of the identity of the reporter and the confidentiality of the information received and, for those who violate the measures to protect the reporter and those who make unfounded reports, penalties are provided for. Whistleblowers can report to the National Labour Inspectorate any discriminatory measures suffered.

Anti-Corruption Policy

The Group companies that have adopted their own Organisation, Management and Control Models in accordance with Legislative Decree 231/01 are systematically monitored also with regards to risks connected with corruption. In line with as reported in the corporate Code of Ethics and the specific regulatory document "**Anti-Corruption Policy of the A2A Group**" approved by the Board of Directors of A2A S.p.A.

on May 10, 2018, the Group **bans all forms of corruption**, unlawful favours, collusive conduct, requesting of advantages, conferral of material and immaterial benefits and other advantages aimed at influencing or remunerating representatives of institutions or their relatives, and Group employees. The anti-corruption policy of the Group provides a systematic framework of reference in fighting corruption, and disseminates Group-wide those principles and rules to be followed to disavow bribery in any form direct or indirect, active or passive, even in terms of solicitation, as well as more generally warrants compliance contemplated by the Group's Code of Ethics, and applicable Anti-Corruption rules. The policy applies to Group personnel and to all those who work for or on behalf of Group Companies, within the scope of their activities and within the limits of their responsibilities, including the Corporate Bodies.

During the year, the A2A Group companies adopted both the new Code of Ethics and the Anti-Corruption Policy.

There were no cases of corruption in 2018. The only pending lawsuit for a corruption episode involving a former AMSA top management, in which the company was incorporated as a civil party, ended with the acquittal of the appeal.



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GDPR adaptation project

From May 25, 2018, the new regulation on the protection of personal data 2016/679, called GDPR, will be applicable in all countries of the European Union. In order to meet the requirements of the GDPR, the A2A Group has adopted an organization and management model for personal data that protects the data subject and guarantees the correct application of the legislation on the protection of personal data.

In particular, A2A's organizational model provides for the roles and responsibilities of the persons involved, as well as the organizational and technical measures necessary for the correct management of processing, in line with current legislation. Specifically, the following roles have been identified, in addition to those provided for by current legislation (Data Controller, Data Processor, Data Protection Manager, persons authorized to process):

- Privacy Referents, who act as focal points for all privacy issues within their organizational structure/ company;
- Data Managers, identified as the natural persons in charge of running the company's organizational structures of particular importance with regard to the processing of personal data.

The Group has also launched a series of **adjustment actions that have included a preliminary assessment phase**, with the aim of: analysing the existing Data Privacy governance model; identifying the main areas of intervention and the relative actions to be implemented in order to comply with the regulation; defining the priorities and the adjustment plan.

According to the priorities defined by the Steering Committee of the project, specific working groups were set up, composed of the business representatives of each of the companies in the perimeter, of the ICT service lines and of the organizational structures of Legal Affairs and Compliance, in order to identify the appropriate process and technological solutions. The action plan developed by the Parent Company includes the activities described below.

Organizational system:

- identification of the aforementioned organizational privacy model, with the relative definition of roles and responsibilities and the introduction of the new figure of the *Data Protection Officer* (DPO) and the management model;
- preparation of tools to support the processing of personal data. In particular, the Processing Register has been introduced. On the basis of high-risk processing for the rights and freedoms of data subjects, a Processing Impact Assessment (DPIA) is planned and conducted with the aim of identifying the security measures necessary to reduce the level of risk;
- mapping and revision of information to employees and customers and creation of a process of appointment of data controllers, with the definition of standard contractual clauses towards suppliers;
- training for all personnel and, in particular, personnel involved in the processing of personal data.

Data processing, with particular focus on data subjects' rights, tracking of consents and data retention policies:

- identification of "tactical", process and technological solutions to be implemented in the short term;
- process and data mapping activities for the design and functional analysis of medium-long term "optimization" solutions.

Data protection, in terms of security and management of data breaches:

- *Vulnerability Assessment and Penetration Test* (VAPT) activities, recertification of users and verification activities on third parties that process personal data owned by Group companies;
- implementation of infrastructural solutions related to the creation of a new File Server, encryption of notebooks, etc.

The plan defined by the Group ICT organizational structure provides for optimization and investments between now and 2020.

QES Policy and Sustainability Policy

With reference to the policies adopted by the company in respect of sustainability matters, A2A has, over time, equipped itself with specific corporate policies, deciding to adopt more and more policies Group-wide aimed at ensuring the homogeneous management of governance, environmental and social aspects.

More specifically, reference is made to the:

- **Group Quality, Environment and Safety (QES) Policy**, whereby A2A undertakes to guarantee, under the scope of its activities and in compliance with the OMM, the Code of Ethics and the company values, increasing stakeholder involvement, solid compliance with legislation regarding the company, a careful focus on the protection of worker health and safety (through identification credentials and

advanced risk assessment tools), a constant eye on technological innovation and a tendency to develop its human capital;

- **Sustainability Policy**, drawn up in line with the priorities of the 2030 Agenda and the 17 Sustainability Development Goals (SDGs) defined by the UN (see page 33).

A2A has also prepared various internal procedures and guidelines on sustainability aspects, adopted on a Group level and structured into the specifics needed by the Group companies, such as, for example: Guideline 001.0020 (Water discharge management), Guideline 001.0023 (Atmospheric emissions), Guideline 001.0028 (Environment, Health and Safety System management) and procedure 201.001 (Selections and recruitment in A2A).

QES Management Systems

These policies are partly implemented through certified management systems according to the major voluntary standards recognised at the international level, such as ISO 14001 for the environment, ISO 9001 for quality, OHSAS 18001 for health and safety at work and ISO 50001 on energy management systems, or within the European Community, such as EMAS Registration, which refers to Regulation (EC) No 1221/09.

Figure 2_Group certifications

TOTAL NUMBER OF ACTIVE CERTIFICATES AND REGISTRATIONS	QUALITY ISO 9001	ENVIRONMENT ISO 14001	SAFETY OHSAS 18001	ENERGY MANAGEMENT ISO 50001	EMAS
2016	20	18	16	-	24
2017	34	29	29	1	28
2018	28	25	25	3	27

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2.3 Analysis and management of risks and opportunities

The A2A Group has set up a Risk Management function and implemented a risk measurement and detection process on the basis of the Enterprise Risk Management (ERM) method, developed in order to make business risk management an integral and systematic part of the business management processes. Such activities are carried out in accordance with the Guidelines for the Internal Control and Risk Management System approved by the Board of Directors and adopted by Group companies.

Through the involvement of all corporate structures, the risk measurement process is regularly activated, enabling the identification of the most significant critical issues, the measures to monitor them and the mitigation plans.

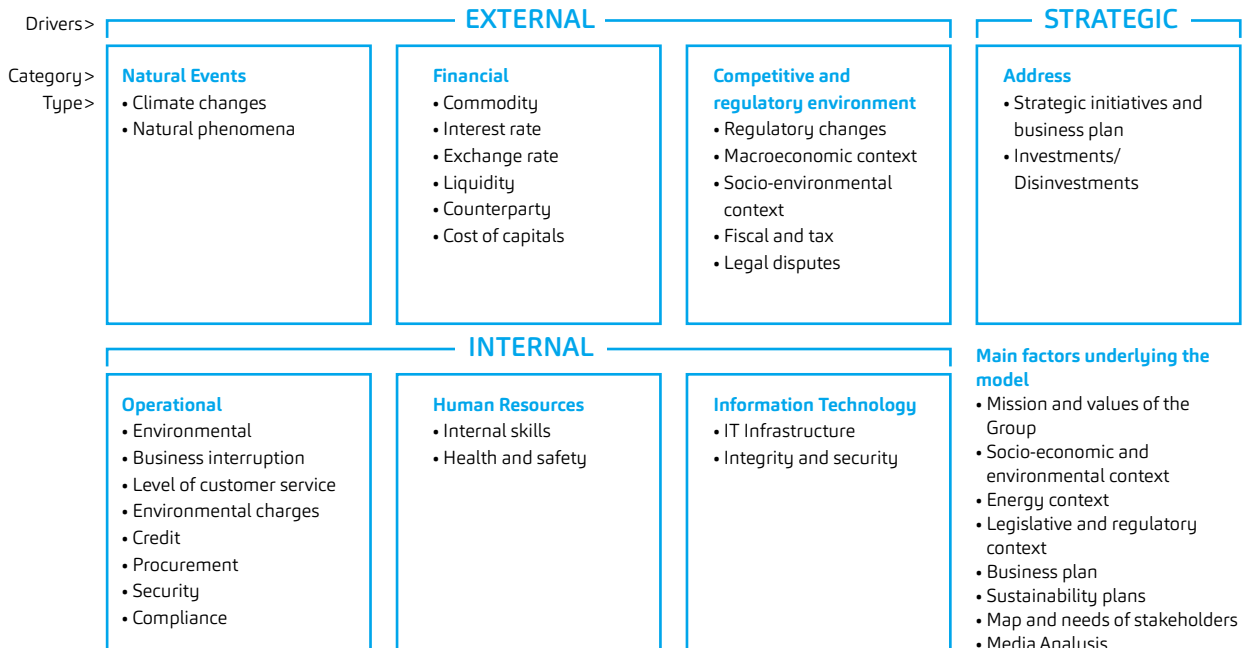
The risk profile of the Group and its companies, identified in the periodic assessment process, are analysed by the respective Boards of Directors and during the business review meetings.

The process takes into account all possible risks and assesses their impact on the company, as regards both the financial and reputational aspects. To this end, the main risk factors considered relate to the company's mission and relationship with the community, the nature and diversification of its business units, its growth plan, strategic objectives, competitive, legislative and regulatory environment, macroeconomic and social-environmental scenario and the expectations of interested parties, characterised by increasing sensitivity towards environmental, health and safety issues, and sustainability issues more generally.

ADAPTATION OF THE RISK MANAGEMENT PROCESS TO COMPLY WITH THE NEW ISO STANDARDS

Following the determination of the new standards ISO 9001, ISO 14001 and ISO 45001, which envisage risk assessment and the assessment of opportunities as key elements of the respective management systems, the Enterprise Risk Management structure developed a method and **process to integrate ERM risk management with the Quality, Environment, Health and Safety Management systems**. Internal courses have also been launched on this subject, dedicated to first- and second-level operational managers and people working in the areas of Quality, Environment, Health and Safety, with the aim of supporting QAS certifications and starting a discussion to explore any issues in depth. In 2017, the Waste and Thermoelectric Generation Business Units were involved. In 2018, the Networks & District Heating Business Unit was involved; the remaining companies/plants are expected to be involved in 2019.

Figure 3_The A2A Group risk model



In 2018 was the consolidation of the **process for identification and management of opportunities**, initiated in 2017 and integrated with both the ERM process and the QES management systems. To date, **more than ten opportunity scenarios have been identified**, which are mainly distributed over the "strategic and plan initiatives", "health and safety" and "climatic variations" types: the type of expected benefit that prevails is that on the reputation of Group companies, while for scenarios with economic benefits, a **potential increase in profitability of approximately 8 million euro** over the Business Plan period has been estimated.

THE SPREAD OF A RISK CULTURE AND RISK-BASED THINKING

The growing challenges that characterize companies require the constant presence, within the decision-making and control system of organizations, of dedicated skills and activities that allow to be fully aware of what is the risk profile of the organization. The evolution of risk management, towards a model that is increasingly integrated into processes and proactive, goes hand in hand with the evolution of regulations and reference standards, as well as with as required by agencies when assigning

ratings and assessments concerning the ability of companies to create sustainable value. This is the context of the training and awareness-raising programme launched within the A2A Group companies by *Enterprise Risk Management* to spread the risk culture, with the aim of providing, at the various levels of the organizational structure, the methodological tools for a "risk-based approach" to be integrated into both process control and decision-making systems.

Management of risks related to sustainability issues

The risk management process adopted by Enterprise Risk Management seeks to create and maintain the business value. In this context, it must be underlined that sustainability issues are integrated *ab origine* in the ERM process; this is proven by the fact that the risk model includes, for example, environmental risks, those relating to health and safety, climate change, human resource management and customer service levels and that the risks are assessed with reference not only to the economic-financial impact but also to the impact on image.

In 2018, dialogue continued between the Corporate Social Responsibility and the Enterprise Risk Management functions to further explore risk/opportunity issues related to sustainability objectives and to discuss the possibility of synergistically managing risk management activities and the results of stakeholder engagement activity, including through the monitoring of uncertainty factors tied to the issue of consent. The A2A Group's participation in the *Task Force on Climate-related Financial Disclosures* also includes the assessment of the medium and

long-term impact of climate change on business, with a view to providing detailed information to stakeholders, with specific reference to investors.

Italy is a country with a high **risk of hydrogeological instability** and Lombardy is one of the areas with the highest risk of landslides and floods. For this reason, all the Group's plants are monitored on this aspect and have specific management plans. Moreover, specific types of plant (e.g. hydraulic works on hydroelectric power plants) are subject to specific industry regulations to protect against this risk.

Planning tools aimed at risk prevention and mitigation are the basis of the integrated ERM Group logic. Hydrogeological risk is in fact part of the risk category "natural events", which is part of the external risk drivers.

Below are some examples applied to two different Group businesses on the subject of water issue mitigation.

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Research project for the creation of a system for the prevention and mitigation of flooding in the sewage system of the Verziano Purifier

The hydraulic system that conveys the discharges of the Verziano Purifier is subject to critical overload events, linked to high intensity weather phenomena. This can compromise the functionality of the system, even causing flooding. To date, the strategic management decisions of the hydraulic system depend on the monitoring of measures by Group personnel located in the area and on historical knowledge of events in the specific area. This system is open to human interpretation, with particular reference to boundary conditions. Therefore, A2A Ciclo Idrico considered it necessary to implement an **integrated decision-making system** for the forecasting and mitigation of critical events that could cause flooding.

The system uses algorithms based on **artificial neural networks** to analyse data collected in real time from rain sensors and weather radars and prepare very short-term forecasts (0-2 hours) on expected precipitation and impacts on inflows to the purifier.

The forecast data are accessible to operators in the front end of the system, which is also equipped with an alert function to report possible critical events to operators, so as to allow the implementation of the necessary mitigation measures in time.

In addition, an analysis was conducted of the associated risks and opportunities and safeguards in place for material issues, and the details are illustrated in the tables presented at the beginning of each chapter, apart from those linked to governance matters, which are given in the table below.

ETHICAL CONDUCT OF BUSINESS

Ethical conduct in the pursuit of business (adoption of non-competitive behaviour, anti-corruption policies, compliance with laws and regulations, adhesion to the main national and international social and environmental agreements); promotion of specific mechanisms and procedures for reporting irregularities and lawful conduct, also in connection with the fight against corruption.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD (MA)
<p>Possibility of unethical conduct, with specific reference to matters of corruption and relations with black list subjects under the scope of commercial and/or development activities in foreign countries.</p> <p>Non-compliance with regulation on sustainability matters, with specific reference to Italian Legislative Decree no. 254/16 and reference environmental legislation for Group activities.</p>	<p>Not yet identified.</p>	<p>Adoption of a new Code of Ethics, valid for all Group companies.</p> <p>Adoption of a policy to monitor risks through careful specialized monitoring and mitigation thereof through the preparation of organisational models in accordance with Italian Legislative Decree 231/01 as subsequently amended and integrated.</p> <p>Monitoring of compliance with regulations structured according to subject matter and over several organisational levels.</p> <p>Definition of an Anti-Corruption Policy.</p> <p>Adoption of a reporting procedure for the preparation of the Non-Financial Declaration.</p> <p>Continuous monitoring of the main environmental parameters subject to regulatory compliance.</p>

Management of landslide events on hydroelectric plants

On May 29, 2018, a landslide hit the state road 36 in the municipality of San Giacomo Filippo (SO), inhibiting access to the entire Spluga Valley. As a precautionary measure, already in April, the Mese Plants had increased the number of personnel present in the Spluga Valley, in order to guarantee operational emergency supervision of both the power plants and the A2A dams present there. Following the landslide, a temporary by-pass was quickly built over the Liro stream.

The Mese Plants were thus included, as an interested party, in the **"Hydrological risk management plan during operation of the temporary road network"** issued by the Mountain Community of Valchiavenna, which requires - on reaching certain flow thresholds from the Prestone crossroads - A2A to inform the competent authorities and, in the presence of particular events, organize an additional facility in the Spluga Valley, to ensure the operational management of its reservoirs and to protect the underlying territory.

Following the landslide event of the Pizzo Cengalo in Val Bregaglia (SO), which occurred in August 2017, A2A has activated, in coordination with the competent authorities, an **operating procedure for the management of the Villa Di Chiavenna reservoir** which provides, to protect the underlying territory, the neutralization of the reservoir when it reaches a certain entry flow rate. This procedure was successfully implemented four times in 2018.

ESG ELEMENTS IN CORPORATE GOVERNANCE

Introduction and development of sustainability elements in corporate governance. Integration of sustainability objectives in the MbO files (correlation between Management remuneration and Sustainability KPIs).

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD (MA)
<p>Insufficient integration of ESG issues into corporate governance.</p> <p>Insufficient knowledge by the Board of Directors of sustainability issues.</p> <p>Insufficient analysis of environmental and social impacts in the management of new acquisitions.</p>	Not yet identified.	<p>Adoption of plans, programmes and actions (e.g. induction sessions) to raise the Board's awareness of sustainability issues.</p> <p>Integration of ESG issues in the processes of selection and evaluation of members of the Board.</p> <p>Adoption of a Board committee specifically dedicated to sustainability (Sustainability and Territory Committee).</p> <p>Progressive integration of ESG issues into due diligence processes for new acquisitions.</p>

RISK MANAGEMENT AND SUSTAINABILITY OPPORTUNITIES

Adoption of a Group approach that integrates, within the company strategy, the analysis and management of risks and opportunities in relation to sustainability issues (environmental and social).

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD (MA)
Failure to integrate specific sustainability risk detection and management activities into the Group's ERM.	Structuring of a Group ERM process and methodology aimed, among other things, at identifying and managing uncertainty scenarios related to ESG issues.	Integration of sustainability issues into the Group's risk management activities.

RESPECT FOR HUMAN RIGHTS IN THE GROUP VALUE CHAIN

Promotion of rights throughout the value chain (suppliers, employees, customers). Promotion of access to electricity, gas and water services by disadvantage categories of consumers.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD (MA)
<p>Possibility of unethical conduct, in particular as regards suppliers, employees and customers.</p> <p>Failure to respect human rights by employees, suppliers, customers and partners.</p>	Not yet identified.	<p>Adoption of supplier qualification procedures that envisage the stipulation of the "ethical pact" and "legality protocol"; reputational analysis of potential partners and suppliers; supplier audits, with specific reference to human rights.</p> <p>Compliance with rules governing human rights by Group employees.</p> <p>Adoption of a new Code of Ethics, valid for all Group companies.</p> <p>Creation of a non-profit organization to combat poverty and social vulnerability.</p>

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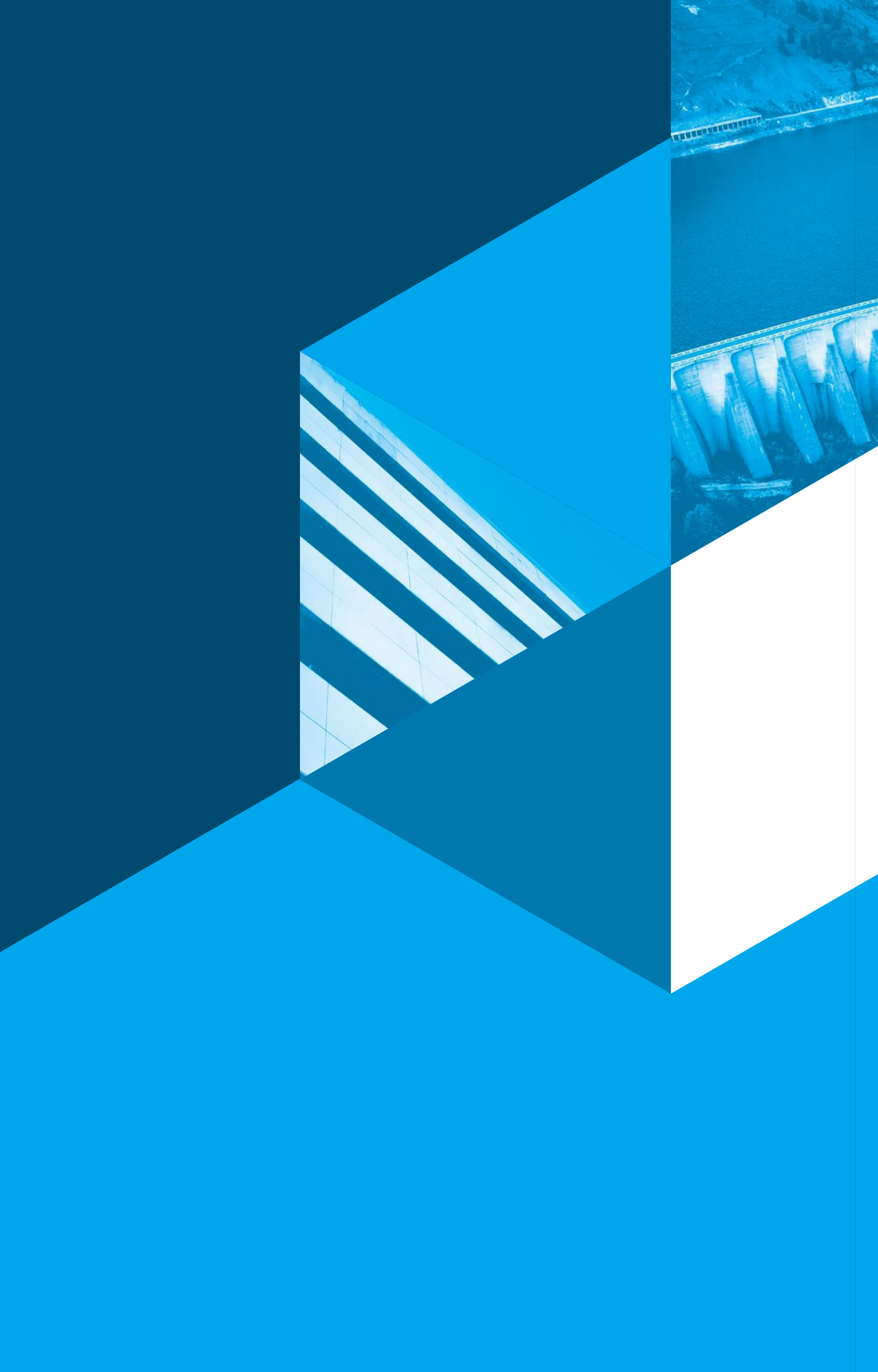
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3.1 Background information

Environmental protection, the protection of natural resources and respect for fundamental human rights are some of the fundamental principles underlying the concept of sustainability. In recent years, in particular, the lack of natural resources and the growing need to protect the Earth's ecosystem have made it increasingly urgent to move to an **economic model** capable of combining the **development of territories** and **environmental protection**, to ensure future generations a **sustainable tomorrow**.

In light of these changes, sustainable development issues have become the focus of the political agendas of the world's most important leaders. 2015 was a decisive year in this respect. On September 25, during the 70th General Assembly of the United Nations, world leaders adopted a new global sustainable development framework: the **2030 Agenda**, consisting of 17 objectives (Sustainable Development Goals - SDGs) and 169 sub-objectives valid for the period 2015-2030.

The **17 Sustainable Development Goals (SDGs)** cover all dimensions of human life and the planet:



The adoption of the 2030 Agenda was a historic event in many ways. First of all, a clear judgement has been expressed as to the **non-sustainability** of the current **development model**, not only from an environmental point of view, but also from an economic and social one, in an integrated conception of the different dimensions of development. In addition, **all countries** are called upon to contribute to the effort to take the world on a path to sustainability, no longer distinguishing between developed, emerging and developing countries. This means that each country must commit to defining its own strategy, which will enable it to achieve the SDGs within the deadline set. Finally, the 2030 Agenda explicitly refers to the responsibilities of all sectors of society, from governments (central and local) to businesses, from civil society to individual citizens. In particular, production sectors and companies are called upon to include SDGs in their programmes and budgets, aiming to reduce the impact of their activities on the ecosystem, optimizing the use of resources (human and material) and drastically reducing waste, promoting the creation of new jobs and the redistribution of wealth produced as a contribution to the fight for the eradication of poverty.

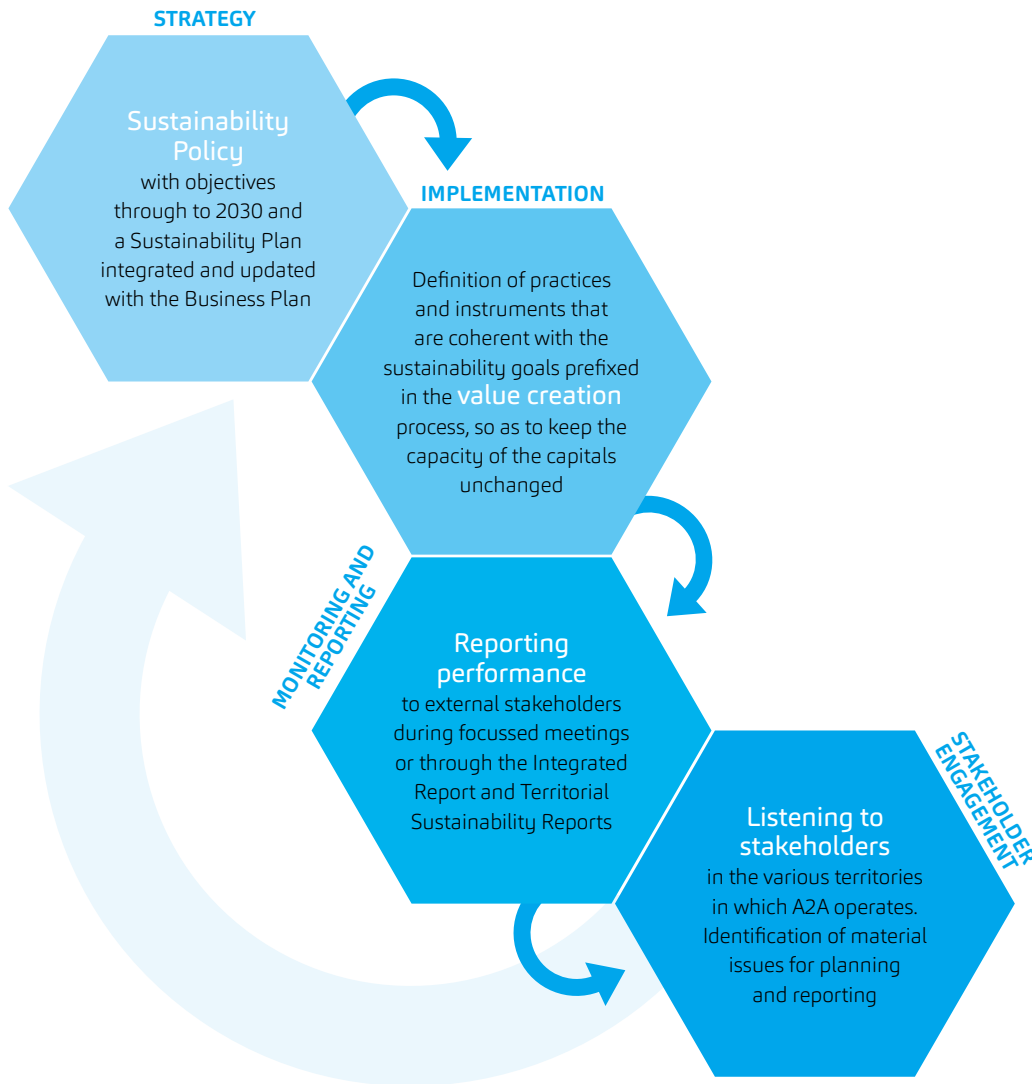
The very first monitoring carried out on these issues, at a global level during the *High Level Political Forum* in 2016, at European level with the *"Key European action supporting the 2030 Agenda and the Sustainable*

Development Goals" and at Italian level with the 2016 ASviS Report, say that there is still a long way to go. In the third year of monitoring, there was an improvement in many global indicators relating to economic and social issues and numerous actions taken in the right direction by many countries, thousands of companies and cities. However, the cultural and strategic discontinuity necessary to achieve the 17 sustainable development objectives by 2030 has not yet been established. Even in the European Union, considered the most advanced area of the world in terms of socio-economic and environmental well-being, with the most stringent rules for the protection of the environment and workers, with greater protection of the rule of law, a quarter of the population is at risk of poverty and social exclusion, inequalities do not hint at reducing and unemployment and underemployment are widespread.

And even in Italy a strong acceleration is needed, despite the significant mobilization of the world of business, cultural and educational institutions, and civil society. The first Istat 2018 report, which from 2016 has monitored every six months, through a dedicated information platform, the level of achievement of the SDGs at Italian level, shows how, despite some areas in strong improvement (goals 2, 3, 4, 5, 9, 11, 12, 13, 15 and 17) there is still a long way to go to achieve the commitments of the 2030 Agenda.

The A2A approach to sustainability

Since its establishment, A2A has made sustainability one of its founding values and a business paradigm. For A2A, being sustainable means generating and distributing value in a lasting and autonomous way, being careful to reconcile the needs of those with whom it interacts every day, such as: customers, suppliers, associations and institutions. In light of these elements, A2A's approach to sustainability is both holistic and circular.



The A2A Group sustainability strategy also takes concrete form in the active participation in national and international associations and networks on matters of sustainable development, as well as in the voluntary submission to assessment of ESG parameters by ethical ratings agencies.

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Since 2013, A2A has been a member of the United Nations Global Compact, subscribing to the 10 founding principles relating to human rights, working conditions, the environment and the fight against corruption. As part of the network, every year A2A publishes its own Communication on Progress (CoP), which coincides with this document. In 2018, A2A once again took part in the working parties launched by the Italian Global Compact network and the Italian Business & SDGs Annual Forum.



Since 2017, A2A has adhered to We Mean Business, a global non-profit association that fights climate change. As part of this association, A2A is committed on two fronts: responsible environmental policies and improved access to and quality of water.



Since 2017, A2A has subscribed to the Business Alliance for Water and Climate, undertaking to analyse, measure and report on the risks connected with the consumption of water as a resource, and changes to such as a result of climate change.



The Climate and Clean Air Coalition (CCAC) aims to construct, share and foster the implementation of policies and practices aimed at reducing climatic pollutants over the next ten years. More specifically, the coalition supports action in the field through 11 initiatives. Since 2017, A2A has been one of the players involved in the initiatives aiming to mitigate climatic pollutants in the municipal solid waste sector.



Since January 2018, A2A has been a member of the CSR Manager Network the national association that brings together professionals in all types of organizations who are dedicated to the management of social, environmental and sustainability issues related to business activities.



A2A is an active member of the CSR and Sustainability Working Party of Utilitalia. Within this group, A2A participated in the preparation of the first Sustainability Report of the Utilities Sector.



In 2016, the A2A Group AEM Foundation adhered to the Italian Alliance for Sustainable Development and has since played an active part in its activities and working parties.










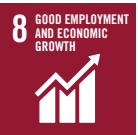

3.2 The Sustainability Policy and Plan

A2A also wanted to make a formal and public commitment to contribute concretely to the achievement of the SDGs, and did so through two documents, the Sustainability Policy and Plan, drawn up together with the company's management, integrated with the Group's Business Plan and approved by the Board of Directors. The logic is twofold: the Sustainability Policy is a strategic document, aimed at guiding

and orienting the Group's business decisions in a logic of sustainability, with concrete commitments over a time horizon in line with the 2030 Agenda; the Sustainability Plan is instead a more operational document that allows A2A's progress on commitments made over a shorter time horizon to be monitored, so as to allow assessments and adjustments.

The Sustainability Policy

With the Sustainability Policy, A2A has set itself the aim of helping the communities in which it operates to be more sustainable, through the responsible management of its activities. The policy was established in 2016, with a participatory process, starting with the analysis of all SDGs and the identification of their relevance and impact in our value chain. Ten SDGs were then selected on the basis of which A2A defined its priorities and commitments for 2030 through indicators and evidence emerging from the materiality matrix, the forumAscolto, the Business Plan, the requests of the rating agencies and the benchmark with competitors. The intersection of all these elements has led to the definition of 4 fundamental pillars of the Sustainability Policy: Circular economy, Decarbonisation, Smartness in networks and services and People Innovation. Each of these pillars represents an important aspect for the Group's activities and A2A's commitment to these aspects undoubtedly represents a challenge for business management:

 <p>CIRCULAR ECONOMY <i>Sustainably manage waste during its life cycle</i></p>			
 <p>DECARBONISATION <i>Contribute to achieving national and EU targets for the reduction of greenhouse gas emissions</i></p>			
 <p>SMARTNESS IN NETWORKS AND SERVICES <i>Increasing grid reliability through technological innovation</i></p>			
 <p>PEOPLE INNOVATION <i>Actively contribute to the welfare of the community and the improvement of working conditions</i></p>			

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CIRCULAR ECONOMY

Historically, and well before we began to talk extensively about circular economy, A2A had already adopted a business model oriented to the maximum recovery of resources in its activities: from the recovery of heat from plants for the district heating network, to the recirculation of water for self-consumption of thermoelectric power plants and the recovery of energy from sludge downstream of purification processes, just to name a few examples. For A2A and its activities, in fact, circular economy means managing all resources in a sustainable manner, not just waste, paying attention as much to the reuse of resources as to the reduction in the production of waste up to the maximum exploitation of each resource.

DECARBONISATION

The issue of the circular economy is in many ways linked to the issue of decarbonisation, for example, if we consider the objective of zeroing landfilling, from which enormous quantities of greenhouse gases originate. Moreover, aware of our role and our impact on the issue of emissions, we have always been committed to putting into practice the guidelines of international agreements on climate and the National Energy Strategy: we focus on and invest in innovation to reduce emissions and the use of fossil fuels, to recover thermal energy and heat, to promote energy efficiency in end uses and the use of low-pollutant means.

The 2019-2023 Sustainability Plan

The Sustainability Plan has been developed in conjunction with the Policy and is a tool that allows continuous monitoring and verification of the progress of the identified sustainability objectives, in line with the priorities and time frames of the Business Plan. The objectives are divided into the 4 pillars of the Sustainability Policy and contain specific actions and indicators, defined in agreement with all the Business Units of the Group. The 2018 monitoring has shown that most of the more than 60 indicators are making significant progress: this means on the one hand that we are moving in the right direction, and on the other hand that we still have room for improvement to set more challenging targets in some areas.

In line with the ongoing revision of the Business Plan, a process has also been launched for the Sustainability Plan, seeking to update the goals with the time frame of 2019-2023. In reviewing the planning document, the objectives that had been achieved were eliminated, those confirmed were updated to 2023 and some new targets were added.

Assess the impact of the implementation of the Sustainability Plan on the Group's capitals and material issues

As described on page 14 of the A2A Business Model, the Sustainability Plan (and Policy), with its quantitative objectives, is the accelerator element that allows the Group to reinstate value within the individual capitals on which it depends in order to generate its services, with a view to sustainable development. To enhance this aspect, a new methodology¹ was applied in 2018 to aggregate the KPIs of the 2018-2022 Sustainability Plan, in order to assess the impact of the implementation of the Plan on the Group's capitals and material issues.

SMARTNESS IN NETWORKS AND SERVICES

Most of these aspects are related to sustainability in the cities and thus another pillar in our Sustainability Policy is smartness in networks and services, which for us means guaranteeing the reliability and resilience of the networks and the availability of energy required by the system, as well as offering "intelligent" services to the cities in which we are present that allow for better livability in all aspects of daily life in which we are involved as a Group. In this logic, innovation becomes crucial to continuously develop new services that are useful and functional to a better quality of life.

PEOPLE INNOVATION

The attention to people, inside and outside A2A, is the leitmotif of the People Innovation pillar. In fact, we are committed to providing our employees with high standards of health and safety, training, benefits and welfare programs. In the same way, we are committed to the territories in which we operate, guaranteeing maximum transparency on our activities and performance, undertaking a great many stakeholder engagement initiatives, and implementing awareness-raising and training activities in schools.

This methodology has made it possible to measure the extent to which the performance of the Plan's KPIs in the baseline year (2017) and in the current situation (2018) are far from the objectives set (target 2022) and their trend (2017 vs 2018). To support this assessment, the KPIs of the Plan were in fact related to the Material Issues and, therefore, to the 6 Capitals and the scope of Governance. After normalizing the individual KPIs on a scale from 0 to 1 in order to make them comparable, each Capital, Material Issue and KPI was assigned a specific weight in line with the assessment of the

1. The methodology used is the *Deloitte Sustainability Impact Metric*.

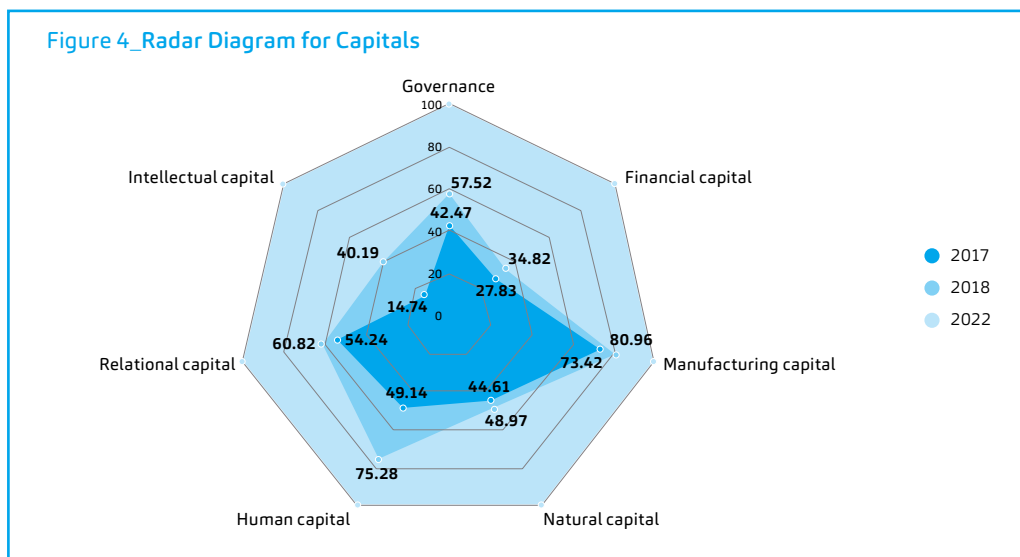
relevance of the individual material issues by A2A's internal and external stakeholders.

This analysis made it possible to represent the impact of the implementation of the Capital Plan in a Radar Diagram, which represents how the annual performance (2017 and 2018) of each Capital approaches the target set during the reference period (2022).

From this perspective, it should be noted that, for each Capital, performance in 2018 is closer to the objectives set (target 2022) than the performance in 2017, thus confirming the overall improvement of all the objectives included.

Of all the Capitals, the one that currently, in terms of performance, is closest to the 2022 target is the Manufacturing Capital, while, compared to the 2017 performance, the Intellectual Capital is the one that has recorded the greatest progress between 2017 and 2018. In any case, despite the progress made in 2018, the objectives of the Plan set remain challenging for all Capitals, in particular for Intellectual Capital, thus confirming the strategic nature of the Sustainability Plan.

The same type of representation can also be developed with respect to the Material Issues, which shows that the material issues that are closest to their respective targets, and therefore



boast current performance in line with the expectations of the Sustainability Plan are: Circular economy (Environmental Cap.), Enhancement of human capital (Human Cap.), Diversity and company welfare ((Human Cap.), Relationship with Group stakeholders (Relational Cap.), Technological innovation and smart cities (Intellectual Cap.), Sustainable economic value creation (Financial Cap.). In particular:

- in the area of **governance**, in 2018 the issue of *Management of sustainability risks and opportunities* reached the set objective, while the material issue of *Respect for and promotion of human rights along the Group's value chain* was considerably closer to the target;
- compared to 2017, **Financial Capital** recorded a general improvement in performance compared to its targets, even though the objectives still remain very challenging for the Group;
- in **Manufacturing Capital**, the issue of *Efficient management of the Group's infrastructure* improved its performance compared to 2017, and is currently the issue most in line with the target set;
- the approach of the performance of **Natural Capital**, with respect to the respective 2022 targets, is mainly due to the substantial improvements recorded in the last year, mainly for the material issues *Circular Economy* and *Sustainable Mobility*;
- **Human capital** has recorded a considerable rapprochement between current performance and the targets set for all material issues, with particular reference to the issues of *Enhancement of human capital* and *Diversity and company welfare*, which are already close to their objectives;
- among the material issues of **Relational Capital**, the issue of *Relationship with Group Stakeholders* is the one that, compared to 2017, has shown a substantial improvement and rapprochement with the Plan's objective;
- the material issue *Technological innovation and Smart city* of the **Intellectual Capital** is the issue that has recorded the greatest rapprochement of its performance to the targets, which however still remain challenging.

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Sustainability Plan



CIRCULAR ECONOMY

ACTION	KPIS	
RECOVERY AND TREATMENT To improve the recovery process of waste collected (including through their transformation into energy) and promote separate waste collection to help reduce the environmental impact of cities	Percentage of municipal waste collected sent for recovery of material or energy	
	Percentage separate waste collection in the municipalities served (apart from Milan)	
	Percentage separate waste collection in the city of Milan	
	Waste treatment capacity (municipal + special waste) aimed at recovering material at the Group's plants (kt)	
	<i>Δ compared to 2015</i>	
	Waste treatment capacity aimed at energy recovery at the plants managed by the Group (kt)	
	<i>Δ compared to 2015</i>	
REDUCTION POLICIES To reduce the production of waste through a prevention, reduction and reuse policy	Territories where waste prevention and reduction actions are active (% of total population served)	
	Number of waste prevention and reduction projects activated	
	Investments allocated to the development of technologies and services linked to the circular economy (k€) - year	
RISK MANAGEMENT To verify that the system used to identify, manage and prevent business risks adequately covers sustainability risks (and, in particular, social-environmental risks), also in organisational terms	Specific risk intelligence system for sustainability risks	
WATER To implement actions aimed at reducing water consumption in the collection and distribution processes, so as to improve water quality and reduce water dispersion	Linear water losses (m ³ /km/days) - Group average	
	<i>Δ compared to 2017</i>	
BIODIVERSITY To adhere to projects aiming to protect the soil and protected species, monitoring and protecting biodiversity in the territories of competence	Percentage of population equivalent without access to sewage treatment (% of total AE at 12/31/2016 in the municipalities served)	
	Plants monitored with respect to the protection of biodiversity	

	2016	2017	2018	2022 PLAN OBJECTIVE	2023
	98.86%	99.00%	99.70%	99.00%	99.00%
	60.0%	70.0%	74.3%	71.0%	76.0%
	52.0%	54.0%	59.7%	60.0%	65.0%
	658	888	926	1,239	1,280
	86%	151%	162%	250%	262%
	2,079	2,355	2,471	REVISED	2,886
	1%	14%	20%		40%
	126.78	132.29	128.66	NEW	469
	-	-	81%	NEW	>80%/year
	-	-	30	NEW	80
	-	49,035	42,181	450,000	670,000 (cumulated 19-23)
	-	started	ongoing	finalize integration	finalize integration
	-	27.6	27.8	REVISED	22.5
	-	-	0.6%		-18%
	-	21.7%	21.7%	REVISED	8%
	-	0%	0%	100%	100% (at 2022)

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DECARBONISATION

ACTION	KPIs
DISTRICT HEATING To help reduce the environmental impact of the cities, paying close attention to air quality, implementing district heating and district cooling	Volumes served by district heating and district cooling (Mm ³)
	<i>Δ compared to 2015</i>
	NOx avoided thanks to the extension of district heating (t/year)
	CO ₂ avoided thanks to the extension of district heating (t/year)
	Finalization of the decarbonisation project of the Brescia district heating system (105,000 tonnes of CO ₂ savings)
EFFICIENCY IN END USE Develop energy efficiency measures for public and private real estate assets	CO ₂ avoided thanks to the installation of new boilers for end customers (Caldaia2a + Caldaia più offer) - cumulative value (t)
	CO ₂ avoided thanks to measures to promote energy efficiency in end use: offer LED kit - cumulative value (t)
	CO ₂ avoided thanks to measures to promote energy efficiency in end use: industrial ESCO activities - cumulative value (t)
	Number of projects to convert boilers (condominiums/tertiaries) - cumulative value
SUSTAINABLE MOBILITY To develop sustainable mobility solutions (low-emission waste collection vehicles and vehicle fleet, replacement of obsolete vehicles with new ones)	Percentage of low environmental impact waste collection vehicles (Euro 6 vehicles, methane gas, electric) - (% of total)
	Percentage of replacement of Unareti vehicles with low environmental impact (Euro 6, methane gas and electric powered) - (% of total)
EMISSIONS To develop actions aiming to reduce the environmental footprint, like direct and indirect emissions of greenhouse gases	CO ₂ emissions of electric power generation plants (kt CO ₂)
	<i>Δ on average levels for 2008-2012 (9,500 kt CO₂)</i>
	Emissions factor for power production plants (gCO ₂ /kWh)
	<i>Δ on average levels for 2008-2012 (438 gCO₂/kWh)</i>
RENEWABLES To increase (keep high) the proportion of energy produced from renewable sources	Percentage of thermal energy produced from renewable sources and process recovery with respect to total thermal energy collected into the district heating network (Networks & District Heating BU)
	Thermal energy recovered from third party production processes (GWh)
	Installed photovoltaic capacity (MW)
GREEN MARKETING To implement customer sensitisation and communication campaigns	Green energy sold to the mass market segment (GWh)
	<i>Δ compared to 2017</i>

	2016	2017	2018	2022 PLAN OBJECTIVE	2023
	98	108	110	118	118
	3%	13%	15%	23%	23%
	-125	-138	-139	-180	-260
	-161,498	-181,136	-211,197	-220,000	-350,000
	-	-	-	realization	start-up
	8	31	49	REVISED	360
	-	5,185	11,778	REVISED	45,000
	-	696,963	1,844,329	REVISED	6,500,000
	-	-	35	REVISED	580
	-	27%	38%	REVISED	68%
	-	36%	48%	60%	69%
	5,047	6,299	5,701	6,270	5,700
	-47%	-33%	-40%	-34%	-40%
	420	419	374	394	361
	-4%	-4%	-15%	-10%	-18%
	-6,216	-17,145	-24,078	-112,000	-86,000
	50%	50%	51%	49%	55%
	-	45	43	60	60
	-	-	94	NEW	253
	545	909	1,065	1,818	2,000
	-	-	17%	100%	125%

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SMARTNESS IN NETWORKS AND SERVICES

ACTION	KPIs	
<p>QUALITY To maintain high quality standards of the services supplied by keeping high customer satisfaction levels</p>	<p>Total CSI of "Reference multi-client customer satisfaction" of CERVED - Databank for customers of A2A Energia</p>	
	<p>CSI for Call Center A2A Energia</p>	
<p>DIGITAL To develop innovative channels and services (web, mobile, gamification) to increase customer loyalty</p>	<p>Number of energy customers registered with the on-line service</p>	
	<p>Number of energy customers registered with the bollet@mail service</p>	
	<p>Number of interventions on Group sites for evolved interactivity</p>	
<p>SMART NETWORKS To develop solutions to offer a better information access infrastructure (Smart Grid) and improve the network resilience</p>	<p>Adequate users with smart gas meters (G4-G6) - Unareti perimeter</p>	
	<p>Annual average number of outages per LV user in high concentration environment due to long outages without notice</p>	
	<p>Number of new generation water meters installed - cumulative value</p>	
	<p>Operators of Networks & Heating BU equipped with digital tools for mobile work (WFM) - % of total target population</p>	
	<p>Investments in Smart Grids (M€) - cumulative value</p>	
<p>SMART CITIES To support the development of the smart city in the territory in which the Group operates, including through new business models that exploit the technological component (Smart Grids and big data)</p>	<p>Smart City services activated - cumulative value</p>	
	<p>Municipalities with Smart City services activated - cumulative value</p>	
	<p>Number of parking spaces installed in smart parking - cumulative value</p>	
	<p>Number of businesses served with new smart land services - cumulative value</p>	
	<p>Number of smart environmental bins</p>	
	<p>Number of intelligent sensors installed for water service - cumulative value</p>	
	<p>Number of new LED light points installed on IP</p>	
	<p>Number of electric vehicle charging stations installed - cumulative value</p>	
	<p>Number of vehicles (collection and sweeping) monitored by GPS on total (%)</p>	
	<p>Installed LED traffic lights - cumulative value</p>	
<p>DISADVANTAGED GROUPS To promote beneficial tariffs or other solutions for users in difficulty (e.g. Banco dell'Energia)</p>	<p>Funds collected by means of the Banco dell'Energia - 2nd phase (M€)</p>	

	2016	2017	2018	2022 PLAN OBJECTIVE	2023
	92.4 (national average 90.3)	Domestic gas: 90.1 (national average 89.4) Domestic electricity: 91.2 (national average 89.7)	Not yet available	> 2% vs national average and never < 90%	> national average and never < 90%
	97.1 (national average 91.0)	95.7 (national average 93.2)	98.1 (national average 92.3)	> sector national average	> sector national average
	268,818	356,155	391,626	550,000	640,000
	289,613	350,580	430,366	600,000	750,000
	-	-	6	10	10 (AT 2022)
	28%	46%	66%	98%	98%
	1.54	1.36	1.43	0.78	1.11
	-	-	27,000	46,000 (to 2020)	170,000
	-	-	51.5%	NEW	100% (at 2020)
	3	22	40	REVISED	254
	-	-	7	30	200
	-	-	2	10	40
	-	-	711	500	3,000
	-	1	2	2/year	12
	-	300	6,663	20,000	18,000
	-	-	27	NEW	130
	196,431	213,817	225,590	350,000	312,000
	-	130	168	500	1,500
	-	-	81%	NEW	100% (at 2020)
	12,069	12,069	12,069	22,000 (to 2018)	22,000 (to 2020)
	-	-	-	1 (to 2019)	1 (to 2019)

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PEOPLE INNOVATION

ACTION	KPIs
RESPONSIBLE PROCUREMENT To develop initiatives aiming to spread the culture of health and safety at work amongst contractors and other suppliers. Develop Green Procurement policies	Value of orders assigned to certified suppliers (% of the total) Activated suppliers with sustainability requirements (% of the total) Number of meetings held with suppliers, with a view to listening to and discussing aspects of sustainability as well Incidence of sustainability criteria in the vendor rating process (% of total indicators) Number of inspections carried out on road worksites
HEALTH AND SAFETY To consolidate the training and prevention plan to reduce injuries and develop new initiatives for worker health and safety	Weighted accident rate (frequency indicator*severity indicator)
MBO To add sustainability objectives to the MbO sheets (correlation between Management remuneration and Sustainability KPIs)	Executives with Sustainability MbO (% of the total) Percentage weight of sustainability MbO of total variable Employees assessed according to CSR parameters (% of the total)
TRAINING To implement training routes aimed at optimising and requalifying competences and professional development (including on matters such as sustainability, anti-corruption and human rights)	Employees involved in sustainability sensitisation/training (% of the total) Employees involved in training on the new Code of Ethics (% of the total) Average level of approval of training (scale 1-7)
CHANGE MANAGEMENT To develop change management projects to improve the organisational culture	Number of employees involved in at least one change management project per year (% of total office employees) Employees subjected to induction (% of total graduates aged under 35) Young Talent employees involved in engagement and retention initiatives (% of total) Employees involved in smart working projects (% of total office employees)
INTERNAL ENGAGEMENT To develop a systematic listening system to employees, promoting dialogue and collaboration	Employees involved in feedback surveys (% of the total)
WELFARE AND EQUAL OPPORTUNITIES To develop innovative welfare policies, also in connection with the promotion of gender equality, and optimise competences through a generational bridge that allows for the transfer of knowledge and experience between the junior and senior populations	Women in positions of responsibility (% of total managers) Employees involved in welfare and diversity initiatives (% of total) Precise mapping of hard and soft skills of the structures involved with respect to the roles required
INNOVATION AND R&D Develop investments in research and development, increasing the number of partnerships with international research centres and universities. Properly manage relations and collaborations with NGOs and develop new technologies, patents for technological innovation	Number of research projects activated and partnerships with primary research institutes and universities
TRANSPARENCY Develop integrated reporting and an adequate information system for planning and control	Territories with Territorial Sustainability Reports prepared - number
STAKEHOLDER ENGAGEMENT Develop external stakeholder engagement activities, strengthening the relationship with the territory and constructing permanent methods for multi-stakeholder involvement	Number of structured engagement workshops carried out - cumulative value Number of actions ensuing from structured engagement workshops - cumulative value
EDUCATION To consolidate and, where possible, improve the environmental education and promote the awareness of risks associated with climate change in the public opinion	Number of visitors to plants Participants involved in the A2A school project

	2016	2017	2018	2022 PLAN OBJECTIVE	2023
	77%	80%	82%	75%	80%
	23%	42%	54%	50%	> 50%
	-	-	1	NEW	12
	-	-	2%	NEW	12%
	1,406	727	1,682	1,000/year	1,500/year
	30.7	26.10	20.69	18.20	17.00
	33%	85%	90%	100%	100% (at 2020)
	-	5%	6%	10%	10% (at 2022)
	0%	0%	0%	100%	100% (at 2020)
	0%	100%	100%	100%	100%/year
	-	61%	77%	100%	100% (at 2022)
	6	6	6	> 5	> 5
	-	100%	100%	100%/year	100%/year
	-	32%	100%	100%/year	100%/year
	-	-	100%	NEW	100%/year
	5%	5%	18%	20% (at 2020)	25%
	100%	100%	100%	100%/year	100%/year
	-	-	14%	NEW	20%
	21%	38%	90%	100% (at 2020)	100% (at 2020)
	-	-	-	NEW	100% (at 2020)
	9	10	8	5/year	7/year
	3	6	7	8 (to 2020)	8 (to 2020)
	3	5	6	10 (cumulative 2018-2022)	12
	11	16	18	20 (cumulative 2018-2022)	25
	21,000	31,300	33,600	37,560	38,000
	29,000	34,600	29,700	41,500	42,000

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4

Stakeholder engagement and materiality analysis

A relationship based on listening, continuous dialogue and the active involvement of stakeholders is not only a form of responsibility of the Group towards the context in which it operates, but also a source of valuable information, insights and ideas to understand the needs of the territories and respond effectively, promoting local development and anticipating any critical issues. A2A's deep roots in the territory have allowed it to build and maintain constructive, solid and long-lasting relations with the company's various interlocutors, who have different visions, interests and opinions, but who are all extremely important in order to fully understand the needs of the communities in which A2A operates.

The stakeholder listening process, implemented with more or less structured initiatives and channels, stems in fact with the objective to generate shared and lasting value and results in a conciliation of the Group's interests with those of its interlocutors.

In order to keep track of its involvement activities, as well as to respond to the needs of the territories in the most effective and synergistic way possible between

the various Group companies, in 2013, A2A introduced a reporting system for stakeholder engagement activities, based on the input, by the main corporate functions, of a database that maps - every six months - the relevant stakeholders, the involvement activities implemented, the issues addressed, as well as the needs that emerged.

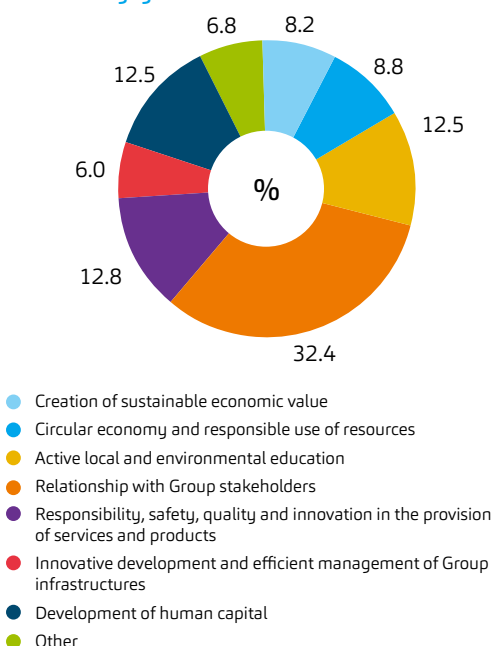
During 2018, **more than 460 initiatives involving stakeholders** were carried out, a number that was up sharply on the previous year (approximately +70%). The groups of stakeholders most involved were national and local institutions, communities and citizens, employees, investors and consumer and environmentalist associations. A peculiarity of A2A's approach in listening to its stakeholders is certainly the fact that most of the initiatives, about one hundred, involved several categories of stakeholders. This confirms the central role that A2A plays in encouraging the listening and sharing of ideas, experiences and points of view, and in circulating best practices with the aim of improving, with the contribution of all, the services offered to the communities and the quality of life of the territories in which it operates.

Figure 5_Engagement in A2A: the main stakeholders and their level of involvement



Following the various listening activities carried out by the Group, the issues that have emerged are grouped into macro-categories that, when weighed appropriately, are effectively part of the process of defining the A2A materiality matrix. For more details on the initiatives implemented, see page 2 of the Supplement to this document.

Figure 6_Issues considered in stakeholder engagement activities



THE IPSOS SURVEY ON A2A

As every year, also in 2018, the Group has asked its stakeholders to provide a contribution to the definition of the new materiality matrix, but wanted to do so using a more scientific and statistically significant approach. For this reason, A2A has availed itself of the collaboration of IPSOS to carry out a more structured and complete survey, which, in addition to including an assessment of the issues considered material, also included more general sections aimed at raising awareness of the perceptions that stakeholders have of the Group and its sustainability activities. The investigation involved, through online questionnaires, **1,026 people in the population and customers** (aged between 18 and 65, who have at least heard of A2A and reside in the provinces of Milan, Brescia, Bergamo, Sondrio, Udine or Gorizia), **suppliers and opinion leaders** (institutions, media, associations, political movements and other opinion leaders active in the provinces of interest and at national level). The analyses were carried out on the basis of respondents who know the organization and are therefore able to express an opinion on it.

The main results of the survey, in addition to the materiality matrix, reported in the dedicated paragraph (§ 4.3), indicate that **A2A generally has a good reputation** with all the targets interviewed and across the different territories taken into account. **Also from the point of view of sustainability evaluations** are positive, especially among suppliers and opinion leaders, where favourable opinions exceed 80%; on the other hand, among the population as a whole (including customers), about 6 out of 10 people consider A2A's approach to sustainability to be positive, although the percentage of people with a knowledge of the **Integrated Report and Territorial Sustainability Reports** of the Group is still low. On the other hand, however, it emerges that these instruments, used to report the non-financial performance of the Group, are **considered useful by 71% of respondents to get a clearer idea of A2A's commitment in terms of sustainability.**

This is undoubtedly an important aspect on which to work for the Group, since **those who know documents** in relation to the total population, show a **more positive opinion (+33%) on the sustainability of A2A.**

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4.1 The forumAscolto programme

Between the end of 2017 and during 2018, two new stages were added to the **forumAscolto** programme, created in 2015 to consolidate the Group's ties with the communities in which it operates and to actively involve stakeholders in the generation of ideas to be implemented in the area, and which over time has touched the realities of Brescia, Bergamo, Valtellina-Valchiavenna and Milan:

- **Udine and Gorizia.** The initiative realized in December 2017 led to the launch, on March 1, 2018, of the call to action "**creiAMO FVG**", with the aim of promoting business projects in line with the needs of local communities, trying to provide a new impetus to the region's sustainable tourism sector. On June 27, 2018, during the "Conoscenza in festa" event in Udine, the winning projects were announced:
 - for the province of Udine, the project "**Albergo diffuso Sauris**" won, which provides for the organization of experiential activities to be carried out in the lake basin of Sauris, through the use of canoes, kayaks and electric boats, combined with other cultural experiences and the discovery of local food products;
 - for the province of Gorizia, the project "**ISONZO: il fiume ed i suoi borghi – una storia su 2 ruote**" (the river and its villages – a story on two wheels) won, which aims to promote tourism along the Isonzo basin through the use of bicycles, developing tourist packages with more days and making use of collaborations with local tour operators and with other local companies.

In addition to financial support, these entrepreneurial ideas were guaranteed a light incubation path for the development of the project, which ended in December 2018.

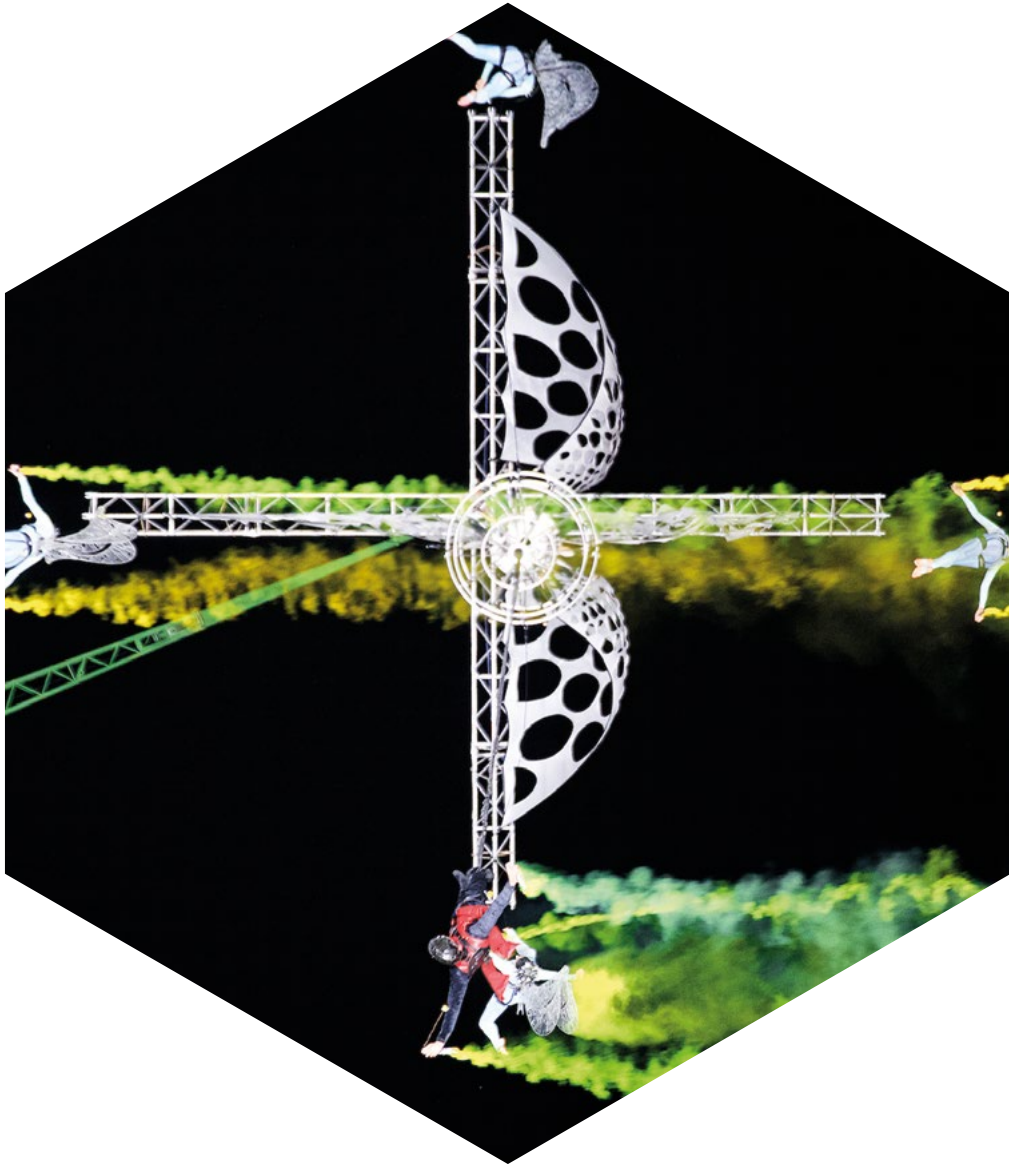
- **Piedmont.** On November 22, the **forumAscolto Piemonte** was held, in which 29 representatives of Piedmont's civil society (associations, customers, suppliers, local administrations, etc.) took part, during which the important issues for A2A and its territorial stakeholders were discussed. At the end of the initiative, A2A undertook to launch a new call for ideas to support initiatives capable of creating shared value and aimed at the sustainable development of the Piedmont region, linked to the development of renewable energy sources and innovative forms of communication on sustainability issues. The call was opened on February 1 and, also in this case (as in the

case of Friuli Venezia Giulia participants), the winners will be guaranteed, in addition to financial support for a total of up to 50,000 euro, a light incubation path for the development of their project idea, in collaboration with a local incubator.

At the same time, work continued on the realization of projects selected after the Milan forum, held in January 2017. In particular:

- **Urban Decor:** in November 2018, the awareness campaign was started for dog owners and all the citizens of Milan, entitled "**VERI AMICI?**" (REAL FRIENDS?). To support this activity, the installation of new bins with free dispensers of bags and ashtrays in the dog areas is nearing completion.
- **Food waste:** with the support of A2A and AMSA, in 10 open municipal markets, the **Bancarella di Recup** (Recuperation Stand) has been set up, where unsold fruit, vegetables and bread are donated to those in need.
- **Public and municipal lighting:** an installation plan for 1,500 new LED lighting points is being implemented, in addition to the 1,200 already renovated between 2017 and 2018, for a total investment of **8.6 million euro**.
- **Smart mobility:** the INFORETI smartphone app was created, which allows making reports, receiving information and updates on Unareti sites.

The results of the forumAscolto are regularly communicated to stakeholders and the community through dedicated press conferences, in which the **Territorial Sustainability Reports** were also presented. To date, the Territorial Sustainability Reports prepared are those of Brescia (fourth edition), Valtellina-Valchiavenna (third edition), Bergamo (third edition), Milan (second edition), Friuli Venezia Giulia (second edition) and Piedmont (first edition). The 2017 editions contain a significant addition, i.e. a description of the contribution to the achievement of the UN sustainable development objectives specific to the territory and, to make the report even more effective and immediately understandable, a different formula has been adopted than in the past, focusing on the web. In this sense, within the platform www.forumascaltoa2a.eu a dedicated section has been created, in which it is possible to obtain more information on the Group's performance in the various territories, as well as retrace the information and projects that A2A carried out in 2018.



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4.2 Materiality matrix and analysis

Also in 2018, an analysis was conducted to update the **A2A Group materiality matrix**.

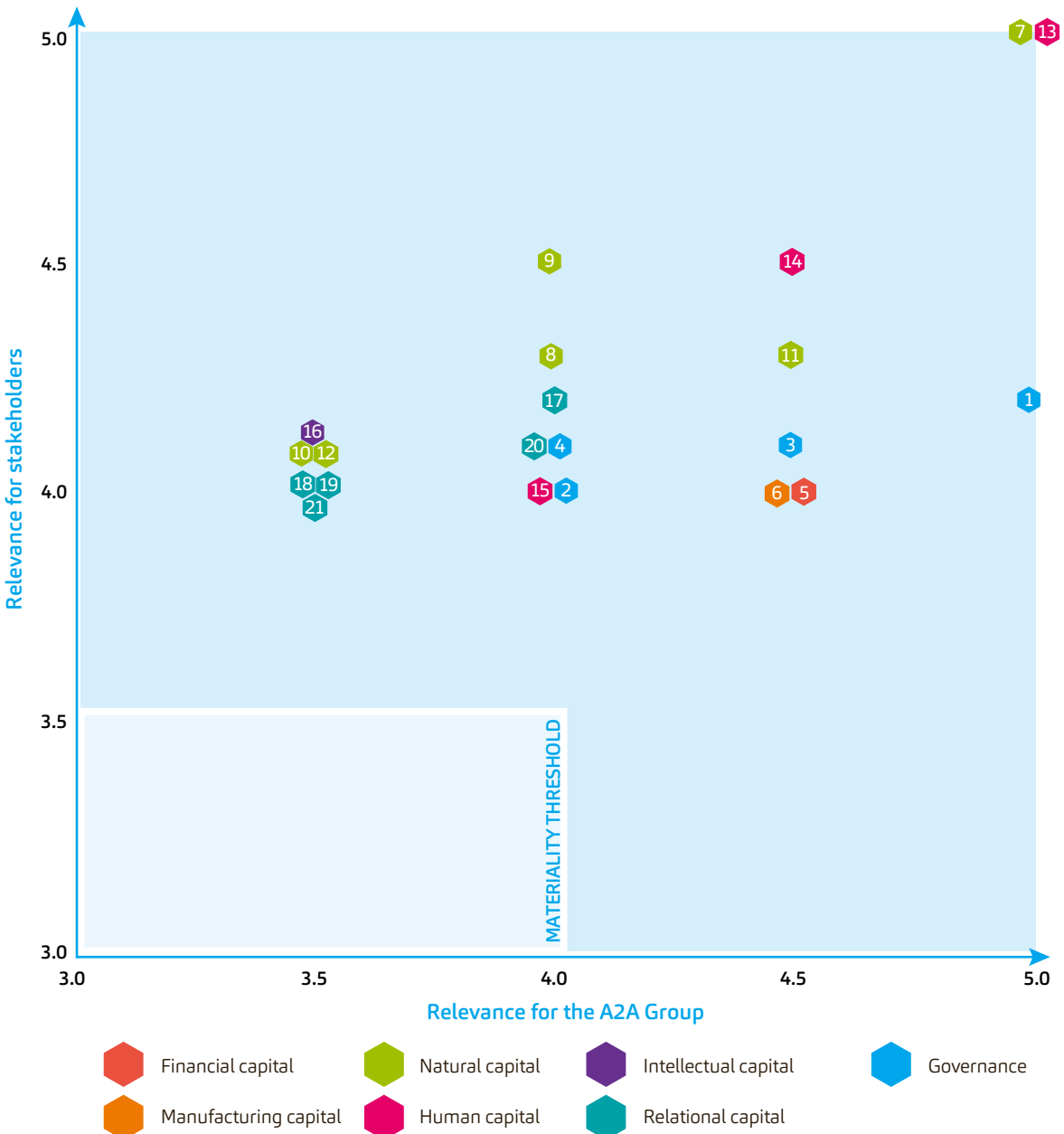
Compared to last year, the list of issues subject to evaluation has been slightly revised, in particular by separating the issue "Responsibility, Safety, Quality and Innovation in the provision of services and products" into two distinct aspects: "Responsibility and Safety in the provision of services and products" and "Quality and Innovation in the provision of services and products", the former more focused on compliance with regulations on the safety of services and products offered, the latter more oriented to identify aspects of innovation related to new services that the Group provides.

The analysis has therefore allowed stakeholders and top management to assess, on a scale from 1 to 5 (where 1 identifies a topic as irrelevant and 5 as strategic), **21 issues** that embrace the 6 Capitals and the Group's governance system.

The analysis process, as usual, was directed both inside and outside the company, as it was aimed at identifying the materiality of the issues for A2A and its stakeholders.

To measure the **importance for stakeholders**, the assessments were considered as emerging from:
 - a survey carried out by Ipsos (see page 47) which involved citizens, customers, suppliers, institutions,

Figure 7_Materiality matrix



the media, political movements, environmental associations, trade associations and consumer associations;

- an online questionnaire given to employees with positions of responsibility between November and December 2018 (about 500 respondents out of 1,100 sent);
- the evidence that emerged from the forumAscolto in the territories;
- the analysis of the database of the engagement initiatives carried out during the year.

To measure the **importance for A2A**, an online

questionnaire was sent to the first lines of the company.

The results of the analysis were then presented to the Sustainability and Territory Committee and approved at the meeting of the A2A Board of Directors on December 20, 2018, which approved the matrix presented in the previous page.

As can be seen from the representation, practically all the issues were material. In particular, for stakeholders all issues have been identified as very relevant or strategic.

CAPITAL	NO.	ISSUE
Governance	1	Ethical conduct
Governance	2	Sustainability in governance
Governance	3	Sustainability risks and opportunities
Governance	4	Human Rights
Financial capital	5	Sustainable economic value
Manufacturing capital	6	Efficient infrastructure management
Natural capital	7	Circular economy
Natural capital	8	Efficient water use
Natural capital	9	Combating climate change
Natural capital	10	Biodiversity
Natural capital	11	Quality of distributed water
Natural capital	12	Sustainable mobility
Human capital	13	Health and safety at work
Human capital	14	Development of human capital
Human capital	15	Diversity and welfare
Intellectual capital	16	Innovation and smart cities
Relational capital	17	Responsibility and Safety in the provision of services and products
Relational capital	18	Quality and innovation in the provision of services and products
Relational capital	19	Relationship with Group stakeholders
Relational capital	20	Environmental education
Relational capital	21	Responsible management of the supply chain

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5 Financial capital



INPUTS

49,2%
of the share capital of
A2A listed on the Milan
Stock Exchange

Included
in the main
**stock market
indexes**

Included in
6 ethical indices

3,022
million euro
net financial
position

Financial
capital

Manufacturing
capital

Natural
capital

Human
capital

Intellectual
capital

Relational
capital

A2A SERVICES AND PROCESSES



1,814 million euro

in added value distributed to Group stakeholders, of which:

35%
as company remuneration

27%
as staff remuneration

10%
as remuneration of risk based
capital

6%
as remuneration of credit
capital

18%
as transfers to the public
administration

4%
as transfers to the local
community

OUTCOME

CREATION OF SUSTAINABLE ECONOMIC VALUE

Promotion of sustainable economic performance that helps to assure the redistribution of the economic value generated to the Group stakeholders; optimisation of the social and environmental aspects, so as to develop solid relations with the financial community and stimulate the appeal of new investors sensitive to sustainability matters.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Reduction of the economic value produced and distributed to stakeholders.</p> <p>Negative assessments of ESG (Environmental, Social and Governance) components by ratings agencies.</p> <p>Ineffective communication of the Group's social and environmental performance.</p> <p>Changes in market conditions and failure to identify potential opportunities arising from sustainability.</p>	<p>Presence on the market of financial instruments the issue of which is linked to the development of projects that have a positive impact on the environment and sustainability, such as energy efficiency, energy production from renewable sources, sustainable use of land, etc.</p>	<p>Implementation of structured financial management programmes and processes to guarantee suitable levels of profitability to the invested capital.</p> <p>Monitoring and mapping of ESG themes aimed at limiting/managing impacts on economic performance generated by the performance of market prices of the main commodities.</p> <p>Integration of ESG aspects in investment decisions and company conduct.</p> <p>Involvement of ESG investors and transparent, effective communication of sustainability performance.</p> <p>Issuance of ESG financial products indexed to the company's sustainability performance.</p> <p>Integration of the identification and management of opportunities within the ERM (Enterprise Risk Management) process.</p>	<p>Presence of ethical investors amongst the shareholders, such as Norges Bank and Etica Sgr.</p> <p>Inclusion in 6 ethical indices, including, for the first year, the FTSE4GOOD.</p> <p>Multiple communication tools with financial stakeholders.</p> <p>First credit line "ESG/ KPIs Linked Revolving Credit Facility" issued.</p> <p>24% of investments were for environmental aspects.</p>	<p>CIRCULAR ECONOMY - Reduction policies - Risk management</p> <p>SMARTNESS - Smart Grid</p>

The scope of consolidation as of December 31, 2018 changed with respect to the previous year, primarily as a result of the line-by-line consolidation of the ACSM - AGAM Group, as of July 1, 2018, and the line-by-line consolidation of a group of companies owning 5 photovoltaic plants in Italy through A2A Rinnovabili S.p.A.

For more details, please refer to the Consolidated Financial Statements as at December 31, 2018.

5.1 Value added produced and distributed

Value added is the wealth that the Group generates in the year. It is the difference between revenues on the one hand and the intermediate costs and accessory and extraordinary items on the other. This parameter measures the **financial effect of the business of the A2A Group on its main stakeholders** and therefore the Group's capacity to create value for them. To determine the formation of value added, A2A uses the methodology defined Social Accounts Group (Gruppo per il Bilancio Sociale - GBS).

In 2018, the gross global value added distributed by the Group was 1,814 million euro (+10% on 2017).

Most of this was allocated to company remuneration (627 million euro, +14% on 2017), staff compensation (492 million euro) and transfers to the public administration (322 million euro). Transfers to the local community have increased (+3% on 2017). Remuneration of the risk based capital has also increased (+19% on 2017).

5.2 Relations with shareholders

The holding company, A2A S.p.A., is listed on the Milan stock exchange. The A2A share is traded on the electronic stock market and belongs to the FTSE-MIB segment and falls within the "Public Services" sector.

Under article 9 of the company's By-laws, no single shareholder other than the Municipalities of Brescia and Milan may hold more than 5% of share capital. Shares held in excess of the 5% limit have no voting rights.

A2A has about **72 thousand** shareholders, divided between institutional investors and retail investors.

Institutional investors hold approximately 37.1% of the share capital (36.2% in 2017). 25.2% of the free float in the hands of institutional investors is held by US investors, 18.2% by British investors and 11.3% by Italian investors. There are also French (11.3%), with registered office in Luxembourg (10.2%), and German (6.6%) institutional investors.

Please note that there are also **ethical investors** amongst the shareholders, such as Norges Bank and Etica Sgr.

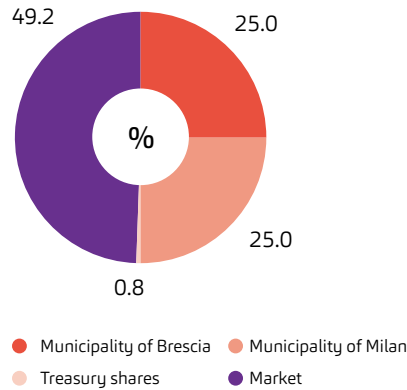
Figure 8_Share indicators

	2016	2017	2018
Dividend per share (DPS)* (euro)	0.0492	0.0578	0.07
Dividend Yield (DPS/P)**	4.2%	4.1%	4.6%
Number of shares (million)	3,133	3,133	3,133

* Dividend proposed by the Board of Directors.

** Calculated on average share price.

Figure 9_A2A's shareholding structure (at December 31, 2018)



Retail investors total approximately 71 thousand and together hold 10.3% of share capital (11.1% of 2017). 99.7% of the retail shareholding is resident in Italy and in particular, 59.3% in Lombardy. Investors residing in the provinces of Milan and Brescia hold, respectively, 27.1% and 13.7% of the total retail.

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A2A in the stock market indices

The macroeconomic and political situation, together with capital flows on international financial markets, are among the factors that influenced the performance of the A2A stock in 2018.

There are also specific factors linked to the Company that have influenced its performance, including:

- the presentation of the 2018-2022 Strategic Plan;
- the growth of the dividend distributed;
- the progressive improvement of the top management's indications on the 2018 results;
- the line-by-line consolidation of ACSM AGAM, starting in the second half of the year;
- the completion of various acquisitions in the photovoltaic sector;
- the continuation of the debt reduction trend, net of extraordinary operations.

A2A forms part of the following indices: FTSE MIB, STOXX Europe, EURO STOXX, WisdomTree International, MSCI Europe Small Cap and S&P Global Mid Small Cap.



Relations with shareholders and investors

A2A is constantly committed to providing answers as precise and exhaustive as possible to the needs and specific requests of financial stakeholders. To this end, various communication tools and channels are used:

- company documents (financial statements, interim reports, corporate presentations);
- documentation *ad hoc* (Investor Guidebook, Investor Databook, documents of the Library for the investor);
- press releases;
- "A2A Business Plan News" newsletter (on-line);
- meetings with analysts and investors on the main international financial scenes (road shows, one-to-one meetings, group meetings, conference calls, presentations at events, seminars on specific business issues, etc.). The financial community has met with both the company's senior management and some business managers and staff;
- participation in industry conferences, including the second Italian Sustainability Day organised by Borsa Italiana.

As for the coverage of the analysts, at the end of 2018, A2A was followed by 9 different brokers.

Internet communication (website and mailing) is particularly important and, in 2018, the Investors section of the website was further expanded:

- the subsection "**Library for the investor**" was enriched with further contents, with the publication of specific studies regarding the markets, the businesses in which the Group operates and the regulatory context;
- new information was added to the **Investor Guidebook**, a document that provides a comprehensive overview of A2A through the use of the main public information available;
- the set of economic-financial data of the **Investor Databook** has been expanded upon and now includes both the historic data since 2008 (with quarterly details for the last 4 years) and a series of prospective data useful to analyst model-making.
- a new **webpage for ESG investors** has been published and will be expanded in 2019.

The web also provides an effective **communication channel with retail investors**: the A2A website publishes the answers to the most frequently asked questions (FAQs). The Investor Relations unit also provides timely responses to specific questions raised by small investors (especially by e-mail). Finally, the engagement with the main proxy agencies has been extended and structured, which supply the institutional investors with voting recommendations on the items of the agenda of the Shareholders' Meeting.

5.3 A2A in the sustainability ratings

One of the ways in which sustainability applies to finance is the practice of **Sustainable and Responsible Investment (SRI)**, according to which environmental, social and/or governance considerations integrate the financial assessments carried out at the time the choice is made to buy or sell a security. SRI is implemented with the inclusion of listed companies on **ethical indices**.

In recent years, the number of initiatives promoting the upholding of ESG (Environmental, Social and Governance) criteria in different ways, in the assessment of financial investments, has increased.

The Group is currently listed in the following ethical indices:

- FTSE4Good Index
- ECPI Indices
- Ethibel Sustainability Index Excellence Europe
- EURO STOXX Sustainability Index
- Euronext Vigeo Index: Eurozone 120
- Standard Ethics Italian Index

Since July 2018, A2A has also been included in the **FTSE4Good Index Series**, the series of ethical indices of FTSE Russel designed to measure the sustainability performance (ESG) of companies in the main world markets.



In 2018, A2A also decided to request a solicited rating from **Standard Ethics**, in order to obtain an external and independent assessment, based on a structured and validated assessment procedure, which represents the level of adherence of the company to the principles of sustainability and corporate social responsibility as set out by the European Union, the OECD and the UN.

A2A is also included in the Ethibel Excellence Investment Register and in the Ethibel Pioneer Investment Register.

In 2018, A2A obtained a B- rating on the CDP Climate Change and the CDP Water questionnaire.

In addition, A2A participates in the assessments of Vigeo-Eiris, RobecoSAM, Sustainalytics, MSCI and the "Top 100 Green Utilities" (of the Energy Intelligence Group).

5.4 Ethical Finance

In 2018, the European Union took another step towards the full recognition and encouragement of sustainable finance through the adoption of concrete measures to follow up the **"Action Plan: Financing Sustainable Growth"**, which sets out the measures to be taken to orient the capital market towards a model of sustainable development, inclusive and **in line with the commitments undertaken with the SDGs and under the Paris Climate Agreement**.

The Commission has identified four priorities:

- defining which financial products and services can be considered sustainable;
- requiring institutional investors to disclose how they integrate sustainability issues into their activities;
- fully incorporating ESG factors in the investment criteria and in the information to be provided to customers on a mandatory basis;
- introducing common standards for assessing the environmental impact of investments.

The Commission has therefore made use of the most binding regulatory instruments, with amendments to two parts of European legislation: one relating to the Markets of Financial Instruments Directive (MiFID II) and one on insurance distribution.

Also the obligation provided by the Directive on non-financial reporting (2014/95/EU, Non-financial Reporting Directive "NFR", transposed into Italian law with Legislative Decree 254/2016, known as NFD - Non-Financial Declaration), is clearly part of the logic of greater transparency towards investors. Nevertheless, financial markets need **increasingly clear and comparable information** on which companies are most exposed and which are best prepared to deal with one of the most important issues, namely climate change.

To address this problem, the international organization Financial Stability Board established the Task Force on Climate Financial Information (TCFD), which subsequently issued recommendations for the standardization and definition of climate-related financial information. Since October 2018, A2A has committed to aligning its financial information with these recommendations.

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A2A SUBSCRIBES TO THE CREDIT LINE "ESG/KPIs LINKED REVOLVING CREDIT FACILITY"

In 2018, the A2A Group signed a **sustainable credit line of 400 million euro** with a 5-year maturity which, for the first time in Italy, sees the interest rate of the loan anchored to the achievement of specific **environmental KPIs combined with the ESG annual ratings** of Standard Ethics, as a bonus/malus mechanism.

The credit line, which for A2A replaces a previous agreement signed in 2013, has identified as environmental targets **two of the objectives that the A2A Group has defined in its Sustainability Plan 2018-2022**.

The first goal concerns the pillar of the Circular Economy, in particular, the increase in the recovery capacity of materials from waste at Group plants, while the second objective, in line with the decarbonisation strategy to which A2A is committed, is linked to the growth of the share of green energy sold in the mass market segment.

For the purposes of the credit line, the achievement of these targets will allow A2A to benefit from more favourable rates, while a possible upgrade or downgrade of the *Standard Ethics Rating* (SER) may influence the adjustment of the margin to be borne by the Group.

The initiative involved some of the main financing institutions such as Crédit Agricole, Banca IMI-Intesa Sanpaolo, Mediobanca and UniCredit.

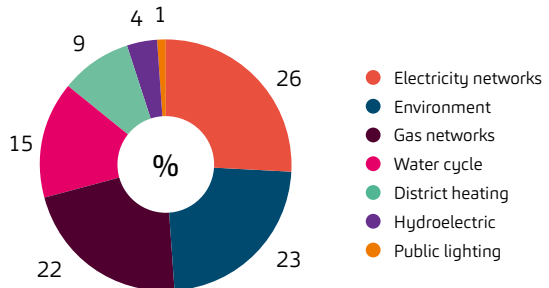
A2A has a solid and long-standing relationship with the **European Investment Bank** (EIB) to support the Group's investment programme.

The EIB finances **specific investment projects that meet particular sustainability requirements**, applying generally more advantageous economic conditions than the most common forms of financing.

The EIB's periodic appraisal and monitoring process includes requests for information, including technical and financial information, and the possibility of inspecting the sites/plants concerned by the projects financed.

At December 31, 2018, the value of these loans amounted to about **809 million euro**.

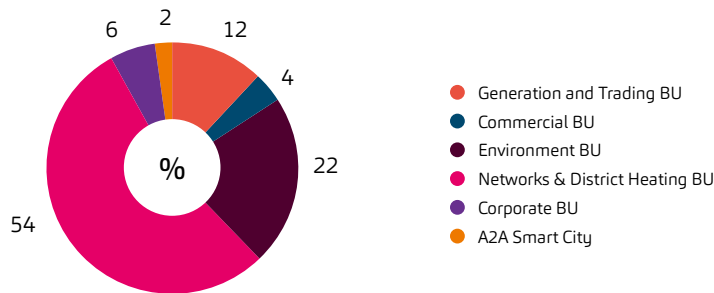
Figure 10_EIB loans by destination (%) at December 31, 2018



5.5 Capital expenditure

In 2018, capital expenditure made in the Group's various sectors amounted to 479 million euro (+5.5% vs. 2017).

Figure 11_Investments by Business Unit (%)



A significant portion of investments, equal to 24%, were related to environmental aspects, such as: actions to reduce emissions, increase energy efficiency, develop renewable sources and innovation. Compared to the previous year, these categories increased by 45%.

Figure 12_Environmental investments (millions of euro)

Investment classification	Generation and Trading Business Unit	Networks & District Heating Business Unit	Environment Business Unit	Market Business Unit	TOTAL
Emissions reduction	10.4	6.7	19.2	-	36.3
Energy efficiency	2.0	2.4	29.0	4.3	37.7
Renewable sources	16.5	1.4	2.8	-	20.7
Innovation	0.2	0.4	17.4	0.8	18.8
Total	29.1	10.9	68.4	5.1	113.5

The investments mainly concerned **energy efficiency measures** linked, as in the previous year, to plant improvements on the Group's main waste-to-energy plants. Significant investments were also made in the new LED public lighting system.

To **reduce emissions**, 2018 saw investments made to purchase new Amsa and Aprica vehicles with low environmental impact and install new burners and update the software of the Chivasso Plant.

As regards the **development of renewable sources**, as shown on page 67, the largest share of investments was directed towards the improvement, maintenance and safety of hydroelectric plants.

The **innovation** interventions at the plants mainly concerned investments for the plastic treatment plants in Cavaglià and Muggiano, for the extension of the E-moving service and for new smart bin installations for differentiated waste collection (see also pages 64, 114, 131).

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Manufacturing capital



INPUTS

Generation BU plants
9,059 MWe

Waste-to-energy plants
260 MWe + 627 MW_t

Material treatment and recovery
1.3 million t/a

Aqueduct network
4,010 km

Gas network
11,193 km

Electricity networks
15,014 km

Cogeneration
142 MWe + 716 MW_t

Financial capital

Manufacturing capital

Natural capital

Human capital

Intellectual capital

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A2A SERVICES AND PROCESSES



New projects for the development of biomethane production

Inauguration of the Cavaglià plant for the recovery of plastic (+45 kt treated per year)

Purchase of new photovoltaic systems (+ 93.8 MW of installed capacity and + 65 GWh of annual production)

Flexibilization work completed in the power plants of **Sermide** and **Ponti sul Mincio**

77% of joints of the electricity grid of Milan replaced to ensure **greater reliability** of service

Replaced about **30 km** water network and **enhanced activity** for the search for losses

OUTCOME

EFFICIENT MANAGEMENT OF GROUP INFRASTRUCTURES

Efficient management of Group infrastructures, promoting technological innovation, performance improvement, continuity and reliability of service; development of waste treatment plants capacity, investments in renewable energy and innovative technology, including through the acquisition of new companies strategic to the Group; guarantee of high safety standards in infrastructure management.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Failure to meet targets on energy efficiency, recovery and treatment of waste and generation from renewable sources.</p> <p>Malfunctions and interruptions in plant activities and network infrastructures.</p> <p>Possible vulnerabilities of ICT infrastructures and applications for IT, logical and viral attacks and/or system failures.</p>	Not yet identified.	<p>Identification of dedicated teams into corporate functions focussed on the development of energy efficiency initiatives; construction and commissioning of plants for waste recovery and processing and the acquisition of energy generation assets from renewable sources.</p> <p>Efficient management of plants and networks so as to prevent any disservices or failures and guarantee the reliability and performance in operation, also thanks to preventive maintenance and a careful management of emergency intervention teams to cope with emergency situations.</p> <p>Adoption of mechanisms to defend and protect against logical and viral attacks and/or possible system failures; projects to improve the infrastructures of the DPCs (Data Processing Centres), rationalization and improvement of IT platforms and applications and control of industrial processes (OT) and segregation of accesses to information, thanks to the definition of a multi-year master plan of initiatives linked to cybersecurity in the Group infrastructures.</p>	<p>Start-up of the new plastic selection plant in Cavaglià</p> <p>Numerous activities for the monitoring and safety of dams.</p> <p>Completed the activities of flexibility of the CCGT of Sermide and Ponti sul Mincio and started the process for the CCGT of Cassano.</p> <p>77% of Milan's electricity distribution network joints replaced to improve resilience.</p> <p>A system for the efficiency of gas preheating activities has been implemented in order to reduce gas consumption.</p> <p>The first 30 km of the sewerage system for connection to the new Valtrompia purifier have been built.</p> <p>Three hexavalent chromium treatment plants were built in Villa Carcina, Sarezzo and Gardone.</p> <p>Work on the new Nuvolera purification plant has been completed and will come into operation in 2019.</p> <p>The design phase for the construction of three thermal storage tanks for district heating in Brescia has been completed.</p>	<p>CIRCULAR ECONOMY - Recovery and treatment - Water</p> <p>DECARBONISATION - District heating - Renewables</p> <p>SMARTNESS - Smart grid - Smart city</p>

6.1 The manufacturing capital in the Environment Business Unit

The plants managed by the Environment Business Unit cover all phases of the integrated waste cycle: from recycling management, ecological platforms and landfills through to energy and material recovery and processing plants.

Figure 13_Plants of the Environment BU and geographical location

TYPE OF PLANTS	NUMBER OF PLANTS	CAPACITY
Material treatment and recovery	21	1,226,000 t/y
ITS	7	642,000 t/y
Waste-to-energy plants	7	260 MW _e 627 MW _t
Landfills	10	7.696 Mt/a
Biogas production	16	24 MW _e



In all, **waste treated in Group managed plants** totalled 4.8 million tonnes, of which: 3.8 at the Group owned plants (+4.1% compared to 2017) and approximately 1 million at the plants managed on behalf of third parties (Acerra waste-to-energy plant and Caivano plant).

The BU's **thermal energy production** remained almost constant at 1,403 GWh_v, as did its electricity production, which amounted to 1,183 GWh_e. Compared to 2017, the Group has the largest presence along the supply chain, increasing the **material treatment and recovery** capacity of the BU, reaching approximately 1 million tonnes of

waste treated per year (+6% compared to 2017), mainly thanks to the new plastic sorting plant at Cavaglià and an increase in the treatment capacity of some existing plants.

The portion of waste treated in waste-to-energy plants also increased (+7%), thanks above all to the completion of extraordinary maintenance activities at the Silla2 plant in Milan. On the other hand, the waste managed in the Group's landfills decreased (-5% compared to 2017), in line with the policy of gradually reducing the use of this type of plant. The portion of waste treated in bio-drying plants remains constant.

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Two new plants for the recovery of separately collected plastics

The Cavaglià plant, inaugurated in November 2018, has a production capacity of 45,000 tonnes per year, which through the use of innovative sorting machinery, **divides plastic waste into different streams by type of material** (e.g.: PE, PET, PP, film, etc.) and then **send them for recovery**. The plant also produces ferrous and non-ferrous metals, which are also sent for recovery, and the waste that cannot be recovered in terms of material is sent to the waste-to-energy plants for their energy recovery. The selection process inside the plant takes place thanks to 8 high-tech optical scanners able to recognize the polymers and divide them by type, shape and colour, all in an automated way. Once the individual fractions have been selected, they enter the manual sorting station, where the personnel can carry out the final quality control. The energy aspects of the plant have also been the subject of great attention: the new construction is in fact equipped with a 300 kW photovoltaic system that allows to produce 350 MWh/year, equal to 15% of the energy needs of the plant.

The Muggiano plant will have similar characteristics to the one built in Cavaglià. The site, started in December 2017, is at an advanced stage of construction: in October 2018, the civil works were completed and the assembly of the machinery is also nearing completion. Start-up is expected in spring 2019.

New energy from the fumes of the Brescia waste-to-energy plant

As part of the strategy to completely eliminate coal as an energy source for the city of Brescia, among the various interventions planned, a project will be carried out to **increase the heat produced by the waste-to-energy plant through a revamping of the flue gas line**. In particular, by 2022 the "flue-gas cleaning" heat recovery technology will be put into operation on all three lines of the plant serving the city. This intervention involves the installation of an innovative system that will allow a further improvement in emissions and at the same time an increase in the recovery of thermal energy from combustion gases of about 150 GWh_t per year, transferable to the district heating network. This energy will replace part of the heat produced today by the coal line of the Lamarmora power plant. The project also includes the installation of a new very high efficiency catalytic system for the abatement of nitrogen oxides, thus contributing to further reducing plant emissions. The investment envisaged is approximately **60 million euro**.

NEW PROJECTS FOR THE DEVELOPMENT OF BIOMETHANE PRODUCTION

The transition to a circular system requires, among its pillars, the closure of the cycle with the re-entry into the production system of materials derived from waste and the energy recovery of waste fractions not otherwise recoverable. The Business Plan of the Environment Business Unit provides for the construction and management of 4 plants for the treatment of the organic fraction of solid urban waste collected separately. The **plants will have a total capacity of over 280,000 tonnes per year and will all consist of an anaerobic digestion section with biogas production and subsequent refining of biomethane** and a composting section for the treatment of waste material leaving the digesters for its transformation into compost. All these plants will produce more than 20 million Sm³ of biomethane, which will be fed into the SNAM national transport network or gas distribution network and used for transport. The design of the plants includes technological solutions and state-of-the-art technical devices to maximize reliability, minimize the escape of odours and maximize the production of biomethane and represent a concrete development of the circular economy.

In 2018, Linea Green also started studies for the design of **plants for the transformation of biomass into biogas**, which, after appropriate chemical-physical treatments (purification or upgrading), will be converted into biomethane to be fed into the gas distribution networks.

6.2 The manufacturing capital in the Generation and Trading Business Unit

The Generation and Trading Business Unit manages the Group's electricity production, through:

- **hydroelectric plants** using various different technologies, with a major component of storage and regulation capacity, thanks to the significant size of the reservoirs and the power of the plants;
- **thermoelectric plants**, mainly comprising plants based on high-performance combined cycle gas

(CCGT) technology and two coal-powered plants (of which one was decommissioned in 2012) and one that uses heavy fuel oil;

- **photovoltaic plants**, installed at the sites of some Group thermoelectric plants or in areas close to them, plus a series of photovoltaic plants purchased in the secondary market as of 2017.

Figure 14_Plants of the Generation BU and geographical location

TYPE OF PLANTS	NUMBER OF PLANTS	CAPACITY
Hydroelectric plants	5	2,070 MW _e
Thermoelectric plants	9	6,895 MW _e
Photovoltaic plants	46	94 MW _e



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A2A RINNOVABILI FOR THE GROWTH OF THE GROUP IN THE SECTOR OF GREEN SOURCES

In line with the strategic plan and international objectives for the fight against climate change, the Group began to invest in renewable sources in 2017, through the implementation of innovative experiments and by seizing market opportunities with targeted acquisitions.

A2A Rinnovabili, a Group company that controls all the companies that own photovoltaic plants purchased in the secondary market, in 2018, acquired two additional plant portfolios (IMPAX and Talesun) **for a total of 59 MW, reaching a total installed capacity of 93.8 MW** and an estimated annual production of approximately 65 GWh. On-ground installations account for 63% of assets, the remaining 37% are systems installed on roofs of industrial customers.

During 2018, a **partnership with the Talesun Group**, one of the world's leading operators in the field of solar energy, was launched, which gave rise to the creation of a dedicated vehicle called "758AM Srl", for the development **of new greenfield photovoltaic plants**.

In addition A2A Rinnovabili was awarded the tender for the **construction of a 10.5 MW photovoltaic system for the industrial buildings of the Rho Fiera exhibition area** which will serve the underlying users.

In 2018, the BU slightly increased its production (+1.9% compared to 2017), with a marked improvement in the mix of sources used to benefit renewable ones. Unlike the previous year, there was a sharp increase in hydroelectric production (4,464 GWh), due to a more favourable weather season and market logic that push for the use of this source. This trend resulted in a decrease in the output of thermoelectric power plants (771 GWh less than in the previous year), mainly due on the one hand to a reduction in the use of the heavy fuel oil plant in S. Filippo del Mela, and on the other hand, to the fact that in 2017, the CCGT plants were called upon to produce more energy due to the unavailability of power plants in Switzerland and Germany. The demand for energy from the market remains constant for the more flexible CCGTs, for the balancing of the electrical system, and for the production of the Monfalcone power plant.

There was also a significant increase in the contribution from photovoltaic production, linked to the recent acquisitions described above.

The process of change required in recent years in the energy production sector covers many areas: from the transition to low-carbon, to the adaptation to climate change and the needs of the market, to the safety and modernization of the plant fleet. The following are some of the main initiatives carried out by the Business Unit during the year.



Hydroelectric plants: activities for the protection of safety

The constant change of climate in an area at risk of hydrogeological instability, such as our country, has as its main principle the raising of safety levels for plants most exposed to this risk. Among the most relevant activities for 2018 are interventions to ensure the **safety of dams and plants in extreme hydraulic situations** (floods, alluvial events, etc.).

From an organizational point of view, the appropriate Civil Protection Documents have been issued or are in the process of being approved by the competent bodies, which are rigorously applied in A2A also through internal procedures. Similarly, in continuity with 2017, procedures were adopted for the management of the **safety of dams and plants in situations of seismic**

events, which are tested and implemented through special simulations involving operators.

In this regard, special studies and designs of a high technical-scientific nature are underway to improve the seismic behaviour of the most sensitive dams, such as that of the Ambiesta plant, as well as the execution of works to ensure complete safety even for the accessory works of the dams.

With regard to the actions to be implemented for the **"environmentally sound" management of the river basins and channels relevant to them, including the management of sediments**, management projects are underway, which define the appropriate methods of emptying.

Flexibilization measures on CCGT systems

At the end of 2018, works were completed to increase the flexibility of 2 turbogases of the 800 MW unit of the Sermide Plant, with the **installation of hardware and software packages** similar to those installed at the Chivasso CCGT in order to **improve plant performance, reducing flue emissions of NOx and improving production unit management**.

In 2018, the flexibilization activity was started up and completed, also at the Ponti sul Mincio plant.

At the end of 2018, in accordance with the **"Co-Development Program Framework Agreement"**, signed between the A2A Group and the General Electric Group, the start of the flexibilization project for the Cassano CCGT was agreed, which will start in the first half of 2019.

These interventions have made it possible to significantly reduce the technical minimum and the start-up time of the combined cycles.

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6.3 The manufacturing capital in the Networks & District Heating Business Unit

The Networks & District Heating Business Unit is responsible for coordinating, implementing and maintaining the electricity, gas, heat and water cycle network distribution infrastructure as well as for managing plants used to produce thermal energy and electricity. The maintenance and evolution of these infrastructures are amongst the key factor necessary to achieve the national and European energy policy goals.

Gas and electricity distribution networks

The electricity distribution network extends for over 15,000 km in high, medium and low voltage (of which 85.5% underground), with 31 primary stations and sub-stations and more than 9,352 secondary stations.

The length of the **gas distribution infrastructure** is nearly 11,200 km, in medium and high pressure, with 188 primary stations (REMI) and 2,199 secondary stations.

The electricity distribution activity is managed by Unareti and LD Reti in Lombardy, in the provinces of Milan, Brescia and Cremona.

The gas distribution activity is managed by Unareti, LD Reti and ASVT in Lombardy, in the provinces of Milan, Brescia, Bergamo, Cremona, Lodi and Pavia, in Veneto, in the provinces of Padua and Vicenza and in Emilia Romagna in the province of Parma.

In 2018, electricity distributed came to 11,747 GWh with an increase of 1.4%. The distribution of gas, equal to 2,425 Mm³, is in line with the previous year.

In December 2015, Milan City Council and A2A announced an **extraordinary plan to improve the resilience of the electricity grid** in the most critical parts of the city, thereby making it able to support any exceptional electrical loads, with a total **investment of 13 million euro**.

In 2017, the plan was extended to envisage the replacement of a total of 14,500 network joints by 2020.

By the end of 2018, 11,200 joints had been replaced, representing 77% of the total to be completed by 2020.

Through the subsidiary Retragas S.r.l., the Group also manages the **regional transmission of natural gas** in Lombardy, Trentino Alto Adige and Piedmont, with more than 399 km network and moving more than 365 million cubic metres of natural gas each year.

Figure 15_Plants of the Networks & District Heating BU for the distribution of electricity and gas

TYPE OF PLANTS	EXTENSION
Electricity networks	15,014 km (of which 12,039 km underground)
Gas networks	11,193 km



AWARD OF THE GAS DISTRIBUTION TENDER OF THE MUNICIPALITY OF MILAN

The tender for the concession for the natural gas distribution service in the ATEM "Milan 1 - City and plant of Milan" was awarded to Unareti S.p.A. on September 3, 2018, with a score of 98.12. However, the award was not followed by the signing of the contract and the start of operations in consideration of the notification of the appeal by 2i Rete Gas before the Regional Administrative Court of Lombardy - Milan.

The investment plan offered has been built on the basis of the objectives and requests reported by the Contracting Authority, in accordance with the indications of the municipalities belonging to ATEM, among which the prevailing one is the **modernization of distribution systems and development of energy efficiency**. The "ATEM Milano 1" network is made up of assets with significant obsolescence, in some cases reaching the useful life limit during the new concession. This will therefore require a series of replacement measures to increase efficiency, reduce the number of leaks and modernize the overall distribution system serving the community, while at the same time improving energy efficiency and environmental impact.

The modernization and reorganization of the distribution system are also key factors in enabling the **integration and development of alternative energy sources** - element expressly requested by the Contracting

Authority - and in particular of the **district heating** service to allow the replacement of heating systems powered by diesel, extremely polluting and still widespread, especially in the historic centre of Milan. In this sense, Unareti has planned to carry out the necessary interventions to extend the network and upgrade the plants to enable the replacement of boilers fuelled by diesel, estimated at over 4,000, already in the early years of the concession.

As far as improving energy efficiency and reducing environmental impact are concerned, Unareti has planned, over the 12 years of the concession, the implementation of measures aimed at: recovering and self-producing energy, reducing consumption in its offices and in the management of company vehicles, **encouraging the use of biomethane** in the distribution network.

In addition, with a view to contributing significantly to the development of further actions, Unareti has offered an **additional 20% share of energy efficiency certificates** compared to the compulsory quantity defined by the legislation in force. The procurement of these certificates - which will also take place through the purchase of securities deriving from projects already defined by companies of the A2A Group - will allow energy savings of more than 360 million cubic metres of natural gas to be obtained in the territory of ATEM.

New interventions by LD Reti on the gas distribution network

The preliminary design for connection to the grid of the composting plant in Vellezzo Bellini (PV), for the **supply of the biomethane** produced, was carried out, according to the regulations in force.

During the year, a system was implemented to improve the efficiency of gas preheating activities, in order to reduce consumption in REMI stations with a higher regulated flow rate.

The gas preheating thermoregulation system was activated in 2018 with the installation of a further 15 units, reaching 100% of the 37 REMI stations involved in the project. A comparison between the consumption for the year 2016 (without thermoregulation) and the year 2018, restated on the basis of the methane gas injected into the distribution network, showed a **saving of 152 thousand cubic metres in methane gas used for the preheating of the REMI**.

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Integrated water service

The A2A Group, through its subsidiaries A2A Ciclo Idrico and ASVT, manages services related to the integrated water cycle in almost the entire province of Brescia.

In all, in 2018 the Group distributed **54 million cubic metres of water**. In the municipalities overseen for the sewage and purification service too, approximately 52 million cubic metres of waste water were treated.

Figure 16_Plants of the Networks & District Heating BU for integrated water service

TYPE OF PLANTS	EXTENSION
Aqueduct network	4,010 km
Sewers network	2,567 km
Purifiers	61
Treatment capacity	49 Mm ³

In 2018, several actions were implemented to achieve the objectives of the Sustainability Plan that reflect an integrated logic, aimed at improving the entire service in terms of quality of water distributed, reduction of network losses and extension of the number of citizens served.

The most impressive and significant work is certainly the **construction of the new ASVT Valtrompia Purifier**: it will be the largest plant in the province of Brescia and will use the MBR (Membrane Bio Reactor) ultrafiltration purification technology, already tested at the A2A Ciclo Idrico purification plant in Verziano, guaranteeing very high purification yields. The plant, located in Concesio, will serve 11 municipalities with a capacity of 85,000 population equivalent, for a planned investment of about 27 million euro. Further activities for about 45 million euro will concern the **construction of a collector to connect the sewerage networks of the various municipalities adjacent to the Valtrompia**, then making the sewerage flow to the new purifier. By 2018, approximately 30 km of sections had already been completed.

In 2018, ASVT invested 1 million euro in the same area for the construction of three hexavalent chromium treatment plants in Villa Carcina, Sarezzo and Gardone. This investment has made it possible to comply with the new stringent regulatory limits imposed on the presence of hexavalent chromium, further improving the quality of drinking water throughout the Brescia hinterland.

In December 2018, A2A Ciclo Idrico also completed work on **the construction of the new water treatment plant**

in Nuvolera. The plant serves about 25,000 equivalent inhabitants, for the purification of wastewater from 5 municipalities. The commissioning of the new plant will allow a decisive improvement in the quality characteristics of the Naviglio Grande Bresciano, the receiving watercourse of the new purified wastewater that until now has received a slurry that has only undergone physical pre-treatment. The plant is equipped with high efficiency equipment that allows a very advanced purification system:

- an *ad hoc* biological system for the abatement of odorous impact;
- noise mitigation measures;
- a system for continuous monitoring of both the functioning of the equipment and the characteristics of the slurry, both at the plant inlet and outlet;
- automatic control of process instruments, in order to optimize energy consumption and above all to operate the plant in optimal conditions of efficiency.

Many initiatives were also launched during the year to support the **policy of reducing water leaks in the network**. In organizational terms, a structure was set up to implement the plan to reduce water losses and the equipment park was modernized and expanded in order to identify leaks on the part of operating personnel.

In 2018, **about 30 km of the network were replaced** and the leakage research activity was strengthened: **more than 2,000 km of the network were analysed**, equal to almost 2/3 of the entire network managed. This has allowed to intervene for the **repair of about 300 hidden leaks**, not otherwise identifiable. In addition, activities were carried out to reduce the operating pressure on the networks, identifying new minimum levels of pressure for about 9 municipalities.

With regard to the detection of volumes not recorded in the accounts, the **installation of more than 250 meters on fire-fighting equipment** was started, which made it possible to identify volumes not recorded for about 120,000 m³/year. A further 1,500 such meters are planned for 2019.

As regards the reduction in metering errors of user meters, in 2018, in line with as indicated by Ministerial Decree 93/17 of the ARERA, **about 27,000 user meters have been replaced**, while in the two-year period 2019/2020 **another 123,000** will be replaced.

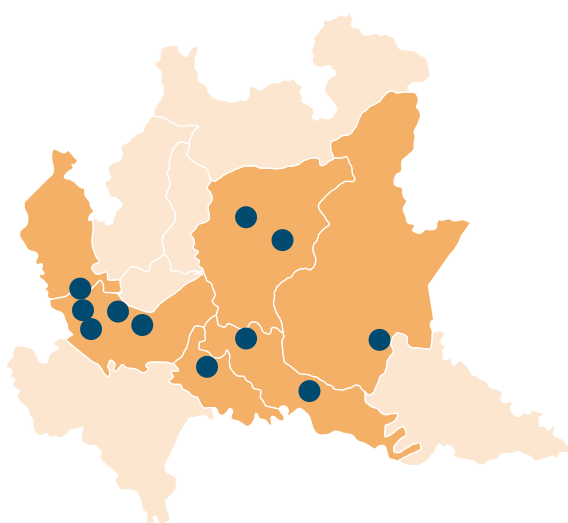
The plan also provides for the strengthening of the structures for the analysis and monitoring of leaks through the installation of new flow meters on the network and the implementation of dedicated IT tools.

Cogeneration plants and district heating networks

Through its subsidiaries A2A Calore e Servizi and Linea Green, the Group builds and manages the **district heating network**² in Milan, Sesto San Giovanni (Mi), Novate (Mi), Cassano d'Adda (Mi), Brescia, Bovezzo (Bs), Concesio (Bs), Bergamo, Crema (Cr), Cremona, Lodi and Rho (Mi), for a length of 1,200 km, with a service capacity of 464,000 equivalent apartments and a volume of 111.4 million cubic metres served.

For the year 2018, the distributed thermal and cooling energy stood at a value in line with the previous year of 2,620 GWh.

Figure17_Plants of the Networks & District Heating BU for district heating service



● Cogeneration plant

TYPE OF PLANTS	NUMBER OF PLANTS	INSTALLED CAPACITY
Cogeneration plants	11	142.5 MW _e 715.6 MW _t
Thermal plants	20	645.3 MW _t
Heat exchange	6	224.0 MW _t
Heat pump	2	30.0 MW _t

In line with the main objectives of the Business Plan, **A2A's Sustainability Policy** is based on **circular economy, decarbonisation, smart networks and services** that contribute to the economic and environmental well-being of the communities of reference. The **development of district heating networks** is also part of this perspective, which allows the replacement of old inefficient and polluting heating systems, reducing consumption and contributing to the improvement of air quality. Thanks to district heating it is possible to optimize the use of traditional sources through highly efficient

technologies, recover and exploit waste heat from the combustion of waste not usefully recyclable or from industrial processes, and exploit the thermal potential of renewable sources.

Investments are thus oriented towards the search for solutions aimed at optimizing the efficiency of existing systems, for example by maximizing heat recovery through the installation of thermal storage, and the implementation of innovative projects with little or no environmental impact.

2. Network consisting of a double pipe for the distribution of heat, in the form of hot or superheated water, widespread located in the urban area.

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Thermal storage at the service of the district heating network of Brescia

After a careful design phase, the district heating network of Brescia will see the construction of three thermal storage systems, advanced heat storage systems, which allow better management of the urban energy system. The storage, through their ability to store heat during the hours of the day with less demand, usually at night, allow to increase the recovery of heat from more efficient and sustainable plants by reducing the use of production from fossil fuels. This results in the dual advantage of a more balanced and environmentally friendly system.

The first storage, of 5,200 m³ will be built at the Lamarmora power plant and is scheduled to go into service at the end of 2019. Two further storages of 2,200 m³ will instead be built at the North Thermal Plant during 2020.

As a result of these interventions, the total volume of heat storage at the service of the Brescia district heating network will be about 11,000 m³, with a capacity of about 500 MWh available to meet and balance the thermal demand in the hours of greatest demand.



Figure 18_Extension of the district heating

	2016				2017				2018			
	USERS* (NO.)	VOLUMES SERVED (Mm ³)	NETWORK DEVELOPMENT** (DOUBLE PIPE) km	APARTMENT EQUIVALENTS	USERS* (NO.)	VOLUMES SERVED (Mm ³)	NETWORK DEVELOPMENT** (DOUBLE PIPE) km	APARTMENT EQUIVALENTS	USERS* (NO.)	VOLUMES SERVED (Mm ³)	NETWORK DEVELOPMENT** (DOUBLE PIPE) km	APARTMENT EQUIVALENTS
Province of Bergamo	585	6.5	71.2	27,100	614	6.8	74.7	28,100	647	7.0	75	29,100
Province of Brescia	20,392	42.1	669.2	175,400	20,487	42.2	671.0	175,800	20,584	42.3	671	176,200
Province of Milan***	3,181	47.0	298.8	195,800	3,389	49.7	330.9	202,300	3,495	52.6	339	219,021
Province of Cremona					721	6.4	76.5	26,700	741	6.6	77	27,500
Province of Lodi					206	2.9	26.0	12,100	214	2.9	27	12,200
Province of Varese	145	2.7	16.0	11,150	147	2.7	16.0	11,150	-	-	-	-
TOTAL	24,158	95.6	1,039	398,300	25,564	110.7	1,195.0	456,150	25,681	111.4	1,188	464,021

* May not coincide with a single housing unit.

** The network is intended as the sum of heat transmission, distribution and supply pipes.

*** Province of Milan has also included, from 2017, the district heating service of Linea Green, at Rho Nord and Rho Sud.

Pilot project for heat recovery from electric substations

In the city of Milan, a pilot project for the recovery of waste heat from electrical substations is being studied. It is a system capable of using the low-temperature thermal energy released by the cooling systems of electrical transformers. The recovery takes place through the use of modular heat pumps to serve the district heating network.

The integration of the two systems (district heating/electrical system) will thus make it possible to transform waste heat locally available into a useful resource, without any additional burden on the energy and environmental balance of the territory.

Green investments for the district heating network in Lodi

At the biomass plant in Lodi a project has been activated for the use of biomass from the recovery of green pruning. At the end of 2018, an incidence of about 6% on the total biomass fed was recorded, with consequent savings in forest-based material.

In October 2018, **LGH** submitted to the Province of Lodi a request for authorization for the **concession for use of groundwater for energy recovery** through heat exchange in heat pump systems in the municipality of Lodi. The heat pump's thermal energy production will replace the production from natural gas boilers for an expected total of more than 6 GWh. The project will avoid more than 1,500 tonnes of CO₂ emissions.



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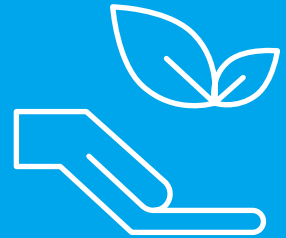
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7 Natural capital



INPUTS

Fuels 721 TJ	Waste treated in Group's plant 3.8 million tonnes	Fossil fuels 113,241 TJ
Biogas 490 TJ	Water 10.7 million m ³	Energy 348 GWh _e
		Chemicals and materials 278 thousand tonnes

Financial
capital

Manufacturing
capital

Natural
capital

Human
capital

Intellectual
capital

Relational
capital

A2A SERVICES AND PROCESSES



Secondary raw material 352 thousand tonnes	Waste produced 732 thousand tonnes	Waste water 4.2 million m³
Emissions 3,122 tonnes NO_x 116 tonnes Dust 1,301 tonnes SO₂	Greenhouse gas emissions 7.5 million tonnes CO_{2eq} (Scope 1) 110 thousand tonnes CO_{2eq} (Scope 2) 1.7 million tonnes CO_{2eq} (Scope 3)	Avoided emissions 2.8 million tonnes CO_{2eq} avoided 1.2 million TOE saved

OUTCOME

CIRCULAR ECONOMY

Use of waste as a resource, from collection to disposal, through management that, where applicable, favours the recovery of materials, the minimisation of waste sent to landfills, including through waste-to-energy processes; the development of separate waste collection, the efficient management of landfills, sludge and waste water, including through the development of biogas production technologies.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Failure to consider the relevance, in terms of market scenarios, of the impact of business activities linked to the circular economy.</p> <p>Failure to identify business opportunities linked to the development of the circular economy.</p> <p>No monitoring, at institutional level, in the definition of policies on the subject of the circular economy, and at community level, in transposing the expectations and emerging needs.</p>	<p>International and national legislative and regulatory framework aimed at encouraging the development of the circular economy and directing the choices of businesses and citizens towards a more responsible use of resources.</p> <p>Cultural changes in consumer behaviour, which increasingly take into account environmental and social sustainability aspects as criteria of choice when purchasing goods and services.</p>	<p>Definition of a Sustainability Plan in line with the Strategic Plan and adoption of the best waste management and treatment techniques so as to guarantee achievement of the goals set.</p> <p>Careful planning of growth strategies and development of business activities related to the circular economy that considers possible changes in the regulatory and market scenario, in areas where there are deeply rooted competitors.</p> <p>Development of the capacity to listen and dialogue with local and institutional interlocutors on matters relating to the circular economy.</p> <p>Participation in technical round tables and organisation of opportunities for a comparison of ideas, able to incorporate the requests and expectations of the communities.</p>	<p>The Group's average differentiated collection increased by 4%.</p> <p>99.7% of municipal waste collected sent for material or energy recovery.</p> <p>352,000 tonnes of recovered secondary raw materials.</p> <p>An average of 754 kWh of electricity and 780 kWh of thermal energy was produced from every tonne of waste-to-energy waste.</p>	<p>CIRCULAR ECONOMY - Recovery and treatment</p>

EFFICIENT USE OF WATER

Efficient management of the water resource, reduction of water losses throughout the distribution network and adoption of policies and good practices able to stimulate a responsible use of water, promoting careful, sustainable consumption.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Possibility of an interruption to the drinking water distribution service in the municipalities served.</p> <p>Little attention paid to the optimisation of water consumption, failure to invest and develop innovative programmes on the matter.</p>	<p>International and national legislative and regulatory framework aimed at orienting the choices of businesses and citizens towards a more responsible use of resources.</p> <p>Cultural changes in consumer behaviour, which increasingly take into account environmental and social sustainability aspects as criteria of choice when purchasing goods and services.</p>	<p>Definition of a Sustainability Plan in line with the Strategic Plan and adoption of more cutting-edge electronic systems for detecting losses.</p> <p>Development of projects and initiatives aimed at optimising procurement and the efficient management of the water resource.</p> <p>Containment of network losses through special electronic detection systems.</p> <p>Promotion of initiatives on the awareness and importance of saving water, amongst customers and citizens.</p> <p>Establishment of dedicated working and coordination groups.</p>	<p>In the plants of the Generation BU, about 1.3 million m³ of water was recovered, equal to 31% of the supplied water.</p> <p>A feasibility study is currently underway for a pilot project that envisages the recovery of heat, dispersed from the electrical stations, in the district heating circuit, by means of heat pumps, while avoiding the use of primary water.</p>	<p>CIRCULAR ECONOMY - Water</p>

FIGHT AGAINST CLIMATE CHANGE

Promotion of strategies to reduce atmospheric emissions and develop renewable energies; promotion of energy efficiency initiatives in the Group plants and sites and in final uses, such as: district heating, LED lighting and commercial offers linked to the sale of renewable energy and value added services.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Little attention paid to the internationally-relevant matter of decarbonisation and energy efficiency.</p> <p>Failure to achieve the decarbonisation targets set out in the National Energy Strategy.</p>	<p>International and national legislative and regulatory framework aimed at orienting the choices of businesses and citizens towards a more responsible use of resources.</p> <p>Cultural changes in consumer behaviour, which increasingly take into account environmental and social sustainability aspects as criteria of choice when purchasing goods and services.</p>	<p>Definition of a Sustainability Plan with decarbonisation objectives consistent with the Group's Strategic Plan.</p> <p>Preparation of an offer that includes innovative energy services with a reduced impact on climate (e.g. energy efficiency services in final uses).</p> <p>Planning of appropriate investment plans related to the development of renewable energy.</p> <p>Definition of a strategy on GHG emissions in line with the provisions of the National Energy Strategy and the Paris Agreement.</p>	<p>CO₂ emissions - Scope 1 decreased by 7% and production from renewable sources increased.</p> <p>The exit route from the use of coal in the city of Brescia has been started, thanks to numerous interventions, which will make it possible to start the first coal-free thermal season in 2022.</p> <p>Nearly 3 million tonnes of CO₂ avoided thanks to the technologies used to produce energy.</p> <p>2 million tonnes of CO₂ avoided thanks to the ESCO activities of Group companies.</p>	<p>DECARBONISATION</p> <ul style="list-style-type: none"> - District heating - Emissions - Renewable

QUALITY OF DISTRIBUTED WATER

Efficient management and consumption of water resources with specific reference to the biological, chemical and physical quality of the water distributed in the various municipalities served by the Group.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Failure to comply with the quality levels of distributed water established by law.</p> <p>Failure to comply with regulations governing consumption, water drains and the quality of the water distributed.</p> <p>Failure to take into account the expectations and emerging needs of the communities served.</p>	<p>International and national legislative and regulatory framework aimed at orienting the choices of businesses and citizens towards a more responsible use of resources.</p> <p>Cultural changes in consumer behaviour, which increasingly take into account environmental and social sustainability aspects as criteria of choice when purchasing goods and services.</p>	<p>Systematic monitoring of the quality of water withdrawn and distributed.</p> <p>State-of-the-art pre-distribution water treatment with state-of-the-art technology.</p>	<p>Almost 5,300 checks were carried out per million m³ of water delivered, corresponding to 12,900 samples taken and 284,500 parameters analysed.</p>	<p>CIRCULAR ECONOMY</p> <ul style="list-style-type: none"> - Water

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SUSTAINABLE MOBILITY

Increasing the efficiency of transport and logistics in the Group's everyday operations, with specific reference to limiting the noise and emissions in residential areas during waste collection operations; development of infrastructures to promote new electric and sustainable mobility.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Noise emissions</p> <p>Fuel consumption and emissions of the vehicle fleet.</p> <p>Achievement of development objectives in the field of sustainable mobility.</p>	<p>International and national legislative and regulatory framework aimed at orienting the choices of businesses and citizens towards a more responsible use of resources.</p> <p>Cultural changes in consumer behaviour, which increasingly take into account environmental and social sustainability aspects as criteria of choice when purchasing goods and services.</p>	<p>Preventive maintenance of vehicles and containment of air and noise emissions from company vehicles.</p> <p>Progressive replacement of obsolete and more polluting vehicles in the company's car fleet.</p> <p>Use of methane-powered, electric, hybrid vehicles for urban sanitation and emergency services.</p> <p>Installation and operation of recharging systems for electrically-powered vehicles in the city centres of reference.</p> <p>Definition in the Sustainability Plan of new development objectives in terms of sustainable mobility consistent with the Strategic Plan.</p>	<p>The programme of replacing company vehicles with new green vehicles (euro 6, natural gas or electric) continues.</p> <p>New electric mobility columns will be installed in the municipalities of Bergamo, Cremona and Rovato.</p> <p>137,000 recharges were delivered, corresponding to 8.4 million km travelled with zero emissions.</p>	<p>DECARBONISATION - Sustainable mobility</p>

SAFEGUARDING BIODIVERSITY

Safeguarding the landscape heritage and the territories in which the Group's plants or sites are present, promoting investigations and monitoring with a view to minimizing the impacts on biodiversity and the most important habitats.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Management of the environmental aspects of the plants, activities and services offered.</p> <p>Management of hydroelectric reservoirs.</p> <p>Landfill leachate management</p>	<p>Not yet identified.</p>	<p>Activation of procedures and systems for monitoring environmental impacts in line with the best available technologies aimed at minimizing possible impacts on soil, water, land and landscape.</p> <p>Prevention of potential pollution phenomena during normal operation of the plants and in the event of any malfunctions through dedicated Plans and Programmes.</p> <p>Identification of the best design solutions in line with the territorial needs able to minimize the impacts on flora and fauna.</p> <p>Collaboration with entities, institutions and associations to protect the territory and promote its safeguarding.</p>	<p>The process of locating the Group's assets in relation to the presence of protected areas (Parks, ZPS, SIC, Areas subject to restrictions and protections) has begun.</p> <p>Numerous organic farming operations were carried out on uncultivated land owned by the Group.</p>	<p>CIRCULAR ECONOMY - Biodiversity</p>

7.1 Group environmental management

One of the commitments of the A2A Group has always been to combine the quality of services and economic development with environmental protection; natural capital is in fact necessary for business activities and its protection is a necessary condition for continuing to generate goods and services useful to local communities.

In order to give concrete form to the principle of protection and sustainable use of "natural capital", expressed in the Group's policies, the objectives and strategies implemented are linked to:

- environmental protection through the systematic identification of the potential risks, the assessment of possible effects, the prevention of negative effects and the adoption of measures to limit pollution phenomena, including through the use of the best techniques available;
- limitation of atmospheric emissions helping, with the decarbonisation and energy efficiency process launched, achieve the national and European Community greenhouse gas emissions reductions objectives, thereby combating climate change;
- sustainable use of resources, optimizing their use and reducing waste;
- waste management aimed at contributing to the full realization of a circular economy by encouraging the recycling of materials and products;
- protection of biodiversity and ecosystems, as well as care of the territory through the implementation of organic farming.

Under the scope of environmental management, **25 Group companies** are UNI EN ISO 14001 certified and **27 sites** are EMAS registered.

Environmental protection is a value that must be disseminated to all people working for the Group, because it is only through a culture of the environment that virtuous behaviour can be achieved.

To this end, in 2018, the meetings to raise awareness of the employers' line and **environmental training courses** continued, as did the collaborations with industry associations, participating in thematic working groups, also to develop guidelines and shared approaches for better and more systematic management of environmental aspects.

ASSOLOMBARDA WORKING GROUP AND BOCCONI UNIVERSITY FOR THE UPDATING OF THE ASSOLOMBARDA GUIDELINES 231

A2A participated in the **Assolombarda Environmental Quality Working Group**, which, together with Bocconi University, completed the revision of the Guidelines developed by Assolombarda for the use of ISO 14001 and EMAS Management Systems in the prevention of environmental crimes pursuant to Legislative Decree 231/01. In particular, the revision was aimed at incorporating both the new elements introduced by the 2015 version of the ISO 14001 standard and the new environmental crimes introduced by Law 68/15. The revised Guidelines were officially presented at a public event organized by Assolombarda on September 27, to which A2A's Environment, Health and Safety structure contributed by bringing the Group's experience in terms of assigning responsibilities and exercising decision-making powers. The event was also an opportunity to present a proposal for regulatory change, aimed at recognizing the environmental management systems in compliance with ISO 14001 standards, the presumption of compliance with the requirements for the Organization, management and control models defined by Legislative Decree 231/01.

The main topics covered in the training course were: management of environmental aspects in contract activities, waste management and regional management plans, wastewater discharges, atmospheric emissions, authorization aspects of plants and activities, Seveso legislation on major accidents, noise impact assessment and monitoring of noise emissions.

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2018 saw the implementation of the Arial software, adopted by the entire A2A Group in 2017, with the development of the section dedicated to the environment. Following the sharing of the methodology for identifying and assessing environmental risks with the various Business Units and the Group Risk Management structure, in 2018, the development phases of the application continued to allow the assessment of the environmental aspects of the activities (Initial Environmental Analysis according to the ISO 14001 standard) and the assessment of the associated risks and environmental impacts.

During 2018, a number of important initiatives in the field of **sustainable mobility** were activated in order to:

- improve accessibility to the workplace by discouraging the personal use of the private car in favour of other collective modes of transport, whether or not they are environmentally friendly;

- manage the demand for mobility of employees (in terms of number of trips and duration/distance of the trip);
- contribute to a better usability of the urban environment and time;
- contribute to the reduction of the overall impact on the territory resulting from the presence of the Company's offices and activities, in terms of, for example, the reduction of polluting and climate-changing emissions generated by travel and the reduction of urban traffic congestion.

In this context, A2A's Mobility Manager has taken steps to implement a number of initiatives aimed at promoting sustainable mobility, developed as part of the Home Work Movement Plans presented to the municipalities of Milan, Bergamo and Brescia at the end of 2018. These initiatives are described on page 107.

Climate change and the management of atmospheric emissions³

The majority of the Group's climate-changing emissions are CO₂ emissions from combustion processes. These decreased by 7%, compared to 2017, due to a lower use of fossil fuels. At the same time, the production of energy from renewable sources increased, thus reducing the Group's **emission factor**, equal to **380 g/kWh (-10% compared to 2017)**, calculated as emissions from all combustion processes compared to the sum of electricity and thermal energy produced.

Overall, emissions of **Scope 1** amounted to approximately **7.5 million tonnes**. The contribution of methane that escaped capture in landfills also decreased (-5% compared to 2017), while the value of natural gas emissions from distribution networks increased by 11% due to a greater number of accidental dispersions (see page 92).

A slight reduction (-3% on a like-for-like perimeter basis) in vehicle emissions was also achieved, thanks to the technological evolution of the vehicle fleet.

There were no substantial changes in **indirect emissions (Scope 2)**, due to the purchase of energy, the absolute value of which, about 110 thousand tonnes, decreased due to the exit of Aspem from the reporting perimeter.

In 2018, **Scope 3 emissions** are reported to be **1.7 million tonnes**. This value includes both emissions from plants managed for third parties (boilers for heating buildings, the waste-to-energy plant in Acerra and STIR in Caivano), which are just over 700 thousand tonnes, and also the greenhouse gas emissions produced during refining and extraction of the fuels used by the Group (equal to approximately 933 thousand tonnes of CO₂).

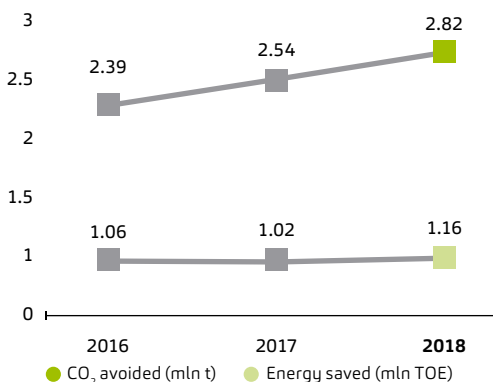
Figure 19_Greenhouse gas emissions declaration³ - tonnes of CO_{2eq}

	2016	2017	2018
Total greenhouse gas emissions - Scope 1	6,455,679	8,057,008	7,491,395
Indirect greenhouse gas emissions - Scope 2	119,937	122,286	109,807
Other indirect greenhouse gas emissions - Scope 3	1,638,017	1,780,755	1,677,882

3. Direct emissions were calculated using direct measurements of the amount of fuel consumed at plants and sites and the amount of fuel used in the vehicles. The quantities of fluorinated gases topped up in the equipment due to leakage were also considered. The emission factors used are obtained from analyses or national and international literature. As regards the emissions deriving from gas transmission networks and landfills, estimates were prepared. Indirect emissions were processed with reference to national factors (calculated by ISPRA).

Thanks to the use of the best technologies available, such as the combined production of electricity and thermal energy and the creation of integrated energy and environment systems, the Group can guarantee savings in CO₂ emissions with respect to the same production with the average of the national plants. A method was therefore finalised for the calculation of **emissions avoided of CO₂** and the energy savings applicable to all Group energy processes and plants. This method is updated once a year on the basis of the national thermoelectric emission factors and parameters published by Terna and ISPRA. In 2018, avoided CO₂ emissions amounted to **2.8 million tonnes** and energy savings exceeded **1 million toe** (tonnes of oil equivalent).

Figure 20. Avoided emissions of CO₂ and energy savings in energy processes



25 Group plants are subject to the Emissions Trading Scheme with a portion of emissions authorised of 94,700 tonnes of CO_{2eq}.

EMISSIONS AVOIDED BY OTHER PROCESSES

The Group's decarbonisation path is not only characterized by the increasing use of renewable sources, or by structural interventions on plants in order to increase their efficiency and minimize their emission impact. In fact, the Group provides a wide range of services to its customers and citizens to reduce "their" CO₂ emissions. Various studies have shown that the main sources of greenhouse gases include urban heating and transport.

For this reason, A2A's Sustainability Plan also includes energy efficiency measures, city lighting, district heating and sustainable mobility in the pillar of decarbonisation.

Among the **energy efficiency** activities, the great contribution made by the Group's ESCO companies (Energy Solutions and Linea Green) is worth noting, which in 2018 contributed to avoiding almost 2 million tonnes of CO₂ by means of the interventions carried out. In 2018, the white certificates issued to the Group corresponded to emissions savings of 1,147,366 tonnes of CO_{2eq}. The installation of LED public lighting in the municipalities managed by A2A Illuminazione Pubblica has already brought its benefits with more than 27 thousand tonnes avoided. Private end users are reached by A2A Energia's offers for energy efficiency, such as led kits for homes and high efficiency boilers (12 thousand tonnes of CO₂ avoided in 2018).

The **district heating** service helps to limit climate-changing emissions because the heat distributed to users is produced by efficient plants, not only through the use of fossil fuels but also through the recovery of energy from waste and the recovery of energy from industrial processes outside the Group. The elimination of individual private boilers has made it possible to avoid, in the cities served by A2A's district heating system, more than 210 thousand tonnes of CO₂ in 2018 (in part, this figure has already been taken into account when calculating the emissions avoided by the Group's plants).

Commitments to **increasingly sustainable mobility** also help to avoid emissions. These initiatives include: the activities of the Mobility Manager (see paragraph 8.5), the renewal of the Group's fleet of vehicles, the *E-moving* initiative (see page 131) and the installation of new smart bins to optimize the collection route for operators.

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REVIEW WITH THE VALUE OF RENEWING INTEGRATED ENVIRONMENTAL AUTHORIZATIONS

As part of the requirements of Directive 2010/75/EU on industrial emissions, concerning the integrated prevention and control of pollution, implemented in Italy with Legislative Decree 152/06 and subsequent amendments and integrations, as of today **all the thermoelectric power plants and the Lamarmora cogeneration plant are in possession of an Integrated Environmental Authorization (AIA)** issued by the Ministry of the Environment and Protection of Land and Sea; this measure authorizes their operation, taking into account the conditions defined with reference to the Best Available Technology (BAT).

Following the 2017 review by the European Union of the **new conclusions on Best Available Techniques for large combustion plants**, in 2018, activities were developed for the preparation of the documentation necessary for the submission of **applications for review with the value of renewing the Integrated Environmental Authorizations** under state jurisdiction, in accordance with specific timetables established by the Ministry for the Environment and the Protection of Land and Sea. For the Generation BU and the Networks & District Heating BU, the deadline for submitting applications is the first half of 2019.

The water resource

The Group manages the collection and distribution of drinking water in Brescia and its province and collects and returns to the environment significant quantities of water from surface water bodies for the production of energy.

In addition to these, there are other uses such as: street cleaning, washing of sweeping earth and the means used for services to the citizens, the regeneration of water treatment plants, the cooling of combustion ashes. Water is also the fluid with which district heating and cooling services are provided to users.

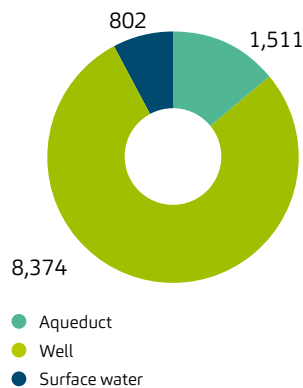
Specifically, the Group makes the greatest possible use of water, through the recovery of rainwater for irrigation of green areas, the filling of fire tanks and the recycling of washing water.

The other methods for making responsible use of the water resource adopted on a plant level and in management of activities, include:

- procurement by withdrawal from dedicated wells for the plants;
- reduced consumption of drinking water and, as far as possible, limited to sanitary uses;
- use of reduced water consumption washing technologies;
- return to the body of water of the derived waters for cooling or hydroelectric production without introduction of pollutants;
- development of a plan to reduce leakage from aqueducts.

In 2018, the Group as a whole used 11 million m³ water, 78% of which came from wells.

Figure 21_ Water resources used (thousands of m³)



Attention to biodiversity and the landscape

The A2A Group operates in harmony with regional, natural and cultural features, and is aware of the extraordinary wealth of biodiversity present. Some Group plants are located in or near sites characterised by high natural value, parks or protected areas: for example in the Parco Regionale Adda Nord, in the Parco regionale del Mincio, in the Parco Nazionale dello Stelvio and in the Parco Nazionale della Sila. These parks record the presence of more than 40 species included on the Red List of the International Union for the conservation of Nature (IUCN). In order to minimise the environmental impacts, the A2A Group takes specific action to protect and safeguard the environment, also carrying out interventions to improve the territory and assessing the impact on the landscape context. In line with the National Sustainable Development Strategy, made official in 2017, A2A sets itself the aim of optimising the natural component, carrying out interventions that foster the knowledge and, therefore, the conservation of the local natural heritage.

The monitoring and care of the territory are also expressed in the collaboration with the Local Authorities to solve incidental events such as, for example, landslides. In this regard, see page 26 on the event in Valle Spluga.



MONITORING OF PLANTS AND PROTECTION OF BIODIVERSITY

One of the actions of the A2A Group's Sustainability Plan is to monitor 100% of plants in relation to biodiversity.

The process, which began in 2018, involves locating the Group's assets in relation to the presence of protected areas (parks, ZPS, SIC, areas subject to restrictions and safeguards) and has as its objectives the monitoring and protection of biodiversity in the areas affected by the presence of the Group's assets, in order to:

- identify any interference of the activities managed by the Group with the protected areas and define appropriate mitigation measures;
- carry out periodic monitoring of any impacts on biodiversity;
- develop indicators to support the actions referred to in the previous points.

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ORGANIC PRODUCTIONS

In 2018, numerous organic farming operations were carried out, both on uncultivated land owned by the Group and at other facilities, using organic compost produced in the composting plants of A2A Ambiente.

A2A Ambiente contributes to various projects and initiatives through the free provision of organic compost produced, for example, for the social gardens of Cascina Linterno at the Parco delle Cave in Milan, the social gardens of Legambiente in Via Padova in Milan, the municipal gardens of Via Forze Armate in Milan, the urban forest in the San Polo district in Brescia and for the "OrtoLibero" project at the Verziano prison.

In addition, A2A Ambiente has implemented a project, which began in 2017, which requires some uncultivated agricultural land, owned by the Group but not used for business activities, to be made productive by sowing different types of corn and soft wheat. The land was ploughed, milled and finally fertilized with compost certified for organic farming produced by the Bedizzole plant. The raw material was then stone ground by the nearby mill owned by the municipality.

The 2018 production was 100 quintals of corn flour and 100 quintals of wheat flour, which also started the production of some baked goods (biscuits, rustic, etc.).

Finally, in a part of the unused agricultural land, a large experimental organic educational garden has been set up where seasonal crops have been fertilized only with the organic compost produced. The garden has also become the last point of visit for schools and groups of the adjacent composting plant.

Among the organic productions started there is also that of officinal marigolds, whose flowers are the basis for the production of natural prima chiamata marigold cream. To produce the cream, beeswax produced by the hives that for years have been housed in the perimeter of the Brescia waste-to-energy plant has been used as thickener for the oilseed.

In addition, in the gardens of the Acerra waste-to-energy plant, lavender is grown, which is used every year to make air fresheners. Specific packaging has also been created for these products and all the product packages produced are marked with the "A2A Naturalmente" mark.



7.2 Natural capital in the Environment Business Unit

The activities of the BU throughout the integrated waste cycle are the ones that contribute most to the increase of natural capital, thanks to the implementation of strategies aimed at achieving a complete circular economy. With reference to the activity of differentiated collection of urban waste, in 2018, there was a further increase, with excellent results both in the capital municipalities and in the provinces. Overall,

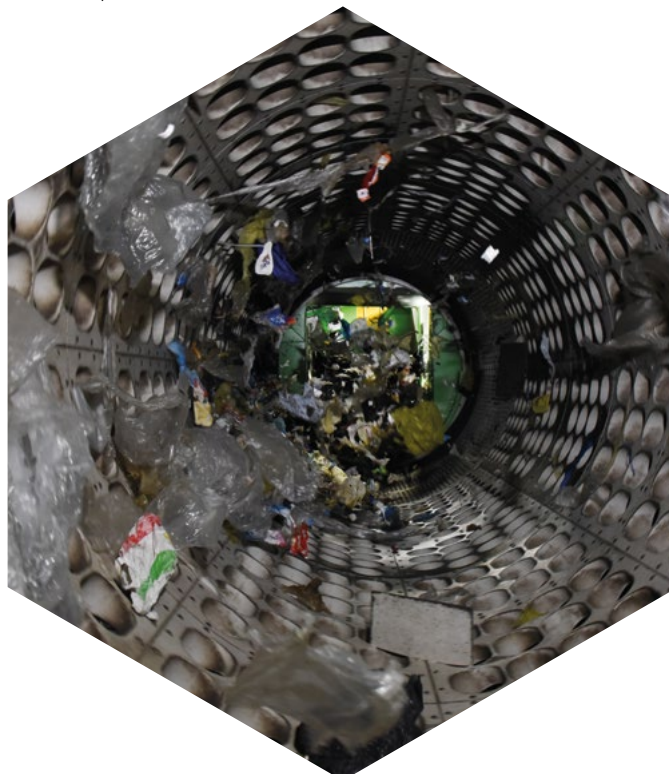
more than 1 million tonnes of differentiated fractions were collected (consisting of paper, glass, plastic, metals, kitchen and canteen waste, garden mowing and pruning, street sweeping waste, WEEE, bulky waste, hazardous urban waste and other recoverable waste - wood, oil, aggregates - delivered to collection centres) corresponding to an average index of 67.6% of the total collected (4 percentage points more than in 2017).

Figure 22_Differentiated waste collection*

	2016		2017		2018	
	QUANTITY COLLECTED (t)	INDEX %	QUANTITY COLLECTED (t)	INDEX %	QUANTITY COLLECTED (t)	INDEX %
Bergamo	42,112	66.3	44,689	71.2%	45,536	71.4%
Brescia	59,075	44.5	77,043	67.7%	83,869	73.0%
Como	25,200	62.9	28,523	72.1%	29,168	71.8%
Milan	352,042	52.4	361,868	53.8%	415,230	59.7%
Varese	25,228	62.2	26,590	66.2%	n.c.	n.c.
Cremona	-	-	27,109	73.4%	28,886	75.0%
Lodi	-	-	13,857	73.0%	14,472	74.1%
Province of BG	4,347	59.7	5,789	70.8%	5,949	70.6%
Province of BS	119,207	69.1	188,945	72.8%	175,434	77.8%
Province of MN			27,182	88.0%	33,700	87.8%
Province of MI	75,783	58.4	83,523	60.5%	106,160	66.2%
Province of VA	21,247	70.1	25,079	74.7%	n.c.	n.c.
Province of CR	-	-	52,787	73.6%	58,667	80.2%
Province of LO	-	-	29,210	69.7%	26,193	76.3%
Total/average	724,239	56.2	992,195	63.2%	1,023,265	67.6%

* The data refers to only the municipalities where A2A is the sole party assigned the service and for the entire year; a further 36,182 t of separated fractions was collected in the other municipalities.

The quantity collected and differentiated collection rate have been calculated on the basis of the indications of the Res. by the Reg. Council (Lombardy) no. X/6511 of April 21, 2017.



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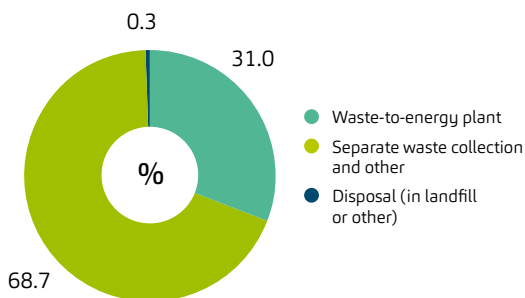
BRESCIA AWARDED FOR THE DIFFERENTIATED COLLECTION OF STEEL PACKAGING

RICREA, the National Non-Profit Consortium for the Recycling and Recovery of Steel Packaging, has given special recognition to the City of Brescia, as a concrete example of a short supply chain in the recovery of steel. In fact, the path of steel packaging that, after use, is redeveloped from waste in the form of new products in steelworks is completely exhausted within the Brescia area, in a true example of circular economy to ensure efficiency of recovery and recycling in full respect of the environment. This award is therefore a recognition of the commitment of citizens to the proper separation of waste, Aprica, as manager of the collection, and other companies in the supply chain.

As much as 99.7% of municipal waste collected is sent for recovery of matter or energy. Only 0.3% of the waste collected, consisting of a portion of bulky waste and liquid residues that cannot otherwise be recovered, is sent for disposal.

The increase of about one percentage point in waste destined for recovery, compared to 2017, is due to a lower quantity of waste sent for disposal and therefore to a greater efficiency of the entire supply chain.

Figure 23_Final destination of municipal waste collected



In 2018, a total of **3.8 million tonnes** of waste were processed by the plants.

The plants aim to recover materials and energy and are differentiated so as to be able to cope with various types of waste, ranging from municipal to special.

The **recovery platforms**, comprising both recovery and simple storage plants, allowed for the 2018 recovery of more than **352 thousand tonnes of secondary raw materials/end of waste**, with a slight increase (3%) compared to the previous year.

Recovery activities include the recovery of the main fractions of the differentiated collection of sludge from the biological purification of wastewater (with the associated production of biogas from anaerobic fermentation), recovery of inert materials (directly reused as raw materials for the preparation of concrete or bituminous conglomerates). In addition, some Group plants produce Secondary Solid Fuel (SSF) for use in waste-to-energy plants (by mechanical sorting and bio-drying of undifferentiated municipal waste); others are used for the intermediate storage of waste for subsequent recovery or, to a lesser extent, for disposal at other Group plants or external.

The non-recoverable waste as a raw material is sent for energy recovery and used as fuel in the processes of waste-to-energy to supply the district heating networks as well as to generate electricity, thereby saving fossil fuels and avoiding the related CO₂ emissions.

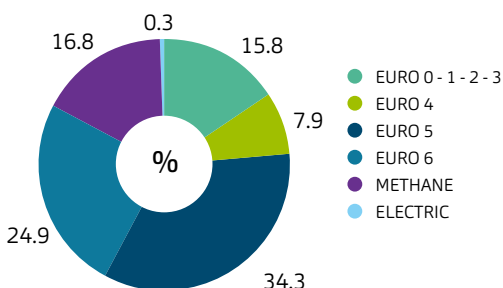
Electricity produced from waste in 2018 was **7.2% of the total** electricity produced by the Group, while **thermal energy from waste accounted for 55.5%** of total thermal energy produced and allocated to the district heating networks, in line with the 2016 figure and slightly higher than 2017 (about 4 percentage points). It should be noted, however, that the trend of electricity and heat production is constantly growing, so maintaining the share indicates a positive sign.

An average of 754 kWh of electricity and 780 kWh of thermal energy was produced from every tonne of waste. The slight decrease in these yields (-3% and -5% respectively for electricity and heat) is attributable to a lower calorific value of waste.

The energy resources: transport fuels, fuels and electricity

The collection and transport of waste takes significant quantities of **fuel**. In 2018, these totalled approximately 622 TJ, down from 2017 (-6%), in favour of greater consumption of cleaner fuels (the portion of methane for motor vehicles increased by 14%), mainly thanks to the renewal of the vehicle fleet. For example, AMSA has replaced 43 diesel-powered compactors with 43 natural gas-powered ones. The fleet of vehicles, to date, is composed of 76% engines euro 5 or more.

Figure 24. Composition of the waste collection vehicle fleet



The consumption of **fossil fuels** (765 TJ), mainly natural gas, used as combustion support during the transitory phases of the waste-to-energy plants, in 2018, increased by 6%, for a modest increase in the resumption of the same. The consumption of waste and biomass, which are the basic fuel of the BU, was 21,095 TJ (+9% compared to the previous year).

Electricity consumption in 2018 remained virtually unchanged (54 GWh).

Water, chemical products and materials

In 2018, most of the **water supplied** by industrial wells, used mainly in waste-to-energy plants and urban sanitation services, consumed about 3.7 million m³, substantially unchanged from 2017. Among **chemical products and materials**, the greatest consumption is recorded for inert materials (sand, clay, cement) and solid neutralizers (sodium bicarbonate, lime, etc.). These product categories alone amount to a total of approximately 222 thousand tonnes in 2018, or 93% of all products and reagents used by the BU.

Atmospheric emissions

The atmospheric emissions of the plants are monitored by means of continuous monitoring systems (CEMS type) or discontinuous monitoring systems (periodic sampling and analysis). Micropollutant emissions from waste-to-energy plants such as dioxins, polychlorinated biphenyls (PCBs) and polychlorinated benzofurans are extremely low thanks to combustion technologies and abatement systems. In 2018, a total of **approximately 40 milligrams of dioxins and 8 milligrams of dioxin-like PCBs were emitted** from all plants.

In addition, NO_x, SO₂ and dust emissions from all waste-to-energy plants were well below the legal limits set for these pollutants; in 2018, **NO_x emissions were on average 71% lower, SO₂ emissions 96% lower and dust emissions 98% lower.**

The average daily emissions of the waste-to-energy plants are continuously updated and can be found on A2A sites, while the absolute quantities of pollutants are shown in the tables in the Supplement.

Discharges and emissions into surface water bodies

Wastewater discharges into the surface water body in 2018 amount to approximately 919 thousand m³, of which almost 80% is due to the groundwater treatment and reclamation plant at the former landfill site in Gerenzano.

A failure caused by bad weather interrupted its operation in the last two months of 2018, with a consequent decrease in total wastewater compared to 2017 (-12% of the total of the BU). Similarly, the organic load of water discharged from the BU was reduced to 20 tonnes of BOD, down 26% from 2017.

Waste produced

The processes of the Environment BU produce solid waste such as slag, ash and dust from flue gas treatment generally sent for recovery (and only partly for disposal), and aqueous waste such as leachate and waste solutions for liquid waste treatment plants that are technically disposal plants. The recovery rate therefore does not vary significantly and even in 2018, it remained around the value of 52%. The total production of special waste in 2018 was 641,173 tonnes, of which 111,751 tonnes were hazardous. The latter had an increase (about +7% compared to last year) due to greater quantities of waste-to-energy waste in the WTE of Parona, Silla 2 and Filago that in 2017 had had periods of downtime for maintenance.

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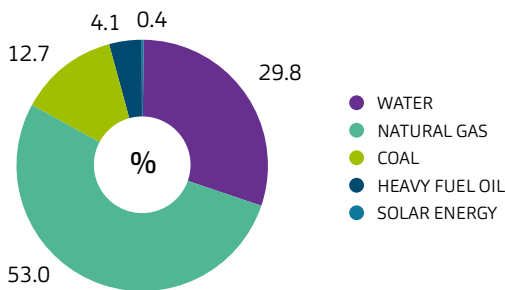
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7.3 Natural capital in the Generation and Trading Business Unit

Natural resources are fundamental for the generation of electricity; water, solar energy and fossil fuels are used as efficiently as possible in hydroelectric, photovoltaic and thermoelectric plants. The water resource taken for the cooling of the systems is returned entirely to the environment, while that for other uses is, as far as possible, recovered and reused.

In 2018, electricity was generated using the energy sources shown in the graph below.

Figure 25_Sources used for the production of electricity



In line with the objectives of the Business Plan, **the portion of photovoltaic energy increased**, thanks to the acquisition of new photovoltaic plants by A2A Rinnovabili (see also page 66).

The quantities of fuels used by the BU are as follows:

Figure 26_Use of fuels in the Generation and TradingBU (TJ)

	2016	2017	2018
Natural gas	31,661	56,472	56,336
Coal	23,315	20,999	19,577
Petroleum derivatives (heavy fuel oil, diesel)	14,771	16,415	9,342

Consumption of natural gas was virtually unchanged from 2017, while **coal consumption fell by 7%**. The consumption of oil products, mainly Heavy Fuel Oil, decreased by 43%, due to a lower demand from the electricity market for the operation of the San Filippo del Mela plant, the only plant in the Group that still uses this resource.

Reclamation and reduction of Heavy Fuel Oil (HFO) deposits

The reclamation of plant parts that are no longer used continues, as well as activities to remove the HFO, now an unused fuel (with the exception of the San Filippo power plant). At the Thermoelectric Plant in Brindisi in 2018, activities were carried out to remove the base residues from two 50 thousand m³ tanks **in order to also obtain their certification as "gas free"**. Work is expected to be completed by June 2019. Also during the year, the reclamation process was started and contracts for the same activity were activated for six 50,000 m³ HFO tanks at the Sermide Thermoelectric Power Plant.

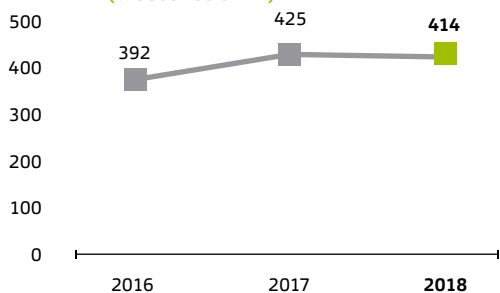
In December 2018, an initiative was launched to **remove and dispose of the insulation** present on the equipment of units 3 and 4 of the Monfalcone Thermoelectric Power Plant, no longer in operation since 2012. This work is expected to be completed in 2020.



Water resource

The water in the Generation and Trading Business Unit is the main source of renewable electricity; in 2018, about 3.2 million m³ of water were used in hydroelectric power plants. The methods of collecting and using these waters are regulated by the competent authorities; in particular, the Minimum Vital Flow (MVF) is defined as the quantities of water that must be guaranteed in the natural riverbeds, aimed at protecting the river habitats in the watercourses.

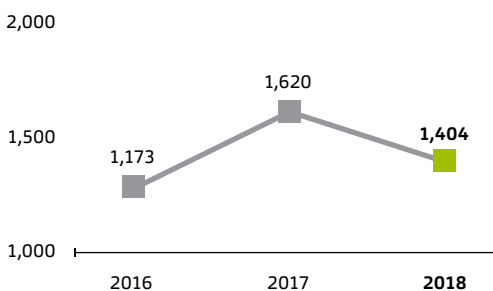
Figure 27_ Water released for MVF (thousands of m³)



The overall volume of water released for the Minimum Vital Flow shows a slight decrease compared to 2017 (-3%), due to the sale of some plants in the province of Como in July 2018, but still remains a significant fraction of the derived water (13%).

In addition to hydroelectric use, the water resource is necessary for cooling and condensing the steam of thermoelectric plants. Also in this case, the resource is returned to the water body with the same qualitative characteristics, apart from a slight increase in temperature.

Figure 28_ Derived water for cooling thermoelectric* plants (thousands of m³)



* 2016 and 2017 data have been updated, due to the inclusion of values from Cassano plant.

The value of water derived for cooling in 2018 takes into account a contribution that had not been counted in previous years. On a comparable scope of consolidation basis, the decrease of 2018 (-3%) reflects the trend of the decrease in thermoelectric production.

Additional water withdrawals are mainly used for process purposes. Over the years, systems have been developed for the recovery and reuse of water, in order to reduce as much as possible the withdrawal of this resource; in 2018, **about 1.3 million m³ were recovered, equal to 31% of the water supplied.**

The chemical products used

The main chemical products used to produce electricity are used to eliminate pollutants and condition process water; the quantity used depends on production levels. In 2018, 93% of all products and materials used were neutralizing substances (lime, calcium carbonate, etc.), the absolute quantity of which decreased (-13% compared to 2017), due to the lower production of plants fuelled by HFO and coal. Ammonia in solution is the second chemical product used in quantity (4% of the total).

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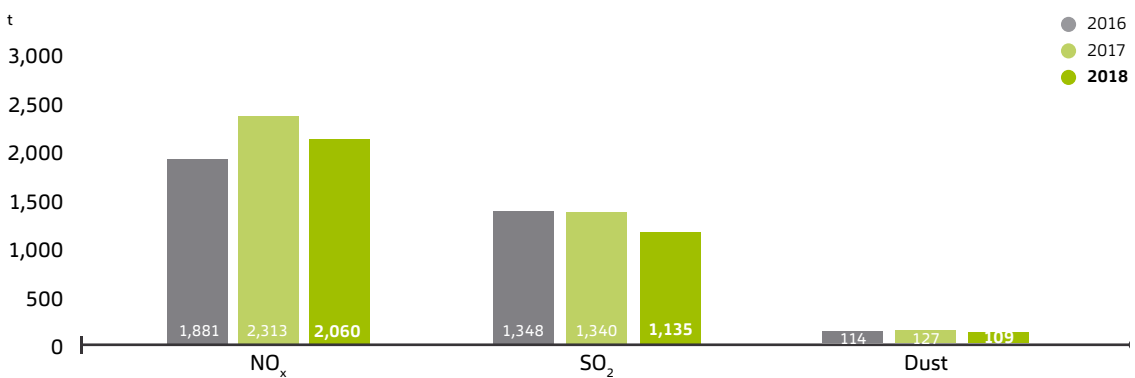
Atmospheric emissions

Emissions of nitrogen oxides, sulphur dioxide and dust are monitored through continuous measurement systems and smoke concentration values of pollutants are kept well below the authorized limits.

The absolute quantitative trend of the three pollutants **was reduced in 2018** (from 10 to 15%), **mainly due to lower production from fossil sources, with the performance** (specific emissions) **of the plants remaining unchanged**.

The reduction of emissions is an objective that is always present: at the end of 2018, works were completed to increase the flexibility of 2 turbogases of the 800 MW unit of the Sermide Plant, with the installation of similar hardware and software packages to those already installed in Chivasso in order to improve plant performance, reducing flue emissions and improving production unit management. In 2018, the flexibilization activity was also started and completed at the Ponti sul Mincio plant (see also page 67).

Figure 29_Emissions produced by the Generation and Trading BU



Emissions into the water

Wastewater discharged from the Generation BU plants includes process water and rainwater collected from the internal yards of the thermoelectric power plants. They are always sent to the internal purification plants before being reused in the production cycle or discharged with quality characteristics well within the authorized limits.

The values of BOD and COD are reported, which represent the load of organic substances in the water released, although with annual fluctuations, remain at low values of little significance.

Figure 30_Emissions into the water (t)

	2016	2017	2018
BOD	14	23	20
COD	48	59	45

Waste produced

The main waste generated from electricity production consists of fly ash from fumes treatment, heavy ash and slag, residues from the desulphurization process of fumes and sludge from water treatment.

Most of this waste is recovered. The gypsum from flue gas desulphurization and the coal combustion ashes, produced at the Monfalcone Thermoelectric Power Plant, meet the requirements to be classified as by-products and are therefore managed as such and not as waste.

In 2018, the quantity of waste produced was 50,955 tonnes, an increase of 12% compared to 2017, mainly due to ferrous materials deriving from demolitions carried out at the Brindisi power plant.

The **recovery percentage is 92%**.

7.4 Natural capital in the Networks & District Heating Business Unit

The Networks & District Heating Business Unit provides networked services throughout the country, such as the distribution of electricity, gas, heat, drinking water and the collection and treatment of wastewater. Accordingly, the resources used by this business unit include: electricity, natural gas, water, fuels for heat generation, as well as automotive fuels and chemicals for plant operation and water treatment in the Integrated Water Service.

Fuel

The fuel most used in the Networks & District Heating BU is natural gas. The Lamarmora plant of Brescia also uses coal, consumption of which has remained unchanged on that recorded in previous years.

As can be seen from the table below, in 2018, there was a decrease in all fuel consumption used by the BU, mainly due to the spin-off of the Varese Risorse activities and, to a lesser extent, a

decrease in energy production at the Lamarmora and Tecnocity cogeneration plants.

Natural gas is also used for transport, with a significant increase in consumption in 2018 (+35%), while the consumption of gasoline for transport has decreased by as much as 17%. This is due to the intense programme of replacement of vehicles started by Unareti last year, which will lead, in 2023, to have 66% of the "green" fleet with methane, euro 6 or electric vehicles.

Figure 31_Fuels used in the Networks & District Heating BU (TJ)

SOURCE	2016	2017	2018
Natural gas	2,804	4,215	3,830
Coal	1,846	1,828	1,781
Petroleum derivatives (heavy fuel oil, diesel)	0.5	0.3	0.1
Biogas (from the Group's treatment facilities)	7	7	6

The water resource

In the Networks & District Heating BU, water is a central resource, used both for the provision of the Integrated Water Service and for the provision of district heating and cooling services.

Part of the water supplied (728 thousand m³ in 2018) is also used to cool the electrical substations in the Milan area.

In order to improve the management of water resources supplied for drinking water purposes, in 2018, a process was launched to reduce water losses from the water supply network. In order to reduce the actual losses, about 30 km of the network were replaced in 2018. In addition, activities aimed at reducing the operating pressure on the networks have been carried out; new minimum pressure levels have been identified for about 9 municipalities, whose aqueduct structure has made it possible to intervene on the entire network (see also page 70).

In the integrated water service, the water withdrawn in 2018 was reduced due to the separation of the Aspem water service.

On a "like-for-like perimeter basis", on the other hand, there was a slight increase in the amount of water supplied (+5% compared with 2017), for a total of almost 54 million m³. Network losses, including water not accounted for, still represent a significant volume of almost 41 million m³, but a reduction is expected as a consequence of the actions undertaken by the Plan.

In order to guarantee the quality of the water distributed, **almost 5,300 controls were run per million m³ of water supplied, corresponding to 12,900 samples taken and 284,500 parameters analysed.**

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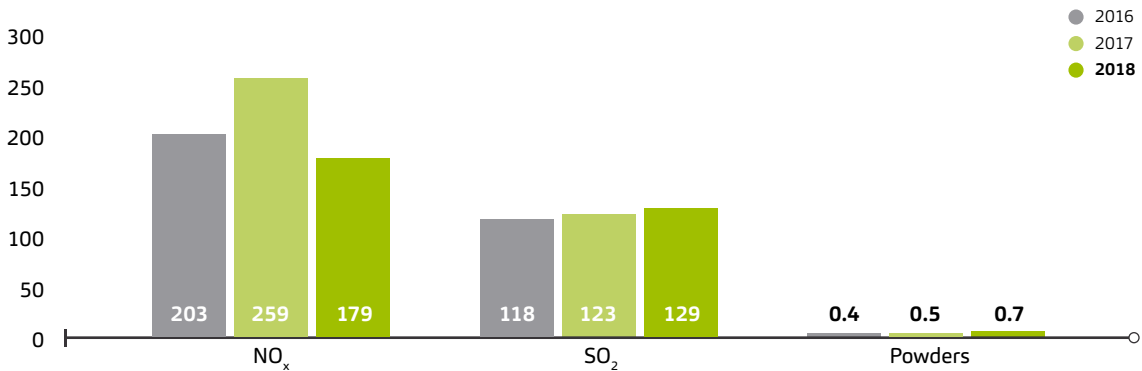
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Atmospheric emissions

The atmospheric emissions of the BU are mainly due to the production of thermal energy and electricity.

In 2018, NO_x emissions decreased by about 31%, due both to the lowering of the authorized limits at the Lamarmora power plant and to the efficiency of the flue gas treatment systems (DeNO_x) at the Rho cogeneration plant.

Figure 32_Emissions produced by the Networks & District Heating BU (t)



In order to improve the environmental aspect of emissions into the atmosphere, some interventions are planned on the district heating system of Brescia, which will make it possible to ensure the need for heat to users without resorting to coal combustion.

BRESCIA TOWARDS DECARBONISATION

In order to contribute to the decarbonisation objective expressed by the Group in its Sustainability Policy, innovative plant interventions have been planned at the Brescia waste-to-energy Plant, the Lamarmora Power Plant and the North Plant, which will allow the elimination of the coal requirement in the district heating system by the end of 2022.

The implementation phases consist in the construction of heated water storage tanks (see page 72) to reduce heat requirements at peak loads, the construction of a photovoltaic system at the Lamarmora power plant to reduce energy withdrawals for self-consumption, the expansion of the DeNO_x of the Lamarmora power plant to halve emissions up to 80 mg/Nm³ to ensure optimal operation until 2022, the recovery of heat from industrial sources and the implementation of heat recovery technology from flue gas cleaning on all 3 lines of the waste-to-energy plant.

The expected results in terms of impacts on the atmosphere are significant: a 50% reduction in nitrogen oxides, a 40% reduction in dust and a 90% reduction in sulphur oxides; a 105,000-tonne saving in CO₂ emissions per year; regarding fossil fuel consumption, a reduction of 15,000 toe/year will be achieved.

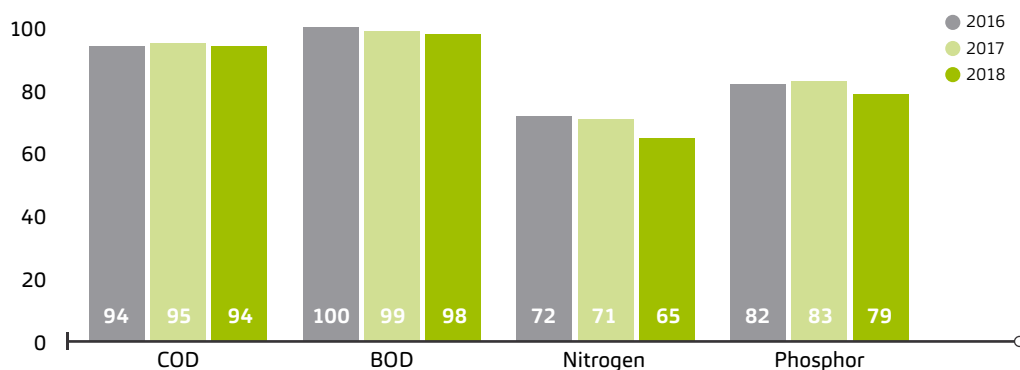
Methane leaks due to leaks in the gas distribution network increased (+11% compared to 2017) due to a higher number of leaks found in 2018 on the spheroidal graphite distribution network. Unareti has developed a plan for the reduction of these leaks, with planned interventions on the network and the use of new technologies for the prediction of leaks (see also page 115).

Discharged water and emissions to water

The discharge of industrial wastewater into the surface water body in 2018 corresponds to a total of about 251 thousand m³, with an increase, mainly found in the Lamarmora and North power plants, compared to the previous year (+75%), although the organic load brought to the environment remains very modest (about 1.2 tonnes of BOD). During the year of calculation, 3,068 m³ of water was recovered within the production cycles.

As part of the integrated water service, the BU in the province of Brescia manages the waste water collection and treatment processes. The removal efficiencies of pollutant loads (COD, BOD, Nitrogen and Phosphorus) are in line with those recorded in previous years, with the exception of an apparent slight decrease for nitrogen and phosphorus linked only to the statistical significance of the analytical data (i.e. a greater number of samples that contribute to the average concentrations).

Figure 33_Purification performance (%)



Waste produced

In 2018, the Networks & District Heating Business Unit produced a total of 39,300 tonnes of special waste. Of these, only 321 tonnes are hazardous waste, with a modest increase (+7.1% compared to 2017) due to the disposal of end-of-life electrical and electronic equipment.

Given the nature of the waste itself (sewage sludge, ash, scrap and equipment) the **percentage of recoverable waste remained around 91%** even in 2018.



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8 Human capital



INPUTS

11,196 employees	2.5 million euro in investments in training
Work-life balance projects – 954 people involved in the Smart Working project – 8,400 days worked in a "smart" way	Change management initiatives - ABC project - Supply Chain skills laboratory - Team building
	103 thousand hours of training on health and safety and awareness campaign "La sicurezza nasce dal pensiero"

Financial capital

Manufacturing capital

Natural capital

Human capital

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A2A SERVICES AND PROCESSES



920 new employees , of whom 40% under 30	20.3 hours of training per capita (+8.6% on 2017)	4.4% absenteeism rate (-11% on 2017)
Accidents 29.14 Frequency index (-8.4% on 2017) 0.71 Severity index (-13% on 2017)		7.55% turnover rate (+28% on 2017)

OUTCOME

PROTECTION OF HEALTH AND SAFETY AT WORK

Promotion of practices and systems for the management of health and safety at work, the monitoring of incidents and prevention measures, also through training in health and safety, for both employees and contractors.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Risks to the health and safety of workers and third parties.</p> <p>Non-compliance with applicable regulations.</p>	<p>Technological solutions to make ordinary operations safer and less burdensome, with benefits also for longevity of work.</p>	<p>Continuous monitoring of the matter thanks to the presence of the dedicated EHS structure.</p> <p>Delivery of dedicated training on health and safety.</p> <p>Activation of dedicated programmes and procedures in line with that required by current regulations.</p> <p>Application of ergonomics to operational waste collection activities.</p> <p>Controls on contractors' sites.</p>	<p>Awareness week on environmental, health and safety issues established.</p> <p>New editions of the LiHS project.</p> <p>A specific module on contract management, in the field of security, was delivered.</p> <p>Smart DPI project, mobile alert system for the correct use of the same.</p>	<p>PEOPLE INNOVATION - Health and safety</p>

DEVELOPMENT OF HUMAN CAPITAL

Promotion of professional development and attraction and retention of talents; creation of development and training opportunities aiming to strengthen technical, managerial and organisational skills of employees; activation of systematic systems for listening to employees, promoting dialogue and collaboration initiatives.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Possibility of significant middle management and technical staff leaving.</p> <p>Loss and poor optimization of managerial skills.</p> <p>Non-compliance with employment law.</p> <p>Failure to integrate the human resources management systems (e.g. management and employee assessments) and matters relating to sustainability.</p>	<p>Not yet identified.</p>	<p>Mapping of roles and profiles, identifying the resources of greatest value (talents and key people) on the basis of specific indicators and specific management plans.</p> <p>Introduction of job rotations, training and initiation plans of resources with competence/professionalism not present in the company.</p> <p>Development of initiatives aiming to increase the visibility of middle/top management in corporate processes.</p> <p>Adoption of suitable compensation systems with respect to the market benchmarks.</p> <p>Continuous monitoring of the main news and/or changes in employment law and related communication with employees.</p> <p>Implementation of performance assessment and dedicated employee training.</p> <p>Adoption of policies for the assessment and remuneration of employees with respect to sustainability performance.</p> <p>Continuous integration of sustainability elements in the corporate MbOs (Management by Objectives).</p>	<p>The ABC managerial development project continued, with the provision of two training modules.</p> <p>Induction path dedicated to new recruits, to get to know the Group better.</p> <p>Launched the program "Young Talent", the first A2A Community composed of young people chosen by the Management as testimonials of energy and potential.</p> <p>The "Supply Chain Competence Laboratory" path has started.</p> <p>Over 227 thousand hours of training were provided</p> <p>A survey was carried out to assess the level of satisfaction perceived by internal customers with regard to the services of the staff structures.</p>	<p>PEOPLE INNOVATION - Change Management - Training - MbO</p>

DIVERSITY AND COMPANY WELFARE

Development of working conditions and practices able to ensure equal opportunities to all employees, including through a generational bridge that enables the transfer of knowledge and experience between junior and senior populations; promoting the well-being of employees through welfare policies aiming to guarantee a good working environment and a conciliation of private and professional life.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Possibility of discrimination and lack of respect for a work-life balance.</p> <p>Little attention to employee well-being.</p> <p>High employee turnover.</p> <p>Failure to oversee the incorporation of employee expectations and needs, with consequent staff dissatisfaction.</p>	<p>Legislative and regulatory framework that facilitates the promotion of employee well-being, welfare policies aimed at ensuring a good working environment.</p> <p>Opportunities related to the reintegration of workers with work disability / occupational illness.</p>	<p>Development of actions able to favour diversity, a conciliation of private and working life (e.g. Smart Working) and employee well-being.</p> <p>Activation of specific projects to increase awareness and knowledge of diversity matters in the company.</p> <p>Optimisation of matters of respect and social inclusion.</p> <p>Funding programmes to reintegrate workers with work disability / occupational illness and to adapt their workstation / operational means to the renewed employment needs of people.</p>	<p>New program "Tempo per le famiglie" at the company nursery in Brescia.</p> <p>The smart working project has been expanded to cover 954 employees.</p> <p>Launched the welfare platform to convert the performance bonus into goods and services for supplementary pension provision.</p> <p>Introduction of the figure of the "Disability Manager"</p> <p>Launched the PassoIO project dedicated to sustainable mobility.</p>	<p>PEOPLE INNOVATION - Internal engagement - Welfare</p>



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8.1 Responsible management of human capital

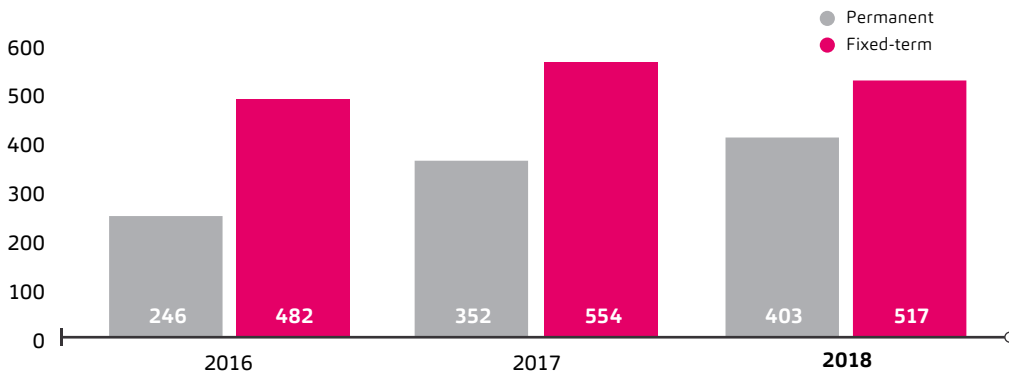
The A2A Group acknowledges that its human resources are a focal, distinctive point of all the business strategy and has defined a development plan on this basis, aiming to optimise their quality and skills, on the basis of a selection, training and management process and remuneration systems.

As at December 31, 2018, the total workforce of the A2A Group numbered 11,196 people. Compared to 2017, the number of employees decreased by 2% mainly due to the removal of the Aspem Group from the scope of consolidation.

In 2018, 920 new employees were hired and 845 left. The total number of hires compared to the previous year remained almost constant (+1.5%), while the number of employees leaving the company increased (+25%), mainly due to retirement (accounting for 31% of the total) and the termination of fixed-term contracts (41% of the total), linked to the seasonality of some waste collection tasks.

Work stability remains a Group prerogative. 95% of Group employees are hired on permanent contracts; just 5% are on fixed-term contracts.

Figure 34_Hiring by type of contract



The staff recruitment process is supported by **Employer Branding** activities, aimed at constantly consolidating the image and appeal of A2A on the employment market.

As regards the activities carried out with the University, in 2018, a total of 35 events were organised, including 13 career days and 22 round tables, testimonials and guidance activities. Moreover, as for the previous years, the listening activity continued with an on-line questionnaire aiming to gain a better awareness of the positioning of the A2A Group on the employment market.

Thanks also to the collaboration of universities, schools and research entities, in 2018, 44 internships and 147 apprenticeships were activated.

To increase the opportunities for development and internal mobility, during the year 65 searches were performed using the job posting tool (-20% on 2018), of which 42% were successful, as well as 15 searches still in progress as at December 31, 2018.

A2A ONE OF THE BEST COMPANIES TO WORK AT IN ITALY IN THE RAW MATERIALS, ENERGY, PROCUREMENT AND DISPOSAL SECTORS

In 2018, A2A is one of the best companies to work at in Italy in the Raw Materials, Energy, Procurement and Disposal sectors. This important result comes from a survey conducted by the magazine Panorama, in collaboration with Statista, which interviewed 15 thousand people employed in over 400 companies in Italy. The companies involved in the survey have at least 250 employees and operate in 21 sectors of activity.

Among the questions raised by the survey, great importance was given to the willingness to recommend to others the company in which you work and this aspect has allowed A2A to be among the best companies to work at.

SCHOOL-WORK ALTERNATION

The year 2018 saw the continuation of the project launched in December 2016 that involves approximately 350 students and 12 schools (11 Technical Institute and 1 High School) throughout national territory. The project envisaged a series of meetings, at each school involved, with testimonials by industry experts of A2A and interventions by the A2A Group Civil Protection Volunteers Association. In particular, in the summer, 94 internships were completed, in which young people took

part in company activities, both at Group plants and offices. In 2019, the young people will conclude their journey during the third year with the implementation of the project work.

A few numbers related to the project for the year 2018:

- **16,200** hours of internship in our offices;
- **4,516** hours of training delivered at schools;
- **23** "sector experts" involved.

Trade union agreements

Relations of all A2A Group employees are regulated by National Collective Bargaining Agreements.

In 2018 too, multiple trade union agreements were stipulated, divided into those of a transversal nature to Group companies and other specific ones of some realities. The following are the main ones:

- **Smart Working Agreement:** with this agreement A2A has regulated the rules for the use of smartworking within the Group, also in line with the new legislation introduced in 2018; this agreement, signed for all companies in the Energy Area, has also been applied in the same terms in the Environment Area;
- **Creation of an Observatory on Training for the Energy Area:** a mixed body (company and workers' representatives) has been created to develop a system of dialogue on training;
- **Definition of working hours for the Energy Area:** specific agreements were reached with trade union representatives in order to identify the best possible hourly solutions in relation to business situations and within the framework of an overall harmonization process for the Group;
- **Establishment of A2A Recycling:** a complex transfer of companies involving 121 employees and 6 companies with the aim of bringing together in a single entity the management and development of sales/after-sales activities for

logistics services and the recovery/disposal of differentiated fractions of special waste;

- **Incorporation and simultaneous harmonization of Linea Com in Smart City:** completion of the transfer procedure between the two companies, finalizing the trade union procedure required by law and immediately tracing a path of harmonization of the main institutions in line with the new organization.

It was also agreed with the national labor unions in an additional logic and not a substitute for initiating a reorganization process aimed at harmonizing and enhancing the performance of goods and services currently offered by the company and by business recreational circles, in particular through:

- 1) a single corporate recreational club - Energy Area: discussions with the labor unions have begun in order to arrive at a single management model for recreational services at a national level, through a single Cral, with local structures, in compliance with the provisions of the law, with a gradual process of homogenization of initiatives in favour of employees;
- 2) a single system of supplementary health care - Energy Area: discussions with the labor unions have begun in order to identify, in line with the process of gradual harmonization within the Energy Area, a single method of managing supplementary health care services for employees.

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8.2 Health and safety at work

98% of employees work according to the Health and Safety at Work Management System OHSAS 18001. All companies of the A2A Group organize, during the year, regular meetings with the Employer, Appointed Physician, the Prevention and Protection Service Manager and the Workers' Safety Representative in representation of all workers, during which the following matters are discussed:

- risk assessment document;
- trend of injuries, occupational diseases and health surveillance;

- criteria for the choice, technical characteristics and effectiveness of the personal protection equipment;
- information and training programmes of managers, safety officers and workers for safety and the protection of their health;
- codes of conduct and good practice to prevent risks of injuries and occupational diseases;
- objectives for the improvement of health and safety at work.

LA SICUREZZA NASCE DAL PENSIERO (SAFETY STEMS FROM THOUGHT)

From June 4 to 8, 2018, was the **first week dedicated to the Environment, Health and Safety of our Group**, five days in which almost 80 Group offices were involved in a communication campaign through installations, murals, stickers and totems. Great participation from the whole company, with over 100 colleagues involved in the distribution of gadgets.

The initiative, which is part of the process of cultural change launched in the areas of the environment, health and safety, through many activities aimed at spreading the correct behaviour to be adopted in all daily activities and further underline the Group's commitment to HSE issues which, as expressed in the slogan adopted, "safety stems from thought".

Also in 2018, initiatives to raise awareness on safety were pursued with a view to speeding up the cultural change that affects worker conduct, not only in order to generate greater awareness and responsibility, but also to create real, proper safety leaders. Specifically, to complete the LiHS (Leadership in Health and Safety) Program, the last phase on "Fundamental Behaviours" in the Networks & District Heating BU was launched and the cascading phase in the Generation BU and the Environment BU was completed.

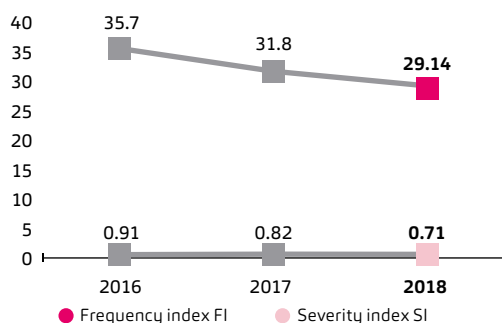
In order to make the LiHS Programme more effective also in the world of collection and environmental hygiene, it was decided to produce a specific film for the companies of our Group operating in that sector, with the main objective of making operators aware of safety at work. Filming was carried out in Milan in July and the preview of the film "Pensa alla Vita!" (Think of Life!) was shown on November 30 in the presence of the top management of the companies involved. The film will be used in the LiHS program scheduled for 2019 in AMSA and APRICA.

Again as part of the initiatives to raise awareness on HSE issues, a specific module on contract management was designed and delivered, in which 73% of the members of the employers' lines of the various Group companies participated.

In 2018, the results of the accident indices show a marked improvement compared to the previous year, with a decrease in the accident frequency and severity indices of 8% and 13%, respectively.

More than 90% of accidents occur in companies that carry out environmental hygiene activities.

Figure 35_Accident indices



Contractor workers

In 2018, 22 injuries were recorded to **workers of contractors**, with a prognosis of more than three days to recover, for a total of 169 working days lost. This translates into a frequency index of 9.72 and a severity index of 0.07.

The increase in the number of injuries (7 more than last year) was accompanied by a reduction of more than 53.5% in their severity.

The constant attention paid to the promotion of safety, also amongst external contractors working at the Group plants was seen in 2018 also through the provision of more than **3,876 hours of specific training** to approximately **1,291 people**.

TECHNOLOGICAL INNOVATION WITHIN THE SCOPE OF SECURITY

Technological innovation and in particular smart technologies can become useful tools to improve and make more efficient prevention and protection in the workplace, both in terms of information/training and monitoring compliance with procedures, as well as in the management of emergencies.

In this regard, several pilot projects have been launched (and others will be launched in 2019)

for the introduction of technological tools for the purpose of awareness raising, prevention and control.

Examples of this are the Smart DPI project in the Networks BU, the alert with geolocation of man on the ground in progress in the Generation BU, the use of smartphones and tablets to report unsafe situations and near misses (see also page 118 of the Intellectual Capital).

THE BASICS OF FIRST AID

In emergency situations, appropriate and timely intervention can be decisive for the survival of an individual, and vice versa, incorrect rescue operations can compromise the success of subsequent treatment. For this reason, LGH has decided to organize a basic course able to provide information and techniques aimed at life-saving interventions for all interested personnel.

In addition, aspects related to intervention in the paediatric field have been examined in depth. During 2018, the first sessions were held with the participation of 70 workers. New dates will be scheduled for 2019 at all LGH Group locations.



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Worker health surveillance

The Group constantly monitors, through health monitoring, the health of workers in relation to the specific risk for the various tasks present at the workplace.

The health surveillance service is offered mainly in the approximately **65 medical units** distributed throughout national territory, and with authorised external facilities. In 2018, more than **8,600 medical examinations** of fitness for the job and 2,500 drug tests were carried out, in addition to **16,000 checks** in accordance with health protocols. In addition, **75 specialist visits** were carried out, mainly to determine the need for the assignment of personalized personal protective equipment (PPE). The competent doctors also carried out **119 inspections** at the workplace and opened 9 procedures for occupational diseases.

In 2018, the A2A Group took part in initiatives seeking to promote health in the workplace, continuing to adhere to the WHP (Work Health Promotion) programme promoted by the Lombardy region, through:

- **influenza vaccination campaign** for employees in order to prevent the spread of influenza through the administration of the flu vaccine;
- **promotion of physical activity** through the training of the Health team (nurses and doctors) to promote physical activity to overweight/obese and/or sedentary workers during the periodic visit or on request;
- **project on ergonomics in the waste collection activity** consisting of 3 main phases:
 - analytical, focused on the collection of available data and the different evaluations already carried out;
 - project, aimed at creating an adequate and applicable standard that can be used for the entire corporate Group;
 - application, which will constitute a standardized update of the Risk Assessment in question for the entire Group.
- **a cardio protection program** that led to the purchase and installation of 36 defibrillators at Group sites and the training of more than 300 laic rescuers.

8.3 Employees development

A2A has always paid careful attention to the development of human resources, as it acknowledges that people are right at the heart of the processes necessary to achieve the business objectives and create shared value. In this sense, over the years, an articulated assessment system (performance management) has been implemented, which has become the basis for the definition of development routes for individuals or professional groups. The cornerstone of the new "**people strategy**" is the dissemination of a more entrepreneurial managerial culture, with the aim of attracting, developing and keeping human capital.

Continuing on from the action taken in 2016, 2018 saw A2A pursue and implement numerous change management and personal development initiatives.

ABC project

The **ABC managerial development project, started in 2016** to involve all employees on three key issues: listening, need, change.

In 2018, the third phase began with the implementation of numerous initiatives:

- **training course for management** > the first two training modules "Management and development of employees" were provided, aimed at developing a consistent and effective style and model of management of employees with respect to the current challenges in A2A ("smart management") and "Simplify and Collaborate", aimed at encouraging collaboration between people and simplifying activities. The first module has been completed by all those responsible, the second module will be completed for all by 2019;
- **induction course** > dedicated to newly hired professional graduates under 35. The second edition, which began in May, ended in November and involved about 80 young people hired between 2017 and 2018. Two webinars were set up to present the induction process and to provide a deeper understanding of the A2A Group and its businesses, with particular reference to the strategic plan guidelines, through direct dialogue with the Group's Strategy Manager. Three workshops for the live stages: the first, "Me and the context", with the aim of facilitating the integration of young people into the business environment, the second and third, "Me and my abilities" and "Me and the future", which had the aim of encouraging young people to become more aware of their skills and how to best express them in the company;
- **"Young Talent" path** > in September 2018 the "Young Talent" programme was launched, the first A2A Community made up of young people chosen by Management as testimonials for their energy and potential. A developing community, made up of 130 graduates under 35, who hold professional positions and that will continue to develop in the future with young people with potential who will join the Group and want to get involved with initiative, concreteness and desire to achieve challenging goals. The Young Talents were involved in a survey, the results of which were discussed with the participants in order to better define

their path. At the end of 2018, the programme was launched with training actions and *ad hoc* projects that will see them involved in 2019 in webinars on business issues, webinars of periodic updates, breakfast webinars with management, launch of thematic working groups.



Supply Chain Skills Laboratory Project

In 2018, on the basis of the project carried out within the Generation and Trading BU, "The Supply Chain Competence Laboratory" was launched, with the aim of maintaining the know-how of the area, enhancing the knowledge and technical skills of all members of the professional "Supply Chain" family. In particular, the phase of self-census of skills by employees was completed. The results of this first phase were shared during a dedicated workshop with the participation of the management and all the people involved. Following the mapping of skills, training and development activities were defined and are currently being implemented.

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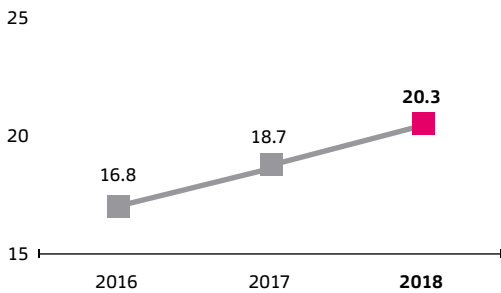
Training programmes

Through **training**, the A2A Group aims to stimulate and expand upon its employees' professional skills.

In 2018, more than **227 thousand hours of training** were delivered, for an average of **20.3 hours per person**, up 8.6% on 2017. The significant increase mainly involves middle management and managers and is connected with the managerial development project and the increase of participants in language training. Overall, 85% of Group employees received training during the year.

Differently to previous years, the investment made in training (approximately 2.5 million euro), includes the costs incurred by other Group companies. In 2018, 29% of training costs were covered by interprofessional funds.

Figure 36_Average training hours per person



Some of the main training courses launched in 2018 were:

- Offering techniques and consuasive communication:** dedicated to the people who work at the Call Center and the Front Office of A2A Energia, aimed at developing techniques for offering **ancillary goods** (kit of energy-saving LED bulbs) and new **services** related to the world of energy (e.g.: boiler maintenance, repair of large appliances, air purifiers). The programme involved 215 employees with various training sessions for a total of approximately 1,140 hours of training;
- Updating of the regulations** for the people of the Corporate area on the legislative evolutions of Legislative Decree 231/01 and on the subject of Privacy. These two initiatives saw respectively 4,631 participations, for a total of 4,175 hours of training, and 4,360 participations for a total of 4,378 hours of training;
- Mistral:** a course that involved 3,335 hours of training, on the *agile methodology*, a founding element of the Operational Excellence programme, which alternates traditional classroom moments with experiential paths of redesigning the process in the field, with the possibility of immediately applying, in one's own role, the new methods learned;
- Advanced computing:** training courses have been created, for a total of 6,164 hours of training, aimed at using the new management systems adopted in the company.

TEAM BUILDING M&A: A LIFE EXPERIENCE WITH A2A CIVIL PROTECTION VOLUNTEERS

In May 2018, colleagues from A2A's Mergers & Acquisitions division took part in a team building session at A2A's new Civil Protection headquarters in Lovero during which they were involved in the creation of a "base camp" in emergency situations. The following day the group went to Grosio to identify potentially dangerous hydrogeological situations and visit the plant.



8.4 Internal communication and listening

In 2018, the communication campaigns of the most important Group projects continued, through news, magazine articles, videos in shared spaces, leaflets, dedicated blogs, questionnaires, live meetings and webinars. Below are the most important activities.

AD Incontra

The initiative that enables the CEO to meet and get to know the employees of A2A, finding out more about projects currently in progress and sharing with them the Group themes and strategies continued in 2018; the CEO met with colleagues of the sites of Via Caracciolo and the Canavese Plant in Milan.

Survey on staff services

In 2018, a survey was carried out to assess the level of satisfaction perceived by internal customers with the services of staff structures, as well as knowledge of the processes, roles and responsibilities associated with them. The questionnaire made it possible to evaluate each internal service in terms of effectiveness, proactivity, problem solving and timeliness.

inA2A – Digital Workplace

@ina2a is the new A2A Intranet, online since September 28, 2018. Its launch was preceded by a pilot phase that began at the end of June and involved over 500 colleagues. Today, there are about **6,400 users enabled to browse**.

Several innovations were introduced by inA2A. The digital workplace, which can also be consulted from a company smartphone, **recognizes the user** at the time of access and allows immediately finding a series of features and services without the need to enter credentials. In addition, each employee can customize their own work "dashboard", selecting the ten most useful applications for their daily work. A dedicated page tells the story of the employees: it can be customized with your own photo, your hobbies and a range of personal information.

Another feature, linked to user recognition, is **content profiling**. With inA2A it is in fact possible to create news, web pages, service notices, visible to all users, but also accessible only to certain groups of colleagues, identified for example by Business Unit, by company or by place of work.

The new portal also introduces a series of "social" **features**, such as the ability to comment on news, respond to those of other colleagues, tag other users, "like" and save your favourite content in your personal profile through a bookmark.

In terms of interaction and active participation of users, inA2A has also implemented **virtual communities** in which selected groups of users can interact directly through the creation of posts, sharing documents, photos and videos and the ability to post comments or respond to those of other users. The users of a community can be identified taking into account the structures to which they belong, but also through the Group's transversal projects of which they are an active part.

Finally, in the new digital workplace inA2A, a new version of the A2A e-learning platform is available, with the possibility of accessing online courses, teaching material and webinars through new, more intuitive graphics that can also be used from smartphones.

The continuous updating of the Intranet will serve to facilitate and simplify the work of colleagues and to make inA2A the main tool to carry out their daily activities and to stay up to date on the world of A2A.

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8.5 Welfare and diversity

The Group believes in optimising diversity by identifying and overcoming all stereotypes linked to gender, age, disability, ethnic origin, religious beliefs and sexual orientation. A2A ensures working rights for people with disabilities, as required by current legislation. 477 persons with disabilities were employed by the Group in 2018, of whom 24% women.

Also as regards the work-life balance, the Group meets

the needs of employees, in 2018 granting **350 part-time** solutions (3% of all employees), of whom 79% are women. A total of **533 parental leaves** have been agreed, 26% more than 2017. 90% of the people granted parental leave in 2018 returned to work in the same year.

The offer in terms of company welfare comprises numerous services offered to employees:

A2A SOCIAL POLICIES	
Work-life balance services	<p>Mobility services: again in 2018, beneficial tariffs were applied for the purchase by employees of subscriptions with public local transport services; 1,024 subscriptions were taken out.</p> <p>Company daycare at the Lamarmora office in Brescia: in 2018, 23 children of employees were registered. In addition to this service, there is also the "Tempo per le Famiglie" programme, an educational service that welcomes children and their parents at the same time, or any other reference family figure. It is a moment during which children have the opportunity to get in touch, compare and live experiences with a stable group of older and younger children, share emotions and build knowledge together, experimenting with playful proposals attentive to their needs and interests. Parents who choose to access Tempo per le Famiglie have the opportunity to share their experiences with other parents and observe their child in a social context, dialoguing with educators.</p>
Health and well-being services	<p>Social-psychological assistance services: present in 14 sites of the A2A Group. In 2018, the service involved 2,956 employees.</p>

In 2018, work at A2A became smarter and smarter. Thanks to the positive results of the pilot phase started in 2016, which involved about 250 employees, A2A decided to expand the Smart Working project and shared, also with trade union representatives, the extension of the perimeter of the people involved, which became 954.

Smartworking has become synonymous with greater responsibility and allows a better balance between private and working life.

In a nutshell, the most significant numbers of these early stages of the project:

- 9.2, on a scale from 1 to 10, the level of satisfaction of the initiative;
- 99% of the employees involved said they would continue to work in this way;
- 8,400 days worked in a "smart" way;
- about 32 hours and 1,100 km of travel saved by each "smart worker" in a year;
- 11 tonnes of CO₂ avoided in the atmosphere due to lack of travel.

On October 30, 2018, A2A, by virtue of its commitment to this issue and its ability to innovate this way of working, was awarded by the Smart Working Observatory of the Politecnico di Milano with the **Smart Working Award 2018**.

In addition, in 2018, a **welfare platform** was launched for all Group employees to allow the introduction of conversion welfare, i.e. the possibility of converting performance bonuses into goods and services and/or supplementary pension schemes within the limits set by law.

F.A.S.I. PROJECT

The F.A.S.I. project was completed in 2018, (Training - Accompaniment - Awareness raising - Inclusion) to which A2A, together with other companies present in the Lombardy Region, had adhered in the second half of 2017. Promoted by AFOL Milano (Agenzia per la Formazione, l'Orientamento ed il Lavoro) and with Assolombarda as its partner, the project has promoted the introduction and training, within the participating companies, of the "key" figure of the **Disability Manager**. In the role of "facilitator" of the relationship between the company organization and the person with disabilities, the Disability Manager represents the figure capable of managing a process aimed at finding solutions for situations of "discomfort/disability" found within the company context. By launching this "pilot" project, A2A intends to promote further initiatives in this direction in 2019. This project has allowed A2A, during the *Career Day* held on June 5, 2018 at the Luigi Bocconi University in Milan and reserved for the employment of people with disabilities and belonging to protected categories, to obtain the recognition of the **"Diversity Inclusion Award"**.

With regard to the activities of the mobility manager, in May 2018 a **survey** was carried out **to map home-work travel** and the propensity to change modes of transport to all A2A employees in order to **acquire both the information necessary for the launch of the carpooling service** and useful elements for the **drafting of the HWTP (Home-Work Travel Plan)**. At the end of 2018, the relative HWTP were delivered to the representatives of the Municipalities of Milan, Brescia and Bergamo with the proposal of some initiatives that the Group intends to implement.

PASSOIO – CAR POOLING IN A2A

Following the survey carried out in 2018, A2A has implemented experimentally for the period September - November 2018 and for the company offices in Olgettina (MI), Via Lamarmora (BS) and Via Suardi (BG) the **"passoio" project dedicated to sustainable mobility**.

The project through a special application allowed to:

- share the private car for home/work travel with colleagues of the A2A Group and with employees of other companies;
- be both "Rider" (passenger) and "Driver" (driver);
- have visibility of colleagues who have planned similar home/work routes.

As an incentive to use the app, the project has provided for the allocation of fuel vouchers to employees who will make the most monthly trips, sharing them with the largest number of people.

Those who took part in the project used dedicated parking spaces at their premises (subject to availability). Thanks to the app you can also view the available parking spaces, directly booking parking for each planned trip.

In just 2.5 months, 2,415 euro of incentives in fuel vouchers have been given to A2A *CarPoolers* and about 7 tonnes of CO₂ have been saved.

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8.6 Remuneration

A2A provides new graduates with the minimum remuneration established by the level of classification of the Collective Contract of reference; for qualified figures with experience, remuneration is disbursed that is in line with the market standards and internal remuneration practices, which guarantees both an adequate level of external competitiveness and internal fairness. In defining the type of contract and salary, A2A complies scrupulously with Italian legislation, which excludes any distinction of gender in remuneration. As in previous years, the differences in average remuneration within the different qualifications are minor.

Figure 37_Average salary of men/women by category in Italy (%)

CATEGORY	2016	2017	2018
	MEN/WOMEN	MEN/WOMEN	MEN/WOMEN
Managers	102.3	103.7	102.7
Supervisors	95.7	96.0	95.7
White-collar workers	89.6	89.4	90.4
Blue-collar workers	92.7	95.3	95.8

The Group's remuneration policy is mainly conceived to acknowledge and optimize the commitment, constant achievement of results, competences and behaviour of employees in line with the Group's Managerial Model and to guarantee the correct remuneration positioning of people in connection with their duties.

For all employees, remuneration is structured into fixed and variable monetary components and provides for a package of benefits in support of income or similar such additions (medical and social security insurance, projects and initiatives for employees and their families, promotions and benefits of various types). The variable monetary component is based on systems of a direct connection between company performance and individual performance ("MbO") or on discretionary mechanisms for the recognition of working performance and conduct in terms of "one-off" bonuses.

In view of the increasing optimization of its Human Capital and transparency towards the corporate population, in 2018, the entire process of Remuneration Policy was carried out with the support of a dedicated corporate software (SmartPeopleA2A).

This has allowed direct involvement of all managers and greater sharing of remuneration decisions.

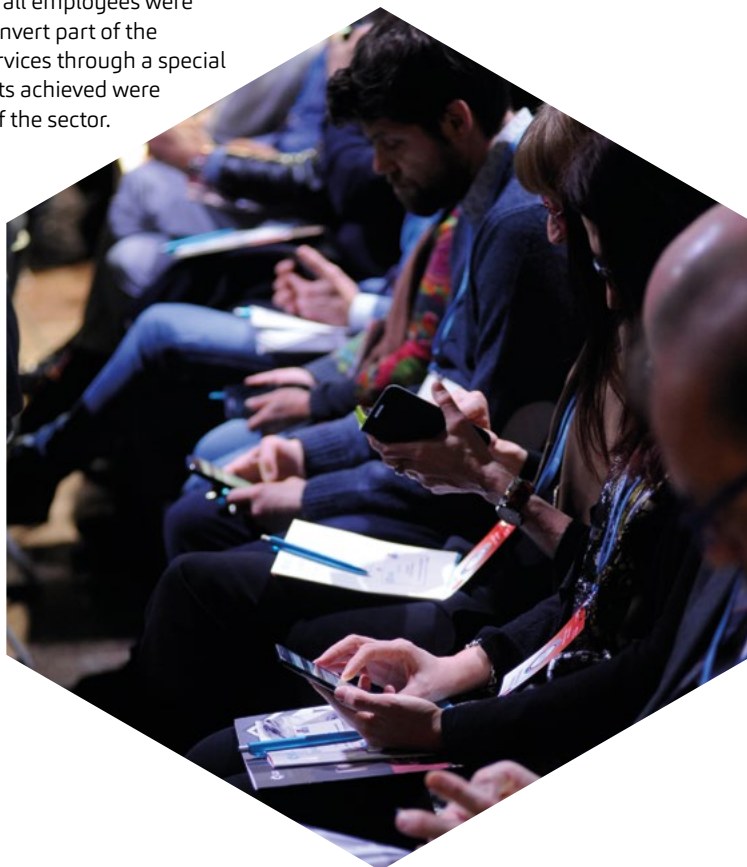
With a view to sustainability and dematerialization, at the end of the process, all communications relating to payroll operations were made available directly on the SmartPeopleA2A system, allowing managers and employees to consult digitally.

To involve employees more closely in the Group's objectives and motivate each workers towards the achievement of company results, the **MbO system** has been further extended to include more and more people, in 2018 reaching around **100% of managers, 30% of middle managers and 2% of employees**. In addition, a revision of the population inclusion criteria has been launched with the aim of further extending the beneficiaries in 2019.

In line with the objectives of the A2A Group Business Plan, also extraordinary incentive plans continued for the sale of energy efficiency services and incentives aimed at the achievement of the objectives of optimizing smart city technologies.

The variable remuneration system is also supplemented by a collective incentive tool (**results bonus**), which is based on Group productivity and profitability goals, aimed at guaranteeing the involvement of all staff, including those not assigned MbOs, in company performance. In line with current legislation and following an agreement with the workers' representatives, from 2018 all employees were given the opportunity to convert part of the performance bonus into services through a special welfare platform. The results achieved were positive in line with those of the sector.

Finally, in order to facilitate the implementation of the Sustainability Plan initiatives defined by the A2A Group, confirmed into the **management incentive systems** was a **structured model of sustainability objectives that envisaged the inclusion of at least one sustainability objective into all 2018 management MbOs**.



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9 Intellectual capital



INPUTS

Partnerships with universities for research and innovation projects relating to the circular economy, Smart Grids and Smart Cities

Innova2a Programme, to collect stimuli and ideas from the outside and from internal dialogue

Participation in networks and initiatives on innovation issues involving start-ups, research centres, universities and large companies

Investments in optimising the internal management and organisation processes

Financial capital

Manufacturing capital

Natural capital

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A2A SERVICES AND PROCESSES



European Project Sharing Cities in the Milan area, approximately 1,200 electricity and gas consumers are monitored and 20 smart lamppost poles with 25 sets of environmental sensors are installed

Experimenting with a machine learning algorithm to develop predictive analysis of gas leaks

Study on optimization of sludge combustion, stabilization of fly ash and characterisation of bottom ash

Shark Tank: 7 projects have successfully passed the test phase and will be extended to the entire Group

Digitalization of internal processes: digital management of the warehouses of the generation plants, smart accesses, digital expenses claim

OUTCOME

TECHNOLOGICAL INNOVATION AND SMART CITIES

Optimization of the Group competences and know-how through research and development activities that stimulate a continuous evolution of services and infrastructures, contributing towards the development and creation of the Smart City of the future, which integrates all energy, environment, water, heat, networks and optic fibre services in a single centre.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Non-achievement of the goals set in the Sustainability Plan.</p> <p>Failure to identify potential business opportunities arising from research, development and innovation activities.</p>	<p>Presence of enabling technological infrastructures for integrated and networked digital services.</p> <p>Integration with the territory as a prerequisite for creating the smart city model.</p> <p>Future orientation, expertise, synergies and infrastructure.</p>	<p>Support to research and innovation initiatives linked to the development of Smart Cities, through cooperation with universities and excellent networks.</p> <p>Involvement of the community and entrepreneurial fabric in research and innovation projects involving production processes.</p> <p>Identification of business opportunities linked to the matter of clean technologies and the development of new solutions in the matter.</p>	<p>9 smart squares were built in the suburbs of the city of Bergamo.</p> <p>2,000 smart parking sensors in Crema and Rho.</p> <p>The first 6,000 smart bins were installed in Milan.</p> <p>An experiment to develop predictive analyses on the spatial and temporal occurrence of gas leaks was launched in the municipality of Concesio.</p> <p>Launch of the internal program Innova2a to collect stimuli and ideas from the outside and from the internal dialogue between the different functions and BU.</p>	<p>PEOPLE INNOVATION - Innovation</p> <p>SMARTNESS IN NETWORKS AND SERVICES - Smart City - Smart Grid</p>

9.1 A2A for Smart Cities

Through its company **A2A Smart City** founded in 2016, A2A seeks to lead the offer of smart, digital services for the city of the future, through **innovative IoT (Internet of Things) digital technologies** to be applied to the management of dedicated territorial services, such as: security, energy savings, environmental sustainability, mobility, etc..

Figure 38_The services offered by A2A Smart City



Bergamo and the smart squares

With the "smart squares" project and the completion of the city's Wi-Fi coverage, Bergamo has reaffirmed its role as an innovative city. The project involved the construction of 9 smart squares in various **suburban areas**, where 9 digital islands with charging points for electronic devices, 153 smart bins, 15 irrigation sensors and 6 control units for monitoring environmental parameters have been installed. The activation of smart services was made possible by the coverage of the city with the LoRa network, the network enabling IoT services created by A2A Smart City in all major cities in Lombardy. The project also provided for the extension of the Wi-Fi service and the completion of several city routes covered by the connectivity service: parks, libraries, meeting centres, pedestrian areas, the entire upper city and Astino.

Brescia Smart Living

The **Brescia Smart Living** project continued in 2018, with the aim of creating and testing a prototype of a **Smart City** for Brescia, i.e. creating a city that is more **sustainable** from an **energy** and **environmental** point of view, in order to improve the quality of life of citizens. The project, which began in 2015 and will run until 2019, sees A2A S.p.A. as the leader, and involves not only numerous Group companies, but also other large, medium and small businesses, universities and research centres.

The testing of new technologies and services, in collaboration with the Municipality of Brescia, was carried out in two districts of the city, the district of San Polino and an area adjacent to via Solferino and is involving about thirty families residing in the two areas. Different types of sensors have been installed in the city and in houses to monitor energy consumption, environmental data, home automation data, the location of different types of services. The year 2018 was dedicated to the collection of data and the monitoring of information flows from the installed sensors and a platform accessible online was designed and implemented by all citizens for public information, and by the families involved for private information only. In 2019, the year of the end of the experimentation, the results of the use of the platform will be evaluated, in terms of access, searched and visualized information and feedback will be requested from families on the project.

Smart area: 28 municipalities in the province of Brescia become smart

The Province of Brescia has chosen A2A Smart City for the project of implementation, realization and management of broadband and narrowband connectivity networks to support the development of **smart city services** in **28 municipalities** in the province. The LoRa infrastructure (currently finalizing the installation of the IoT and Wi-Fi network) will allow the development of the following services: intelligent bins, environmental monitoring, intelligent irrigation, smart building comfort, structural monitoring of the territory and anti-intrusion security. To date, 28 municipalities have joined the project (Alfianello, Borgo San Giacomo, Capergnanica, Chiari, Coccaglio, Concesio, Gambara, Gardone Riviera, Lodrino, Manerba del Garda, Marmirolo, Nave, Ome, Ospitaletto, Padenghe sul Garda, Paderno Franciacorta, Passirano, Pezzaze, Pisogne, Pompiano, Poncarale, Puegnago del Garda, Rudiano, Seniga, Sulzano, Tavernole sul Mella, Tremosine sul Garda, Verolavecchia), but any other interested municipalities may join later, as provided for in the call.

Nearly 2,000 smart parking sensors in Crema and Rho

The **smartparking** project covers the municipalities of Crema and Rho, with the provision of LoRaWAN connectivity on the cities and the installation of 1,267 parking stalls for Crema and 700 stalls for Rho (711 already installed as at 2018). A2A Smart City has activated the operational infrastructure solution for the management of vehicle parking and related services, in two territories where parking is subject to payment, through devices to control the duration of the parking. The infrastructure of A2A Smart City allows the **monitoring and control of the stalls** by the management company GestoPark.

Smart Land: Alperia project

Alperia, the largest energy service provider in South Tyrol, has asked A2A Smart City to build a LoRaWAN infrastructure in the Lower Atesina Valley of the Adige River, in order to implement a **smart land** project in an area with a strong agricultural vocation. The infrastructure for connecting **110 sensors to monitor** the environmental conditions (temperature, humidity, pressure) of agricultural land was then created.

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The main advantages for agronomists and growers have been the improvement of **water** use and **saving**, with the double objective of improving crop yields through a more considered and targeted use of water and reducing costs. A2A Smart City has also offered its technological expertise for three years in order to support the process of transformation of Alperia as referent of the IoT for South Tyrol.

Sharing Cities project

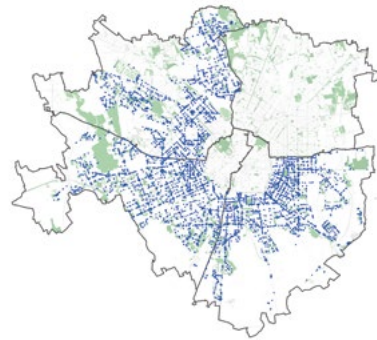
Sharing Cities is a research project in the multi-service area that is co-financed by the EU and which involves the municipalities of Milan, London, Lisbon, Bordeaux, Burgas and Warsaw. The initiative, which started in January 2016 and will end in 2020, has a budget of about 28 million euro. The Group (with its companies A2A S.p.A., Unareti and A2A Smart City) is a primary partner of the project that aims to develop IT platforms capable of collecting information and transforming it into services, thus transforming the idea of smart city into reality. The Group is particularly committed to **promoting the reduction of CO₂ emissions** from buildings and means of transport, through: the active participation of citizens in mechanisms to reduce consumption, the renovation and improvement of buildings, the integrated management of energy production and distribution, electric mobility and the efficient management of public lighting.

To date, in the Milan area involved in the project **about 1,200 users of electricity and gas are monitored**, with the aim of making citizens more aware of their own consumption and reduction. In addition, to date, the LoRa infrastructure has been built in the area and **20 smart lamppost poles** have been installed on which 25 sets of environmental sensors have been mounted: they monitor temperature, humidity and pollution levels.

Smart Bins in Milan

In 2018, the first **6,000 smart bins** were installed in Milan, the technological **containers equipped with sensors that monitor the level of filling**, allowing to optimize the routes of the vehicles for emptying. The positioning and development of the new service management model based on the collection and processing of data from the smart bin will be completed in 2019.

Figure 39_Map of containers positioned in 2018



9.2 Smart Grid

The generic term **Smart Grid** means, in the world of distribution, an **intelligent and coordinated management of distribution networks**. The smart grid is based on the adoption of innovative technologies that include network sensorization, real-time communication between the field and the control room, and the development of management and control algorithms optimized to maximise the system's energy efficiency. In the different areas (electrical, gas and heat) these technologies take different and specific directions and create *ad hoc* solutions. Within the Networks & District Heating Business Unit, Unareti has been a partner of several research projects including the **IDE4L project (IDEal grid 4 all)**, aimed at studying and **implementing advanced solutions for the management and automation of the electricity grid** and co-financed by the European Union within the Seventh Framework Programme. The project aims to define the characteristics of the "active" distribution networks, where there are both passive and active users (prosumers). At the level of domestic users, with a low-voltage grid, Unareti was also involved in the **Smart Domo Grid** research project, aimed at **integrating domestic users into the distribution management system (DMS)**. Within these large research projects, methods and technologies have been developed and applied, which have partly merged into a series of projects for the smart grid.

Improvement work on secondary substations

Unareti has developed a plan that implements on a large scale some of the technologies studied in the research projects.

This includes an **advanced remote control plan and automation of the secondary substations**

that will allow to **reduce the duration and number of interruptions** respectively, thus improving the indicators of continuity of service; these activities will also ensure the reduction of operating costs, optimizing the intervention of the teams on the territory. The plan developed envisages an increase in the number of remote-controlled secondary substations in the Milan area of about 720 between 2017 and 2020, which will

allow the service to be restored in the event of breakdowns to a higher percentage of users. The initiative for the automation of secondary substations will instead install protection systems in about 400 secondary substations between 2017 and 2020, avoiding from the outset that some users will be impacted by disruption. In order to enable remote control and automation functions, it is necessary to have a communication network that guarantees adequate levels of performance and reliability. To this end, a programme was launched for **fibre optic cabling of around 4,500 substations** (mainly in the Milan area) between 2017 and 2020, which is further exploited to improve the performance of the system of remote management of users.

Integrated Distribution Management System (IDMS)

The **IDMS**, an innovative application for the management of the distribution network, constitutes the evolution of the network automation and remote control systems (current SCADA) and actually **represents the "brain" of the smart grids of tomorrow**. The numerous advanced functions of the IDMS make it possible to improve efficiency and operational effectiveness in the management of the electricity grid **through the automated integration of all phases of the distribution grid management process**: from the analysis of new connection requests or new urbanization, to high-level and executive design, to the creation of new portions of the grid, to the daily management of the grid (even in emergency situations) and the production of indicators that establish the quality of overall performance. In 2016, Unareti launched a European tender for the selection of an application and infrastructure platform, IDMS, to support the electricity grid management processes. This tender resulted in the award of the contract to Schneider Electric. The implementation phase of the IDMS tool began in 2017 and will see the first go-live of call center planning and support capabilities in March 2019, integrated with other IT applications in use at Unareti. The use of IDMS allows to obtain a number of advantages compared to current SCADA systems, including the possibility of having interfaces for

all the main figures involved in the management of the network (operators of the control room, call center operators for customer-side signalling, operating teams). In particular, the IDMS system makes it possible to **optimize activities and interventions, especially following customer calls**. In fact, with this system, the operator who manages the calls is able to perform various operations and recordings in real time, automatically passing the requests to the control room where the process of Isolation and Restoration of Service (FLISR) is started, according to different configurable criteria, such as reducing the duration of the out of service or prioritizing the recovery of customers with electromedical equipment. These manoeuvres can be performed automatically (in the presence of remote control) or manually by a dedicated team. Also in this case, IDMS allows the room operator to assign to the teams the manoeuvres calculated by the FLISR algorithm, using information on the availability of the teams, on their geographical position and on the time required to reach the position of the intervention thanks to integrations with third-party systems. Once the on-site team arrives at the place indicated in the system, it can use the mobile application, the Field Client, to record the manoeuvre to the system, avoiding in fact the prolonged telephone conversation with the control room characteristic of the current process of management of these activities.

Gas leak prediction

During 2018, the Networks Business Unit and the A2A Innovation Team started an important experiment in the municipality of Concesio aimed at improving the process of searching for gas leaks from the distribution network. The experimentation involves the use of a **machine learning algorithm** to develop **predictive analyses** on the spatial and temporal occurrence of **gas leaks**. The ability to more accurately predict leakage should allow leakage to be detected and repaired more quickly, with positive effects on user safety and emission reduction. Forecasting the areas where losses are most likely to occur should also help optimize the routing of research teams and increase their productivity.

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9.3 Research and development for the circular economy

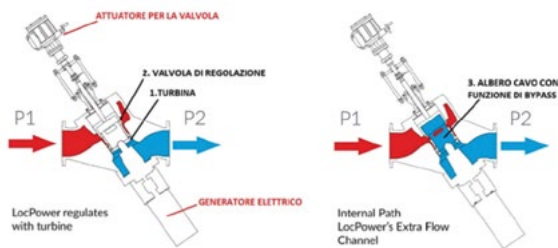
Locpower: energy recovery in district heating

A2A will be the first company in Italy to install on its district heating systems the technology developed by the Italian start-up Loclain: the "**LocPower**" system. In district heating systems, the circulation of the water heated by the heating systems in the network that supplies the connected users is guaranteed by pumping systems. The pressure regulation inside the network is ensured by special valves that allow to dissipate the excess pressure (Waste Pressure). The advantage of the "LocPower" system is that it is **able to recover and transform into electrical energy the hydraulic energy currently dissipated by turbines incorporated in the control valves.**

A2A plans to install three LocPower devices with a total power of 65 kW in 2019, two at the Sesto San

Giovanni heat exchange plant and one at the Canavese cogeneration plant. The electrical power production of the devices will be used entirely by district heating plants.

Figure 40_Mechanism of LocPower system



Partnership for the circular economy

For the Group, and in particular for A2A Ambiente, being able to transform waste into resources represents a great challenge but one of fundamental importance. To this end, activities such as innovation and research are essential to define new processes and technologies capable of increasing the percentage of waste recovery and transforming it into reusable material. In addition, many efforts are focused on applying the best available technologies to reduce emissions from plants and ensure very high sustainability. To realize this ambition, A2A Ambiente has activated numerous research and study projects in collaboration with various universities throughout Italy.

With the **University of Brescia**, the study for the **integrated assessment of air pollution** and its impact on health was completed in 2018, the results of which will be made public in 2019, while the study on the **optimization of sludge combustion, the stabilization**

of fly ash and the characterization of bottom ash is still ongoing.

With the **University of Milan**, a research project has been launched with the aim of **defining a process for the production of bioplastics, through the feeding of bacteria** through products derived from the anaerobic digestion of the organic fraction of waste.

Furthermore, the **Universities of Brescia and Milan** completed in 2018 a mapping of studies at European level on **waste-to-energy plants and their potential impact on health**, the results of which will be made public in 2019. In addition, **Università Cattolica del Sacro Cuore and Università degli Studi di Brescia** are carrying out research on environmental issues within the principles of circular economy, with collection of best practices on technologies and processes that promote it.

9.4 Knowledge spillover

Our orientation towards the dissemination and use of innovative and technologically advanced solutions is not limited to the design and provision of services to users, but also takes shape within the company, through numerous projects with and for employees, aimed at **improving the Group's internal processes** and **optimizing working methods**.

Bussola organizzativa 2.0 (Organizational compass)

The transformation process started at A2A, with a view to Operational Excellence and Change Management, is aimed at allowing the Group's growth in a context of strong discontinuity. In this context, the totality of the initiatives launched up to now has strongly highlighted an increasingly central organizational dimension: processes.

This is a transversal dimension compared to traditional hierarchical mechanisms, whose lack of knowledge on the part of the players involved can lead to burdensome activities of mapping and collecting information. The **Bussola Organizzativa 2.0** stems as a fundamental lever for this transformation that is based on 4 pillars:

- **know:** share and make known the taxonomy of business processes;
- **govern:** identify for each process a contact person, with whom to validate the information and stimulate its updating;
- **simplify:** make searching for process and organizational information more immediate and accessible;
- **communicate:** clearly and effectively communicate the layout and content of procedures to employees, including through digitalization.

The Bussola Organizzativa 2.0 has found its concrete realization in a dedicated **web portal** and in a document, which share in a simple and clear way the mutual commitment between staff functions of the Group and the business, with a view to an effective and efficient collaboration.

Optimization of internal processes in generation plants

As part of the Group's continuous improvement programme, the Generation BU has launched a series of activities aimed at **optimizing internal plant processes, relating to warehouse management and maintenance**, in order to streamline activities and reduce time and costs.

With reference to warehouse management, **new methods of coding materials and spare parts** have been adopted, with a view to making them unique and shared between the various warehouses. In carrying out this activity, obsolete or no longer used spare parts were identified for each warehouse and made available to other areas of the Group that needed them. In addition, in order to reduce errors and inventory times as much as possible, it was decided to introduce QRcode technology for identifying codes in the warehouse and to use tablets or smartphones to "book" spare parts.

With regard to maintenance activities, in 2018, the management of all the power plants was standardized, in particular for the CCGT area, resulting in an improvement in the entire maintenance process and a greater possibility of **sharing successful practices and management methods** between the power plants.



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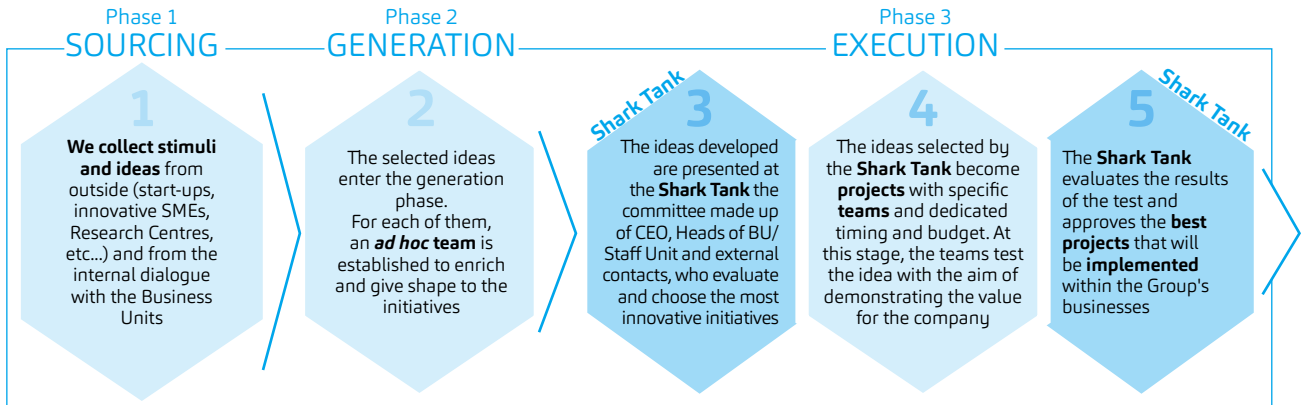
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InnovA2A

Innova2a is a program that was developed in 2018 and aims to promote a virtuous and systematic process of generation and management of innovation, able to anticipate but also respond in a structured and effective way to the challenges posed by the market.

Figure 41_The Innova2a format



In 2018, 37 projects were presented at the Shark Tank, of which **26** were admitted to the **testing** phase and **seven projects** have already **successfully completed it**.

SOME PROJECTS THAT HAVE SUCCESSFULLY PASSED THE TESTING PHASE

Robo Procurement

Automation (*Robotic Process Automation - RPA*) of some processes of the Supply Chain Management (e.g. supplier qualification) in order to improve the performance of the function, reducing time and operating costs, as well as increasing the level of service. The robot replicates on a virtual machine all the automatable sequences of a process (e.g. start-up of a software, choice between variables and information to be inserted in a system, etc.). The experimentation, started as a pilot project in the Supply Chain Management, has given positive results, it will therefore be applied to all the processes that can be automated within the Group, for which a mapping is currently underway.

The Weather Company

Adoption of a single weather service provider with an **innovative predictive model** in order to make the distribution of weather services within the Group more efficient. For many business areas, the correct weather forecast is a key factor for operational decisions (e.g. plant dispatching, snow clearing programming, etc.).

Smart DPI (Safety@work)

Mobile alert system that allows verifying, through a series of **sensors** installed in personal protective equipment (PPE), the correct use of the same by individual workers during activities and synchronize all recorded events to a central database for subsequent statistical analysis. The project was tested in an operating unit of Unareti consisting of 14 people. Given the positive results of the pilot phase, meetings are currently underway with directors and managers to assess the modalities, timing and scope of extension of the initiative.

Digitalization of internal processes

The value of a business depends not only on its capacity to innovate in the quality of services offered, but also on its capacity to generate and spread internally better management and organizational processes.

Smart access

A "Self Check-in" service has been tested at one of the Group's offices, available via an app, which allows external **access to be managed** more quickly **through** the adoption of a **fully digital process**: employees have the option of providing data protection and building access policy information in advance; when guests arrive, they will only be asked to enter their e-mail on a digital device and employees will be notified of their arrival via e-mail and text message. The aim is to extend the service to all company locations.

Digital expenses claim

An innovative solution has been tested for the **completion of expense reports** by employees **via mobile**, with the aim of simplifying the process of completing and sending expense claims for approval and dematerializing receipts allowing the elimination of paper. The project will soon be extended to the entire Group.

Ecosystem Management

To encourage innovation and keep pace with market developments, a company must maintain strong contact with the surrounding ecosystem through participation in networks and initiatives involving start-ups, research centres, universities and large companies, A2A is involved in:

<p>Enel Innovation Hub A2A has joined the <i>Enel Innovation Hub</i>, in order to carry out scouting activities in the various <i>Innovation Hubs</i> around the world (San Francisco, Boston, Tel Aviv, Madrid, Moscow). Through pre-calendarized sessions, it is possible to learn about the start-ups of the area of interest. The moment of the bootcamp (2 days) will allow a mutual acquaintance between A2A and the selected start-ups, as well as the exploration of possible spaces of collaboration.</p>
<p>Elis Open Italy A2A has joined the <i>Open Italy</i> programme, an alliance of large Italian companies created to gather and support the innovative potential of start-ups, innovative SMEs, research centres, university spin-offs and young talents. In particular, the programme aims to collect the innovation needs of companies and identify start-ups that can meet them, with a view of potential future collaborations.</p>
<p>Futureland A2A participated as a partner in <i>Futureland</i>, the Talent Garden tech event dedicated to emerging technologies. International speakers and innovation experts participated to explore the technologies that are revolutionizing the business world: blockchain, artificial intelligence and immersive technologies.</p>

CYBERSECURITY

In order to implement the security processes and infrastructures within the Group, an organisational unit has been created dedicated to cybersecurity.

The activities carried out mainly consist of:

- defining the policies, processes and standards of IT security to be applied within the Group and the security measures to be adopted during the design and supply of the ICT services;
- identifying potential security weaknesses that, if exploited, would allow access to A2A Group information to be obtained, and assess the associated IT risks, identifying and implementing appropriate mitigation actions (*Vulnerability Assessment and Penetration Test* on critical infrastructures and applications);
- analysing the access privileges associated with the systems/applications of the A2A Group to ensure that these methods are still based on a specific need, thus ensuring that tasks are carried out on the basis of the principle of minimum privilege, and in compliance with company policies and processes;
- designing and implementing the infrastructures for the protection of corporate information security, like anti-malware systems on workstations and networks;
- carrying out monitoring activities, through proactive analysis of information security systems and technologies (IPS, Firewall, Server, etc.), with the aim of promptly identifying attempts at intrusion, attack or abuse of systems from the Internet and the Intranet.

In 2017, a safety monitoring and incident management service was set up, with the aim of identifying, analysing and evaluating incident response and containment actions. It should also be noted that in 2018, there were no incidents that could compromise the company's business or cause theft of information on customer data.

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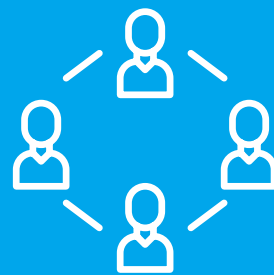
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INPUTS



Financial capital

Manufacturing capital

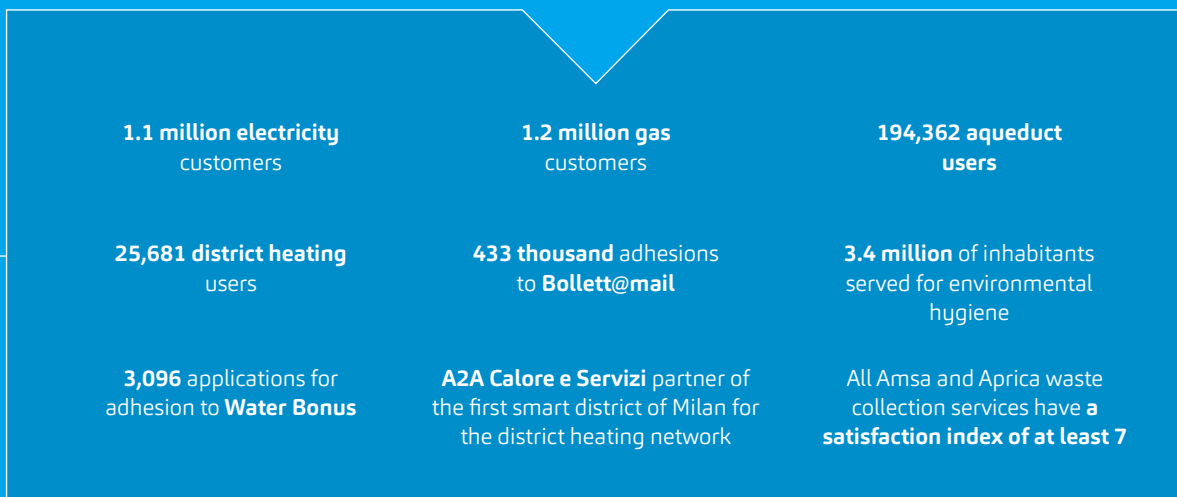
Natural capital

Human capital

Intellectual capital

Relational capital

A2A SERVICES AND PROCESSES



OUTCOME

RESPONSIBILITY AND SAFETY IN THE PROVISION OF SERVICES AND PRODUCTS

Safety and reliability in the provision of services and development of emergency management plans aimed at preventing and/or mitigating potential external factors that could compromise the continuity of services.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Possible interruptions to public services.</p> <p>Failure and/or incorrect management of customer/user relations.</p> <p>Failure to protect customers' personal data.</p>	<p>Group brand promotion policy.</p> <p>High level of approval of Group companies in the area, which historically provide their products and services with high quality standards.</p>	<p>Development of specific monitoring of service provision processes.</p> <p>Adoption of specific update plans and improvements to the information systems in support of customer relations (CRM).</p> <p>Development and continuous update of information systems and archiving of sensitive data, through the adoption of defence mechanism and the protection of ICT infrastructures.</p> <p>Efficient management of network infrastructures so as to prevent any disservices or failures and guarantee reliability in operation, also thanks to investments in innovation, preventive maintenance and a careful management of emergency intervention teams to cope with emergency situations.</p>	<p>Training course for conciliators of the Integrated Water Service and District Heating.</p> <p>Monitoring of emergency response and ARERA standards of distribution networks.</p> <p>App Inforeti, to receive information about Unareti sites.</p> <p>Excellent results from ARERA call center quality survey.</p>	<p>SMARTNESS IN NETWORKS AND SERVICES - Smart Grid</p>

QUALITY AND INNOVATION IN THE PROVISION OF SERVICES AND PRODUCTS

Promotion of high quality services and the ability to meet customer expectations through good communication and marketing practices (including data protection) and new digital services.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Poor quality of services provided.</p> <p>Possibility of unfair commercial practices, implemented directly by the Group or by third parties.</p> <p>Loss of market share.</p>	<p>Group brand promotion policy.</p> <p>High level of approval of Group companies in the area, which historically provide their products and services with high quality standards.</p>	<p>Observance of industry standards and continuous development of services thanks to specific customer satisfaction initiatives.</p> <p>Involvement and comparison of notes with consumer associations, aimed at preventing and reporting fraud and damages to consumers.</p> <p>Adoption of contractual instruments and regular controls aimed at guaranteeing the correctness of commercial practices.</p>	<p>New energy offers and contact channels: PERFETTA2A and SPAZIO A2A.</p> <p>New offer for district heating "Warm house even at night".</p> <p>New service "Ask for a refund" by A2A Energia.</p> <p>CS Investigations: Linea Green, A2A Energia, APRICA and AMSA.</p>	<p>SMARTNESS IN NETWORKS AND SERVICES - Quality - Digital</p>

10.1.1 Relations with customers of the Market BU

The **Market Business Unit** became fully operational on January 1, 2018, with the mission of being a leading player in interpreting the energy needs of households, businesses and cities, through the implementation of effective, innovative and sustainable solutions, ensuring the highest standards of quality in sales and customer service. The Market BU operates nationwide with a portfolio of offerings for all customer segments ranging from electricity and natural gas supplies, to products and solutions for energy efficiency, e-mobility, public lighting and telecommunications.

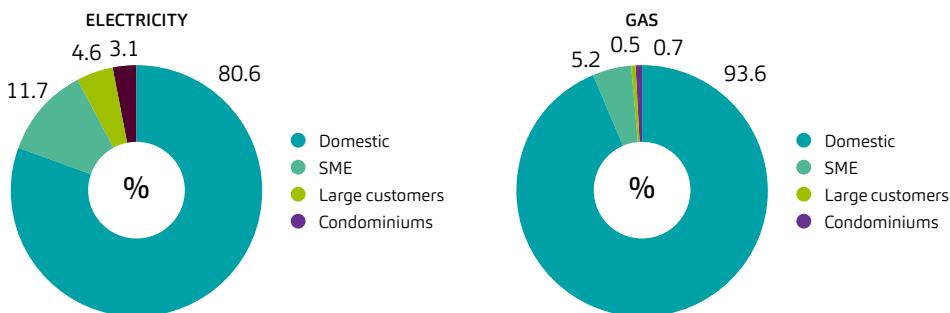
RELATIONS WITH CUSTOMERS OF THE GAS AND ELECTRICITY SALES SERVICE

The Group's electricity and gas sales companies are A2A Energia and LineaPiù.

In 2018⁴, the number of total customers for the electricity sales service increased by 4%, while for the gas sector the trend was slightly down by 4%.

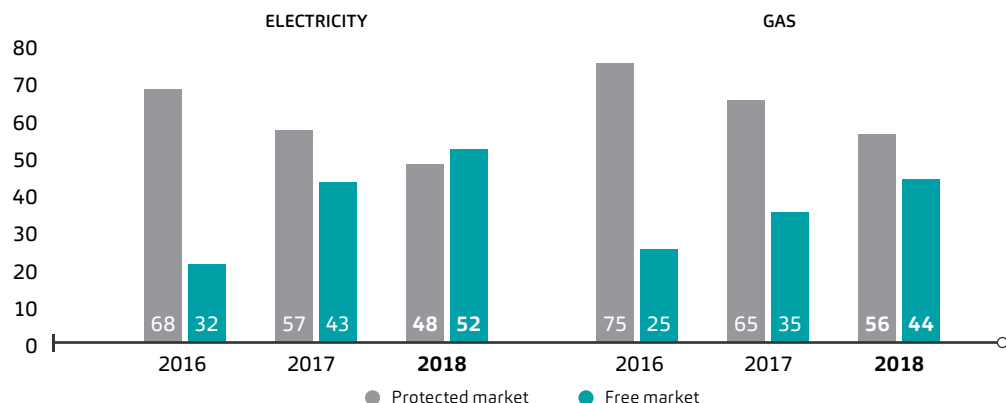
In line with the previous year, there was an increase of 10% in the large electricity customers segment, resulting in a significant increase in electricity sold (+28.2%), which stood at 10,630 GWh in 2018.

Figure 42_Number of customers analysed by type



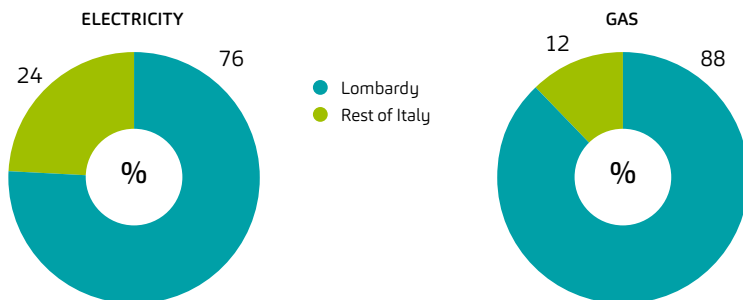
For both commodities, there was a significant increase in the number of customers opting for free market services (+24% for electricity and +20% for gas) and a constant decrease in the number of contracts active in the protected market (-11% for electricity and -17% for gas), nearing termination by July 1, 2020, as envisaged by Law 108 of September 21, 2018.

Figure 43_Number of electricity supply contracts by type of market (%)



The Market BU promotes its services and products throughout the national territory, continuing its policy of growth outside the historical territories. In line with previous years, 2018 also saw an increase of two percentage points in the share of electricity and gas sold in the rest of Italy.

Figure 44_Geographic breakdown of sales volumes



4. In 2018, A2A Energia was partially demerged in favour of ACSM-AGAM from the business unit consisting of customers in the province of Varese, so the figures do not include this asset for the whole of 2018.

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New products and services for more responsible and sustainable energy consumption

The retail energy market is increasingly oriented towards providing offers that best meet the needs of customers, including products and services complementary to the sale of energy. This need is accompanied by the Group's desire to promote responsible use of energy through the promotion of energy-efficient solutions. Among the main proposals of 2018:

- **Caldaia2a**, the offer that includes the sale of high energy-efficient boilers for domestic customers in the free market, extended in 2018 also to customers in the small business segment. The commercial proposal includes not only the installation of the boiler but also a package of services designed to meet the needs of customers. During the year, 167 boilers were sold (this figure also includes the Linea Più offer with the same methods described above);

➤ For more information <http://caldaia.a2aenergia.eu/>

- **Clima2a**, the proposal of smart air conditioners, in partnership with Samsung and Innova, which provides a "turnkey" solution from installation to financing of the product. During the year, 536 conditioners sales were finalized for a total of 837 installed splits, including the same offer proposed by LineaPiù;

➤ For more information <http://clima2a.a2aenergia.eu/>

- **Solare A2A and Più Fotovoltaico**, offers that provide for the installation at home of a photovoltaic system, ensuring to the customer not only the after-sales service, but also the complete management of administrative procedures with respect to all relevant bodies;

➤ For more information <http://www.linea-piu.it/offerte/fotovoltaico/piu'-fotovoltaico> and <https://casa.a2aenergia.eu/solarea2a>

- **Casa Sicura**, is a package of services of assistance and maintenance of the boiler or the breakdowns of household appliances, offered to customers of A2A Energia of the free market with the possibility of payment in installments in the bill.

➤ For more information <https://casa.a2aenergia.eu/casasicura>

Green Energy Certified from renewable sources

Confirming the Group's commitment to increasingly sustainable energy consumption, the entire portfolio of offers for the residential segment consists of 100% certified green energy products from 2018.

During the year, **2,229 GWh** of green energy was sold, thereby making for an increase for A2A Energia of 58% on the previous year and a contribution made by Linea Più of 214 GWh. In 2018, numerous agreements were entered into with business segment customers, who made the biggest contribution to growth over the previous year, for the sale of renewable energy products.

The offers that promote green energy are identified by the "ENERGIA A2A Rinnovabile 100%®" registered trademark, which ensures respect for the environment.

Figure 45_Green energy sold and breakdown by market segment

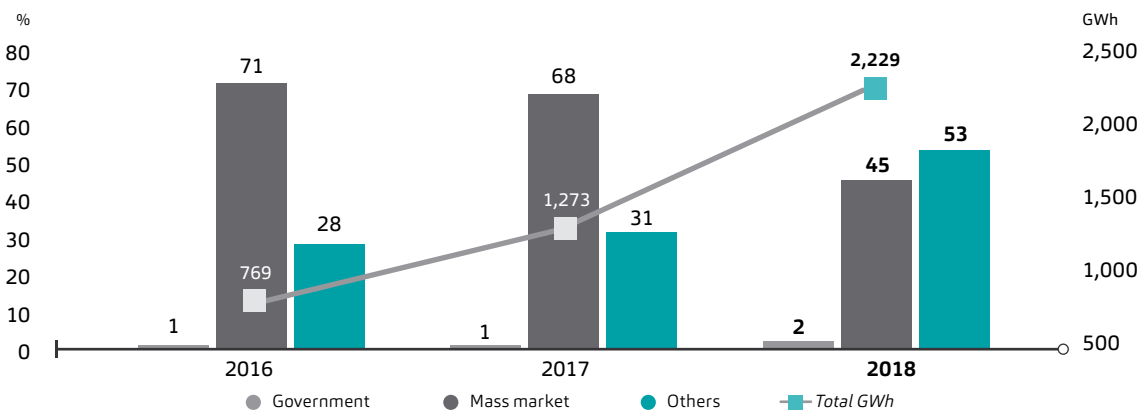


Figure 46_Distribution of mass market green energy by segment - A2A Energia



Loyalty Program

EnergyLink is A2A Energia e Linea Più's advantageous programme thanks to which customers can take advantage of exclusive discounts or awards such as electricity and gas supply vouchers or vouchers to be used in their free time. The objective of the program is to build customer loyalty based on engagement dynamics aimed primarily at promoting virtuous and sustainable behavior through a completely "digital" interaction with the customer.

➔ For more information
<https://energylink.a2aenergia>

Innovative contact channels and services

A2A Energia meets the needs of its customers by offering a complete and multi-channel listening service, through physical counters, new SpazioA2A stores, call centers, social channels (Facebook page) and the call-back service available on the website. A2A Energia's contact channels offer customers innovative and digital services.

In order to improve online customer interaction at all stages, the new "**Ask for a Refund**" service was made available in 2018, which also allows customers without a bank to be reimbursed. The initiative allows for better monitoring of payments (timely tracking and low risk of fraud) and greater consistency with new habits of use of money, resulting in less cheque issuance. The activation of the service, since the first months, has shown excellent results both in terms of use and customer satisfaction.

In 2018, A2A Energia issued around 12.2 million **bills**, of which 20% in electronic format. The Linea Più **Bollett@mail** and **Bolletta Express** service has 433 thousand adhesions (+31% compared to the previous year).

A2A Energia promotes **Bolletta Free**, the interactive service available in the Customer Area that allows interacting with your bill from any device (PC, tablet and smartphone).

Always active is the use of **certified e-mail for business customers**, which allows continuity to the digitalization project for payment reminders; this has optimized the time and efficiency of contact with customers. The use of the service allows eliminating the costs related to the production/printing/mailing of similar reminders in paper form; this benefit has been transferred to the customer with the elimination of reminder costs normally provided.

The use of the **Registered mail with digital storage**, launched in 2017, was also consolidated. The product enables addressees to download recorded deliveries over the internet. A quick, sustainable manner by which to make communication to customers more effective, giving them the chance to choose how to collect correspondence.

Customers can choose the method of payment that best suits their needs: SEPA bank account, which is the most widely used method (over 58% of total payments) followed by pre-stamped postal bills, bank transfers, Sisal and Lottomatica payment agencies, commercial counters and credit cards.

Figure 47_ Number of electricity and gas contracts with the Bollett@mail and Bolletta Express service

	2016	2017	2018
A2A Energia	289,613	325,580	367,018
LineaPiù*	-	47,231	66,315
Total	289,613	331,985	433,333
Increase (percentage)	16.5%	14.6%	30.5%

* The 2017 figure for Linea Più has been modified to align it with the methodology used by A2A Energia.

In 2018, the **commercial branches** of A2A Energia and Linea Più welcomed more than 246,000 visitors with an average wait time of approximately 06:18 minutes for A2A Energia and 09:51 minutes for Linea Più.

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A2A ENERGIA EVEN CLOSER TO ITS CUSTOMERS

A2A Energia arrives in the streets of Milan, Brescia and other municipalities in the province with 5 "**Spazio A2A**" stores and a network of over 100 commercial consultants that interacted in 2018, with over 200,000 customers.

The result is an all-new contact channel that revolves around a different experience of interaction between A2A Energia and its customers: "Spazio A2A" is in fact a small urban universe just around the corner from home, where a team of specialized sales consultants is ready to welcome customers and A2A Energia's technical staff is at your complete disposal to investigate every need

and propose the most suitable solutions to the specific needs of each customer, who: can receive all the information on the changes taking place in the energy market in view of the end of the protected market; discover the offers of the free market and solutions for energy efficiency; receive assistance on their supplies of electricity and gas. The "Spazio A2A" was created to be closer to citizens and to reach the greatest number of people; it changes position every 3 months to cover the territories where the A2A Group operates in a widespread manner.

PERFETTA2A

PERFETTA2A is the offer that stems from the continuous discussions and dialogue with its customers.

The path began with a market analysis carried out by a leading research institute in order to understand the needs of customers towards the free market, the doubts, fears and barriers that slow down/hinder the transition and then move on to a real time of **co-creation** with customers and salespeople.

It is the first Free Market Electricity and Gas offer of A2A Energia with a **price locked for 3 years** 100% green energy that customers can customize by choosing, from **5 packages available, the 3 they prefer**:

- Loyalty: provides a bonus recognized in the bill at the end of each year spent as a customer of A2A Energia, even in case of renewal;
- Punctuality: provides an annual bonus recognized in the bill if payment deadlines are respected;
- Assistance: includes a service premium assistance with a dedicated toll-free number and free insurance policy for domestic breakdowns;
- Environment: a package with which customers remotely adopt a tree from the A2A Energia forest (a project carried out in collaboration with Treedom);
- Solidarity: a package with which A2A Energia donates 19 euro to Banco dell'Energia Onlus to help people in need.

Toll-free number for fraud prevention

A2A is particularly committed to ensuring customers with a service based on maximum transparency and fairness and over time, also in collaboration with the Consumer Associations, it has adopted various tools by which to simplify the information supplied to customers and regulate conduct clearly: service of **joint settlement**, establishment of the **Observatory on unfair commercial practices** with the application of the **Code of Commercial Conduct**, activation of the **toll-free "anti-fraud" number** and signing of the **Self-regulation protocol**. These actions have always gone hand-in-hand

with constant training of sales staff and service staff in direct contact with customers.

In the area of consumer protection, **the toll free "anti-fraud" number received 2,488 calls**, of which 636 related to unfair commercial practices by known operators and 1,104 by unknown companies. The remaining ones were related to requests for information of various kinds. No reports of unfair commercial practices were recorded by A2A Energia through these contact channels.

Service accessibility

The Group has always been close to the less well-off citizens in order to improve and maintain access to the service of supplying electricity and gas through various solutions.

A2A provide the **social bonus**, as per provisions of the ARERA, allowing family units in particular financial difficulties or in which one of the members suffers from severe physical difficulties, to save on the energy bill. The **physical bonus** is only recognised on supplies of electricity and the amount varies according to the meter power and consumption bracket established by the ASL (local health authority).

70% of A2A Energia customers entitled resides in the lower bracket of 193 euro/year, whilst the remaining 30% is split up between the other 5 brackets with an average of approximately 420 euro/year.

Figure 48. A2A customers who have used the social bonus*

	2016	2017	2018
Gas bonus	16,459	21,412	24,577
Electricity bonus	16,658	20,851	24,394
<i>of which physical bonuses</i>		1,129	1,961

* 2016 and 2017 data have been updated to align the method between LineaPiù and A2A Energia companies.

A2A Energia has also continued to support the Banco dell'Energia project (see page 147), offering its customers the possibility of supporting the initiative, by means of recurring donations through a bill, conveying communication towards its customers and also its suppliers.

The attention to the most vulnerable groups is always high with the bill service printed in "black and Braille" overprint; information leaflets in 7 languages (Italian, English, French, Spanish, Arabic, Chinese, Romanian) for foreign customers. Finally, public counters with facilitated and priority access for disabled customers, pregnant women and the elderly are available.

➔ For more information, see the Info Point section of the website www.a2aenergia.eu

Customer satisfaction

A2A Energia constantly monitors the satisfaction of its customers and the quality of services offered in order to become increasingly aware of the needs and expected requirements of the parties involved, by listening to and measuring the satisfaction of users to identify areas for action with a view to continuous improvement.

Cerved survey

As it has for several years now, A2A Energia has participated in the *Multiclient Customer Satisfaction Survey "Monitor Energia Cerved 2018"*, which allows a clear comparison of A2A Energia's Customer Satisfaction Index (CSI) with that of its main competitors. The results of the 2018 survey have not yet been made available by the Research Institute.

Free market customer survey

Also in 2018, a quantitative survey was conducted, in collaboration with the Doxa institute, with the aim of detecting the level of **free market customer satisfaction**. The survey involved a sample of residential and small business customers, gathering a total of 2,803 telephone and web-based interviews (mixed CATI/CAWI system).

The survey confirmed high levels of satisfaction for customers in the free market, showing a satisfaction index of 76.5 (scale from 0 to 100), up 3 points over the previous year. The main drivers of satisfaction include the way in which contracts are signed and the channels for interaction. Customers outside the historical territories in which A2A Energia operates and "digital" customers recorded the most significant increase in terms of satisfaction; the latter are also those who are most interested in considering A2A Energia as a "single multi-service provider".

Linea Più also performs an annual customer satisfaction survey via telephone interviews.

For the 2018 survey, 1,150 customers (households and small businesses) were involved, distributed in a weighted manner by territory, segment and type of active supply, to ensure the representativeness of the overall results but also the reliability of the detailed ones.

In addition, in order to measure the level of satisfaction of customers using the Linea Più contact channels, two oversamples of 300 and 500 cases were made, respectively for call centres and toll free number.

The 2018 study revealed a good level of satisfaction, with a CSI (Customer Satisfaction Index) of 73/100 (+1 compared to 2016). Full satisfaction for the contact channels: counter (82/100) and toll free number (78/100).

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"ASCOLTA UN AMICO" COMMUNICATION CAMPAIGN

In 2018, A2A Energia chose for the first time to tell its story through a testimonial: **Claudio Bisio**. The claim of the campaign has been "**Ascolta un amico**" a message that, underlining the concept of friendship, reaffirms the relationship of trust that binds A2A Energia to citizens, the closeness to people and attention to customer needs. The national campaign has been planned on several channels with high impact and visibility, in detail television, cinema, radio, press and Facebook.

Following a survey aimed at verifying performance, the communication campaign was effective and efficient both in the "new" territories and in the historical territories in which A2A Energia has always been present: in the former it made it possible to strengthen the notoriety of the trademark and was able to convey the key contents of the communication (relationship of trust, closeness and attention to the needs of its customers); in the latter it was able to further bring closer the target and to consolidate A2A Energia's position.



Call centre survey

A2A Energia and Linea Più received a total of about 1.3 million calls to the call centre in 2018. In 2018, ARERA's six-monthly survey of the quality of telephone services perceived by end customers became annual. Customer satisfaction with the operation of A2A Energia's call center is the best among those recorded in recent years: it remains 5.8 percentage points higher than the national average. In particular for the two most important quality aspects (clarity and ability to solve the problem quickly) the overall "weight" of which is over 70%, A2A Energia obtained very high scores. Customer satisfaction with the operation of the Linea Più call center was also 1.7 percentage points higher than the national average.

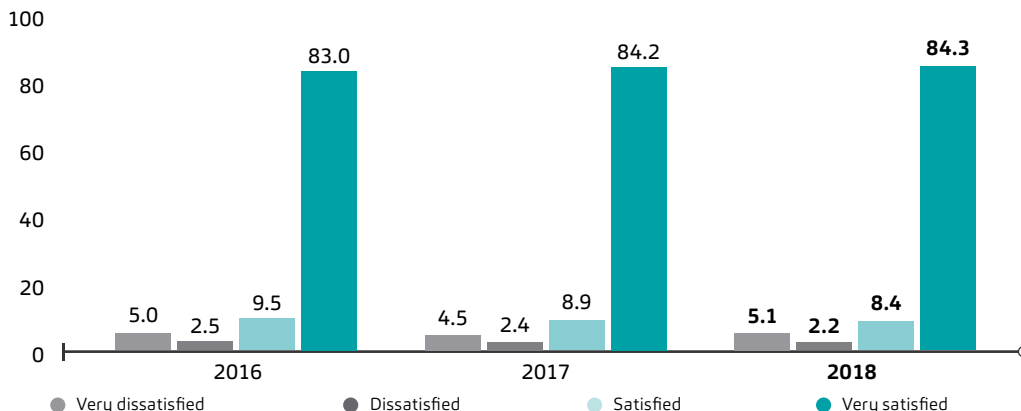
Figure 49_Customer satisfaction on call centre operations

	1ST HALF 2016	2ND HALF 2016	1ST HALF 2017	2ND HALF 2017	2018
A2A Energia	97.1%	95.7%	95.7%	95.2%	98.1%
Linea Più	n.a.	94.5%	93.2%	90.5%	94.0%
National average	91.0%	92.4%	93.2%	91.7%	92.3%

After call satisfaction survey

The "after call" survey records the level of satisfaction of customers that use the call centre services immediately after completing a telephone call with operators. Also for 2018, survey results were again very positive for A2A Energia: 92.7% of customers are satisfied or very satisfied.

Figure 50_Customer satisfaction after a call to the call centre (percentage on assessments recorded)



Satisfaction and quality of branches

In 2018 too, a survey was run to analyse the level of satisfaction with the service at the branches of Bergamo, Brescia and Milan. Approximately 98% of users rated it positively. The level of satisfaction, which was excellent in the previous year, shows a further increase of 1.5%.

Figure 51_Customer satisfaction on the services provided at the counter

	2016	2017	2018
Positive	95.90%	96.84%	98.30%
Negative	4.10%	3.16%	1.70%

Also in the new "Spazio A2A" stores customers can respond to a survey with the aim of measuring satisfaction in relation to the elements of the store (general satisfaction, position, layout), experience (welcome, waiting time) and the service received (competence of the staff, resolution capacity, service in general). 93% of customers rated all aspects of the survey positively.



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ENERGY EFFICIENCY

A2A Energy Solutions is the company of the A2A Group, within the Market Business Unit, which proposes itself as a supplier of energy solutions for business customers, condominiums, public administration and citizens, in terms of energy saving, sustainable electric mobility and IoT solutions.

A significant intervention by A2A Energy Solutions, carried out in 2018, was the installation of a virgin woody **biomass boiler** to replace the previous diesel fuel, at the Salumificio Bordonni (Valtellina) plant, used to supply the heat necessary for the production activity of the cured meat factory.

The construction of the highly efficient woody biomass plant (yield of 90% of the 850 kW power) has therefore allowed the use of fuel from renewable sources, with a short supply chain, as an alternative to the use of traditional fossil fuels, with a saving of 250 toe per year. The activities provided for in the contract by A2A Energy Solutions concern: design, construction, maintenance of the plant as well as the supply of fuel for the entire duration of the contract (5 years).

The development plan foresees to increase heat demand for the production cycle from the current 1.8 GWh_t to 3.3 GWh_t in 4 years (2019-2022).

In November 2018, the verification of a third-party body for the issue of a **new UNI IEC 11352 certification of Linea Green as an ESCO**, in relation to contracts guaranteeing results (Energy Performance Contracts - EPC), was successfully supported.

PROJECTS FOR ENERGY EFFICIENCY TOWARDS THIRD PARTIES OF LINEA GREEN

In 2018, the new cogeneration system (70 kW_e, 115 kW_t natural gas endothermic engine) installed at the "La Faustina" swimming sports centre in Lodi came into operation.

In the course of the year, a total saving of 52 toe or 155 tonnes of CO₂ was recorded, with an average overall annual yield of 89%.

In addition, following contracts with new customers, Linea Green has proceeded with the design and installation of 5 consumption monitoring systems on as many energy-intensive industrial realities in the province of Brescia, Cremona and Piacenza.

During 2019, consumption will be monitored in order to proceed with the preparation of the Energy Diagnosis in accordance with the provisions of Legislative Decree 102/14.

In 2018, 4 energy audits were also prepared and completed for customers in the industrial and tertiary sectors, identifying a number of energy efficiency measures that will be developed in 2019.

E-MOVING

In 2018, the subsidiary of the **A2A Energy Solutions** Group saw its services for sustainable mobility extended to 3 important municipalities in Lombardy: Bergamo, Cremona and Rovato.

In particular, in the **city of Bergamo**, a memorandum of understanding was signed for the construction and subsequent management for 8 years of a charging network for electric vehicles consisting of 32 columns, of which: 8 high power columns (from 22 kW to 50 kW in direct current) and 24 normal power columns (up to 22 kW in alternating current). In the first year, the vehicle recharges made on all the e-moving columns of the city of Bergamo will be free through apps for all users. At the end of the first year, occasional customers will be able to easily recharge via smartphone by accessing virtual credit banking services, while regular users will be able to associate a credit card to their profile. The app will also allow you to check the status of the recharge.

For the **municipality of Cremona**, 10 recharging stations will be installed and managed for 8 years, while with the installation of 3 recharging stations, **Rovato** has become one of the first cities not capital of the province to enter the e-moving circuit. For the agreements with these two municipalities, the role of Linea Più has been relevant, which has provided a real "package" dedicated to the initiative, for the development of electric mobility in these territories, which allows access to a wide network of services: from long-term rental of the car at privileged conditions, to the wallbox for charging at home, up to the card to recharge the car for free in all the columns of the circuit. The first columns will be installed in early 2019. The infrastructure will allow the simultaneous recharging of 2 electric vehicles and will be located in strategic locations for city mobility.

All the columns of the e-moving circuit are powered by **electricity produced from renewable sources**, certified by the "Energia A2A Rinnovabile 100%®" trademark.

The new columns of Bergamo, Cremona and Rovato are added (in addition to the charging points for quadricycles and electric carsharing in Milan) to those installed in **Milan, Brescia and Valtellina**, for a total of 168 columns of which 13 fast charge. In 2018, the service **provided 137,000 recharges** for a total of 1.3 GWh (4.5 TJ), corresponding to 8.4 million km travelled with zero emissions, **saving approximately 1,000 tonnes of CO₂**.

In 2018, the UBI Banking Group added the new Renault ZOE to its car fleet, an electric car with zero direct emissions, in a sustainable mobility project in collaboration with A2A, which supplied and installed the first charging wallbox.

Over the period of the Plan, investments of about 30 million euro are planned on sustainable mobility.

PUBLIC LIGHTING

2018 saw the entry into force of European Directive 244/09, which bans "energy-intensive products". This product category includes halogen bulbs. From this point of view, the Public Administration has also taken numerous initiatives to rationalise the use of energy and to pay greater attention to "environmental sustainability", as established by the "Energy Efficiency Directive" (2012/27/EU). Further impetus will be provided both by the greater application of the Minimum Environmental Criteria (CAM) in tenders, and by the definition of mandatory savings clauses in energy service contracts activated by the public administration, such as in public lighting.

To take full advantage of this opportunity, in 2018 a partnership was signed between A2A Illuminazione Pubblica and Varese Risorse for participation in tenders for the management of public lighting systems in municipal areas, seeing the two companies involved deploy their know-how, experience and vocation for innovation at the service of the city.

In 2018, the tenders awarded concerned the municipalities of Garbagnate Milanese, Nova Milanese, Cornaredo, Pero, Melzo, Cantello, Cesate, Crevoladossola and Messina.

The tenders, the total value of which is approximately 77 million euro, with contracts lasting from 6 to 20 years, involve the installation of more than 48 thousand LED lighting points, also managed remotely by remote control, pole improvement works, the construction of new power lines and the upgrading of existing electrical panels.

In addition to energy savings, the LED transformation of the lighting of these municipalities will allow a reduction of thousands of tons of CO₂ into the atmosphere, and further environmental benefits related to lower consumption of WEEE.

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10.1.2 Relations with customers of the district heating service

The Group operates in the production, distribution and sale of heat in the cities of Milan, Sesto San Giovanni (Mi), Novate (Mi), Cassano d'Adda (Mi), Brescia, Bovezzo (Bs), Concesio (Bs) and Bergamo, through the company A2A Calore & Servizi and in the cities of Lodi, Cremona, Crema (Cr) and Rho (Mi) by means of the company Linea Green.

This service is currently delivered to about 25,700 users (individual residential units in the case of independent heating or whole buildings in the case of centralised heating), for a total served volume of approximately 111.4 million cubic meters (+1% compared to 2017).

Figure 52_Volume served by the district heating network (Mm³)

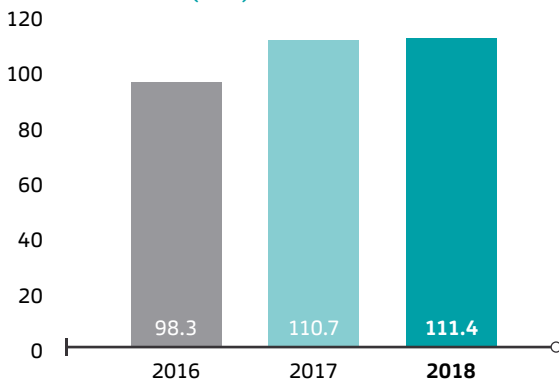
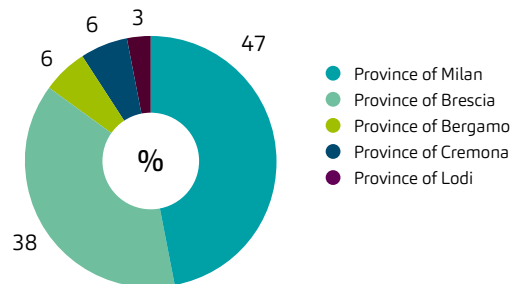


Figure 53_Geographical distribution of the volume served by district heating (%)



To encourage the development of the district heating service, in 2018, A2A Calore & Servizi proposed the offer "**Casa calda anche di notte**" (**Warm house even at night**), which provides not only for the zeroing of the connection fee and an incentive for the scrapping of the old boiler, but also an innovative two hourly price formula. This offer allows operating the systems 24 hours a day, avoiding the peak of morning demand following the night shutdown, keeping the heat of the apartment constant, with greater comfort and a containment of energy costs.

The launch campaign was accompanied by a widespread communication, aimed at raising awareness among customers for an optimal and conscious use of their heating systems. Intensive training was also carried out to support operators in the sector by directing them to the good use of efficient techniques and methods for better management of plants powered by district heating.

UPTOWN. THE FIRST SMART DISTRICT OF MILAN IN PARTNERSHIP WITH A2A CALORE SERVIZI

In the urban area of Cascina Merlata comes the first smart district in Milan: Uptown. An area that is green in many ways: not only does it contribute to air quality with its 25 hectares of greenery, but it is also the first fully Italian district carbon free. Thanks to the district heating network of A2A Calore & Servizi, this district is energy self-supporting and

even contributes to the reduction of CO₂ emissions in the city.

The district heating service will also be accessible throughout the district of Cascina Merlata, allowing the best use to be made of the heat recovered from the Silla 2 waste-to-energy plant.

Another service managed by the Group companies relates to the rationalisation of energy management of properties through interventions to improve efficiency, such as the conversion to methane of thermal power stations powered by liquid fuels, heat management in condominiums and energy management for large property complexes and public administrations.

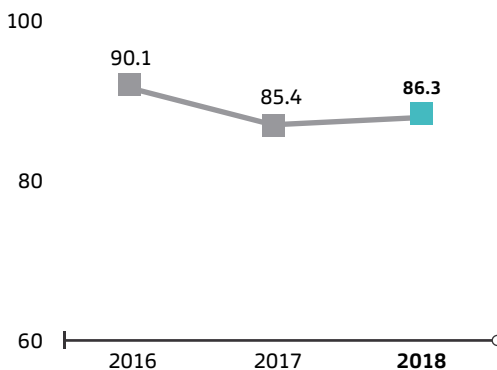
In 2018, through the specialised companies, the Group carried out **28 plant conversions** for a total of 17,400 kW in installed power, respectively 9,480 kW by A2A Calore & Servizi and 7,920 kW Linea Green.

Quality of services provided and attention to customers

Also for district heating, the Group has equipped itself with a **Quality Charter** establishing the principles and criteria for the management of the service, so as to guarantee customer satisfaction.

➔ The Service Charter can also be consulted online: http://www.a2acaloreservizi.eu/home/cms/a2acaloreservizi/societa/comunicazione/doc_publicazioni/carta_qualita.pdf

Figure 54_ Satisfaction level of customers connected to the district heating network of Cremona



whose vote confirmed a high level of satisfaction with the service, with an increase compared to the previous year.

Linea Green customer satisfaction survey

In October 2018, a survey was conducted, through telephone interviews, on a sample of one-third of customers connected to the district heating network of Cremona, and on a quota of customers from other municipalities such as to make the reading of the data consistent also for the other cities served.

As far as the type of users is concerned, the majority of the interviewees are single users,

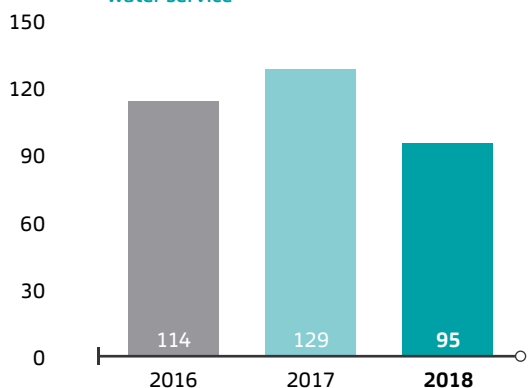
10.1.3 Relations with customers of the integrated water service

Through the companies A2A Ciclo Idrico and ASVT, the A2A Group manages the services of the integrated water cycle in the territories of the province of Brescia.

In 2018, there were 194,362 users connected to the aqueduct service, 652,754 inhabitants connected to the sewerage system and 640,967 those served by the purification service.

The drinking water distribution service was not interrupted in 2018, except for some segments that were disconnected to allow for the repair of accidental failures.

Figure 55_ Municipalities served integrated water service



Quality of services provided and attention to customers

The Integrated Water Service is regulated by the ARERA, which monitors certain parameters, including those relating to the obligations of the emergency telephone service and the time of arrival at the place of call for alerts relating to dangerous situations, setting general standards of contractual quality (Figure 56).

Figure 56_ General indicators of the emergency service

2018	STANDARD	A2A CICLO IDRICO		ASVT	
		CASES THAT COMPLY WITH THE STANDARD	ACTUAL AVERAGE TIME	CASES THAT COMPLY WITH THE STANDARD	ACTUAL AVERAGE TIME
Response time to emergency call	≥ 120 seconds	92.8%	50.5 seconds	92.8%	50.5 seconds
Arrival time at the place of emergency call	Three hours	92.9%	Two hours	99.9%	0.7 hours

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The emergency telephone service for reporting inefficiencies, irregularities or interruption in supply is free of charge from fixed and mobile networks and active 24 hours a day, every day of the year. The service provides, if necessary, instructions on the conduct and general measures to be taken immediately to protect their own and others' safety, pending the arrival at the scene of the emergency team.

The Group provides various channels, as well as informative materials, to communicate with citizens. In 2018, the A2A Ciclo Idrico **call centre** service processed 94,205 calls, maintaining excellent service quality levels with an average wait time of 72 seconds, showing a slight rise with respect to the call volumes.

In 2018, the A2A Ciclo Idrico branches served about 39,250 customers (an increase of 27.5% on 2017), who were served in an average of 15 minutes.

Since July 1, 2018, a **social water bonus** or water bonus has been established, a measure aimed at reducing the expenditure for the aqueduct service of a family in conditions of economic and social hardship, through the provision of a one-off compensatory component for the supply of water.

In 2018, 3,096 requests were received via the portal to adhere to the bonus.

A2A Ciclo Idrico launched this initiative in December 2016 on a voluntary basis, and assumed autonomously by the company, which confirms the Group's attention to the territory and to the economically weaker sections of the population.

In addition to the aspects related to quality and access to the service, the companies have always been committed, with a view to maximum transparency, to show how all the water supplied by the aqueducts of A2A Ciclo Idrico and ASVT complies with the limits set by law. For this reason, **the values of the main indicators of water quality** distributed at the various monitoring points or water houses are **available online**.

Initiatives are continuing to raise users' awareness of responsible water resource consumption and behaviour patterns, including the **Acquasicura project**, an offer that includes a contribution to the costs incurred for moving the water meter to the border between private and public property and a contribution to the purchase of a pressure gauge as well as the possibility of taking out an insurance policy, which in 2018 saw over 1,460

requests for relief for water loss downstream of the point of delivery of which 1,008 already processed, for a total of about 1.5 million euro reimbursed to users. Requests for new subscriptions of the insurance policy numbered 745 and 142 users benefited from this service.

"TRAINING COURSE FOR CONCILIATORS OF THE INTEGRATED WATER SERVICE AND DISTRICT HEATING"

As part of the ADR protocol with consumer associations, in 2018, in collaboration with *Consumers' Forum*, a "training course for negotiators of the Integrated Water Service and District Heating" was organized, where the legal and regulatory framework of the two services was presented to the mediators.

For district heating in particular it involved:

- contractual discipline, connections and exercise of the right of withdrawal by users;
- the most common complaints in district heating;
- experiences of consumer associations;
- transparency and monitoring of service provision prices;
- interventions in metering systems, sub-invoicing services for consumption and accounting separation (e.g. energy efficiency interventions under Legislative Decree 102/14).

For the Integrated Water Service, the topics presented were:

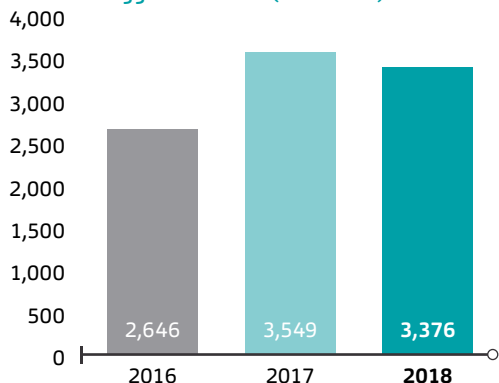
- the technical quality objectives of Resolution no. 917/17;
- ADR procedures in the integrated water service;
- the regulatory aspects, regulators and application methods of the Water Social Bonus;
- a more in-depth analysis of Resolution 664/15 on the tariff method of the service.

➤ For more information on water quality and data related to concentrations of the parameters characteristic of the water distributed, refer to the supplement to this Report or visit the Water Quality section of the A2A Ciclo Idrico and ASVT websites: <http://qualitaacqua.a2acicloidrico.eu/QualitaH2oWeb/> e <http://qualitaacqua.asvt-spa.it/QualitaH2oWeb/>

10.1.4 Relations with customers of the urban hygiene service

Through the companies Amsa, Aprica, Linea Gestioni and Rieco, the Group manages the municipal hygiene services of 215 municipalities of Lombardy, for a total of more than 3.4 million citizens served, in the provinces of Milan, Brescia, Bergamo, Como, Lodi, Lecco, Monza and Brianza, Mantua and Cremona.

Figure 57_ Total number of users of the municipal hygiene services (thousands)



In 2018, Aprica acquired the environmental hygiene service in new municipalities of the province of Genoa: Rapallo and Zoagli.

Initiatives to empower users and achieve high differentiated collection

Having reached high levels of differentiated collection, the incremental capacity to further increase the differentiated collection rate requires the implementation of **increasingly widespread and timely initiatives** aimed at reaching certain community activities or specific categories of waste. The following are some of the initiatives implemented by Group companies in 2018.

In 2018, during the holidays and summer activities, about **90% of the parish youth clubs in Brescia promoted**, internally, **differentiated collection**. Aprica, in collaboration with the Parish Youth Clubs Centre, has tried to spread the culture of differentiated waste collection also through the delivery to each parish of a kit consisting of containers for paper, organic, glass and undifferentiated.

At the end of each "Ecofesta", used vegetable oil (frying oil) was also collected. The parish youth clubs involved in the project managed to achieve about 83% of differentiated collection (estimated figure).

Between May and June, APRICA's Ecocars, mobile vehicles that collect small household appliances and hazardous waste, stopped by **Brescia's local markets**. On those occasions, the operators also distributed free of charge a 20-litre bag of quality compost from the A2A Ambiente plant in Bedizzole, as a natural alternative to chemical fertilizers. In October, during the Ecomondo fair, the new Ecocar model was also presented, designed by Aprica staff to facilitate and reduce operators' working times.

➔ To find out where and when to find your workstations, you can consult the local services on the PULIamo APP.

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In September 2018, AMSA, Assobioplastiche and Comieco launched the **communication campaign "Hai detto umido?"** to discover and learn to **differentiate correctly the new compostable products**.

In fact, many objects that are on the market today (glasses, crockery, shopping bags, ...) are made of compostable materials, and can then be thrown into organic along with kitchen waste to be transformed into compost.

The campaign dedicated to the new compostable materials has been conveyed online and in the territory through the Mobile Office of Amsa, an itinerant counter where you can request information, report problems related to collection, receive information material and book the collection of bulky waste.

The **Ecoisola**, on the other hand, is an initiative from a collaboration between AMSA and the Ecolight consortium, and promoted by the Municipality of Milan, which aims to collect waste electrical and electronic equipment and light sources in the city.

The Ecoisola is an innovative, fully automated waste bin: to use it, the user must swipe the health card (Regional Services Card) into the appropriate slot, then select the type of waste to be added, then insert it into the dedicated door that will open automatically. Once the internal containers have been filled, the machine itself will warn operators who will empty it.

The experimentation, with the installation in 2018 of 5 eco-islands in as many municipalities in Milan, will continue until July 2019, with the inclusion of another 4 eco-islands in the remaining municipalities.

In the territory of Milan, there are currently five recycling plants, sites to collect waste that cannot be delivered with "door to door" collection. In addition to the objective of extending the presence on the territory with the construction of five other recycling plants (one recycling plant for each Municipality of Milan), an area has been identified, with a surface area of about 10,300 m², which provides inside the first center of reuse. In this area, citizens will be able to bring used objects they want to dispose of, thus preventing them from becoming waste and giving them a "second life" with other people who will reuse them.

Recycling will be managed by AMSA, while the reuse centre will be run by a manager who will be identified by a call for tenders from the Municipal Administration.

Quality of services provided and attention to customers

Amsa and Aprica maintain a direct relationship with the citizen and customer through different channels. As regards the call centre service, the levels of customer satisfaction are extremely high.

Figure 58_Quality of the call centre service

	AMSA	APRICA
Accessibility of lines and services (time when line is free vs operator presence time)	100%	100%
Average waiting time on the telephone (seconds)	47	45
Percentage of successful calls	97%	93%

Moreover, as support service and to increase customer accountability, all Group companies dealing with environmental hygiene have made an application available to citizens, all about separate waste collection. For AMSA and Aprica, it is possible to use the "**PULiamo**" application; for Linea Gestioni it is possible to use the "**rifiutiAMO**" app: these applications provide users with information about the days of waste collection at home and all the information necessary for correct differentiated collection, allow them to request the collection of bulky waste, to report anomalous situations and to know the location of the ecological platforms.

The services offered by Amsa, Aprica, Linea Gestioni are regulated by a specific **Service Charter**, which describes the terms, methods and quality of services offered to citizens in the municipalities served.

BRESCIA QUALITY OF SERVICE CHARTER

Among Aprica's activities, to complete the project to modify waste collection methods, a **Quality Charter for Services** of urban hygiene in Brescia was drawn up, a two-year document that summarizes the methods of managing services and the quality standards defined with the Brescia municipal administration, which Aprica undertakes to respect through the correct performance of its activities. The document was printed in March 2018 in over 100,000 copies and sent to families in the city.

➤ The Service Charters can be consulted on the various companies' websites.

Customer satisfaction survey on AMSA services

As every year, also in 2018 a Customer Satisfaction survey was carried out on the services that Amsa offers to **citizens**, managed directly by the Municipality of Milan, according to the provisions of the current Service Contract.

The survey was conducted with the aim of verifying the satisfaction levels of residents of the city with regards to the services supplied and to identify the relevant strengths and any areas for intervention. The questionnaire has been administered by telephone to 5,500 citizens residing in Milan, of whom 500 are foreign.

All services reached a satisfaction index of over 7. The waste collection service (7.74) is particularly appreciated. The cleaning and washing of roads and sidewalks has increased significantly, from 7.29 in 2017 to 7.56 in 2018.

Satisfaction was also very high for all contact channels (app 8, toll free number 7.9, website 7.68, counter 7.64) and for the collection of bulky waste (7.88).

Every year the satisfaction of the **commercial operators** of the municipality of Milan is also investigated. In this case, 200 interviews were conducted with representatives of different sectors of activity (hotel services, bars, restaurants, retail/wholesale and industry/production activities). The overall satisfaction for this target group with the services offered by Amsa was 7.5 (average rating). Also in this case the satisfaction for the contact channels and in particular for the toll free number is very high (8.3 vs 7.3 in 2017). 7.7 the average satisfaction rating for the waste collection service and 7 for cleaning and washing streets and sidewalks.

Amsa surveyed the satisfaction level of citizens also in 13 **surrounding municipalities** (Bresso, Buccinasco, Cesate, Cormano, Corsico, Novate Milanese, Paderno Dugnano, Pero, San Donato, Segrate, Settimo Milanese, Trezzano sul Naviglio, Pioltello) in which the company goes about its business.

In this case, a total of 1,760 interviews were carried out, which showed that the overall level of satisfaction of citizens is very high, ranging from 7.8 to 8.3. The most satisfied turned out to be the municipality of Pero.

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Satisfaction survey Aprica in the Municipality of Bergamo

Aprica carries out a Customer Satisfaction survey every two years with the aim of assessing the satisfaction of the service offered to the citizens of the municipality of Bergamo. For this survey, 1,000 interviews were carried out with domestic users and 300 with commercial users using the CATI (Computer Aided Telephone Interviewing) methodology.

In general, satisfaction with all the services offered is growing, bringing the overall rating from an average of 7.77 in 2016 to 7.84 in 2018.

The assessment of urban waste management methods, both global (8.29) and of specific aspects, is very high. Respondents were particularly satisfied with the timetables (8.20) and the frequency of collection (8.08). Satisfaction with street and sidewalk cleaning is also growing (7.44).

High satisfaction also for the traditional contact channels (toll free number 8.25, counter 8.79, site 8.03) while still little used are social channels and the app.



Satisfaction survey of Linea Gestioni in the areas of Lodi, Crema, Cremona and Franciacorta

In 2018, a Customer Satisfaction survey was conducted for the **environmental hygiene** service carried out by Linea Gestioni in the areas of Lodi, Crema, Cremona and Franciacorta. 2,410 telephone interviews were conducted to investigate the level of user satisfaction with waste collection services, street cleaning and contact channels. In general, the satisfaction is very good and above the national average. Higher levels of satisfaction are found in Franciacorta.

The door-to-door waste collection service is particularly appreciated, with a CSI of 94.6 and stable compared to 94.5 in 2017.

An analysis of the intervention priorities confirms the Group's decision to focus more and more on a door-to-door collection system. Also with regard to the introduction and dissemination of the door-to-door collection system, it should be noted that the levels of satisfaction with the service on the part of users who switched to door-to-door in 2016 were in line with the general average of LGH's customers.



10.1.5 Fairness and transparency in customer relations

In 2018, the Group did not receive any sanctions for situations of non-conformity with laws or regulations relating to the supply and related services, for marketing, sponsorship and communication activities.

In 2018, A2A Energia appealed to the Regional Administrative Court of Lazio against the fine imposed in October 2017 by the Antitrust Authority, for A2A Energia's failure to promptly adjust the channel for paying bills online by credit card in accordance with the Consumer Code of June 2014.

It should also be noted that the A512 proceedings initiated by the AGCM in May 2017, on reports of certain competitors, for alleged abuse of a dominant position by A2A Energia in the market for the sale of electricity, were closed without the payment of penalties.

In addition, by means of Determination DSAI/65/2018/com, the Authority initiated a procedure against A2A Energia S.p.A. aimed at ascertaining violations in relation to the invoicing of energy consumption, in relation to the application of specific fees to end customers for the receipt of invoices in paper format. On December 14, the Company promptly submitted a proposal for commitments and the position is still being assessed by the Authority.

Finally, on December 12, 2018, following a report by AMA (a company operating in the environmental services sector that is 100% owned by the Municipality of Rome), AGCM initiated preliminary proceedings to ascertain an alleged agreement that restricts competition, in violation of art. 101 TFEU, against A2A S.p.A. and other companies operating in the municipal waste sector.

The procedure is expected to be completed by the end of 2019.



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10 Relational capital *Community*



INPUTS

New stage of forumAscolto
in Piedmont

**More than 460 listening
and involvement initiatives**
of our stakeholders

School Project
with initiatives aimed at ensuring environmental
education and tours of the Group plants

The **Doniamo Energia 2 tender** was promoted,
aimed at supporting situations of social and economic
vulnerability throughout Lombardy territory.

Financial
capital

Manufacturing
capital

Natural
capital

Human
capital

Intellectual
capital

Relational
capital

A2A SERVICES AND PROCESSES



Selected the **two projects that won
the call "CreiAMO FVG"**, which
received an economic contribution
and a path of light incubation

4.2 million euro to the
community in sponsorships,
donations and contributions to
theatres and foundations

**59 thousand students and
teachers involved** in visits to
facilities and environmental
education activities

352 communications
to the media and **over
350 meetings** with
journalists

6,000 people in vulnerable
situations intercepted and
supported with the call
Doniamo Energia

OUTCOME

RELATIONSHIP WITH GROUP STAKEHOLDERS

Development of business activities in complete respect of stakeholders, promoting transparent communication and collaboration; participation in round tables with entities and institutions able to influence national and international strategies; promotion of projects for the creation of shared value in the territory and local communities (e.g. urban regeneration activities); identification of needs and necessities of stakeholders through project activities that can effectively meet their expectations (e.g. social needs).

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Incorrect perception of the activities and business carried out by the Group.</p> <p>Failure to meet stakeholders' expectations with respect to social and environmental issues.</p> <p>Lack of transparency in relations and communication.</p> <p>Failure to adjust the business to fit with the continuously-evolving regulatory scenarios.</p>	<p>Group brand promotion policy.</p> <p>High level of approval of Group companies in the area, which historically provide their products and services with high quality standards.</p> <p>Development plan for initiatives aimed at enhancing the architectural and landscape heritage.</p>	<p>Dissemination of a correct perception of the Group's business, with specific reference to the social and environmental impacts of the Group in the territory.</p> <p>Development of communication and listening plans dedicated to the specificity of the territories in which the Group operates.</p> <p>Direct (territorial forums) and indirect (surveys) stakeholder engagement initiatives.</p> <p>Development of continuous dialogue with the national and supranational institutions linked to matters of the energy and environment.</p> <p>Active, transparent collaboration in the definition of safe, sustainable scenarios for the development of the sector and regulated business activities.</p> <p>Program for the development of architectural lighting systems.</p>	<p>Renewed some agreements with universities for research and innovation activities related to the technical and environmental improvement of the Group's activities and businesses.</p> <p>Organized "Regulatory Breakfasts" to analyze the emerging regulatory issues.</p> <p>Relationship activities and involvement of the main Consumer and Environmental Associations.</p> <p>The 15 winning projects of the call "Doniamo Energia", promoted in collaboration with Fondazione Cariplo, have been launched.</p> <p>Territorial initiatives sponsored for 750 thousand euro.</p>	<p>PEOPLE INNOVATION</p> <ul style="list-style-type: none"> - Stakeholder engagement - Transparency - Brand perception

ACTIVE LOCAL AND ENVIRONMENTAL EDUCATION

Sensitisation of the local community to a responsible use of resources, energy and the importance of reusing materials so as to minimise waste; promotion of environmental education initiatives (e.g. schools), of active citizenship and knowledge of Group activities, including through the organisation of tours to plants.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Lack and/or superficial knowledge, by public opinion, of sustainability matters.</p>	<p>Cultural changes in consumer behaviour, which increasingly take into account environmental and social sustainability aspects as criteria of choice when purchasing goods and services.</p>	<p>Promotion of sensitisation initiatives of sustainability matters amongst citizens.</p> <p>Organisation of environmental education activities with school students.</p> <p>Organisation of tours of Group plants.</p>	<p>Increased participation in the School Project with over 29,200 students visiting the facilities.</p> <p>3,000 students involved in the exhibition "The Game of 4R", focused on the waste cycle.</p> <p>Organized events and initiatives dedicated to teachers and school leaders.</p> <p>533 classes of 196 institutes from 24 Italian provinces involved in the "Missione Terra" project, with final events in Milan and Brescia.</p>	<p>PEOPLE INNOVATION</p> <ul style="list-style-type: none"> - Education

10.2.1 Relations with entities and institutions

The role and nature of the A2A business require constant dialogue and a comparison of notes with the national institutions, regional authorities and local entities. The instrument that defines and regulates relations with the entities and institutions is the Code of Ethics of A2A, within which it is explained that the Group does not make any contributions directly or indirectly to any political party, movement, political and trade union organisation and committee, nor to their representatives or candidates, in Italy and abroad, apart from contributions due in accordance with specific regulations.

In 2018, the main topics covered were:

- the presentation of the main dossiers of interest to the Group to the new national and local institutional representatives;
- regulations on the renewal of hydroelectric concessions in Italy;
- regulations on the exceeding of the greater protection on the electricity and gas market;
- the proposed legislation on the water cycle;
- the discipline of end of waste;
- the capacity market;
- monitoring of measures envisaged by the National Energy Strategy;
- the dialogue with the Regions of Sicily, Apulia and Friuli Venezia Giulia to support the projects for the conversion of the A2A plants in S. Filippo del Mela (ME), Brindisi and Monfalcone;
- support for the definition of the new contract for the management of the Acerra and Stir di Caivano waste-to-energy plants, with the Campania Region and the metropolitan city of Naples, respectively;
- opening up structured channels of communication with the European institutions;
- dialogue with business, environmental and consumer associations;
- consolidation of the control over the member municipalities.

TRADE ASSOCIATIONS

A2A adheres to more than 80 various trade associations, including:

- **Utilitalia**, the Federation of companies operating in the public services of water, the environment, electricity and gas. The association is currently chaired by the Chairman of A2A;
- **Confindustria** and, in particular, **Elettricità Futura**, **Assolombarda** and **Green Economy Network**, the network promoted to create opportunities for the exchange of information and commercial agreements between businesses offering products, technologies and services for environmental and energy sustainability;
- **AIRU** (Italian municipal heating association), which aims to promote and disseminate the application and innovation of territorial energy plants, in the sector of district heating and district cooling;
- **D-value** the first association of companies in Italy that for ten years has been committed to gender balance and an inclusive culture in organizations and in our country.

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10.2.2 Relations with universities and research centres

For A2A, maintaining constant dialogue with the world of universities and research allows it to have innovative and cutting-edge competences, to offer its areas of activity as spaces within which to trial innovation projects and, at the same time, to contribute, through activities of involvement and testimonials, towards a university training that is better focussed on the world of work. In 2018, too, many relations and activities were undertaken with this category of stakeholders.

First of all, a number of agreements were renewed with universities, in particular Università degli studi di Brescia and Università Cattolica di Brescia, for research and innovation activities linked to the technical and environmental improvement of the Group's activities and businesses. In particular, activities will be focused on the issues of circular economy, energy efficiency and smart city.

In September 2018, A2A Calore e Servizi, Alfa Acciai, DHPlanet, Siat Italia and the University of Brescia signed a partnership agreement to participate in the Lombardy Region's Call "Accordi per la ricerca e l'innovazione" (Agreements for research and innovation), dedicated to supporting research and development of new sustainable technologies and new products and services. A2A Calore e Servizi will lead the partnership and will present, with the support of IBS Consulting, an innovative project that develops an **intelligent system of energy recovery from production sites**. The proposed intervention is characterized by the possibility of starting up thermal recovery systems in the Alfa Acciai plants and of introducing heat into the nearby district heating network of A2A Calore e Servizi.

A2A has supported (with Acque Bresciane, Legambiente Brescia and Atelier Europeo) the **"Rendering" project** of the University of Brescia, in partnership with INSTM, the Multisector and Technological Service Centre (CSMT) and the Lombardy Region. The project aims to optimize the energy recovery of sewage sludge and its reuse, as an alternative to other natural resources, for the production of 'green' compounds. The starting point for Rendering is the results of other recently completed research projects on the stabilization of fly ash resulting

from the processes of incineration of solid urban waste and the objective of the new project is twofold: on the one hand, to promote the incineration of sludge together with municipal waste, a process that can reduce the production of greenhouse gases compared to the incineration of sludge only; on the other hand, to use the products derived from the treatment of this waste for the production of new eco-materials.

In addition to research projects, A2A also collaborates with universities to improve their internal services.

In September 2018, A2A Ciclo Idrico installed a **water house in the garden of the university college** in Brescia, capable of delivering water from the aqueduct, both natural and sparkling, available to all visitors to the college. The aim is to reduce the consumption of water in plastic bottles and the consequent production of waste, as well as to raise awareness of the good quality of water from the aqueduct. Aprica and Fondazione ASM will also support Università Cattolica di Brescia in the initiative to **reduce plastic waste** through the free distribution of aluminium bottles and the installation, in 2019, of drinking water dispensers connected to the city waterworks.



10.2.3 A2A and the regulation stakeholders

The A2A Group operates in highly regulated sectors whether they are managed under natural monopoly (such as infrastructure for the distribution and transport of electricity, gas and heat, and the integrated water cycle) or under free market regime (such as generation and the sale of energy and other services to customers). The 2018 Budget Law also extended the regulatory and control powers of the Authority for Electricity, Gas and the Water System (AEEGSI which changes its name to ARERA - Regulatory Authority for Energy Networks and Environment) to the urban and similar waste cycle, also differentiated.

The Group adopts a policy for monitoring and managing legislative and regulatory risk, in order to mitigate the negative effects as far as possible. The monitoring consists of an oversight system, structured into several levels, which involves first and foremost collaborative dialogue with the institutions (ARERA, the Antitrust Authority, the Authority for Communications Guarantees and the Ministry of Economic Development) and with local sector technicians (Energy Services Manager, Energy Markets Manager, Terna, regulatory entities) and the active participation in trade associations and working parties established by these entities.

Monitoring and control instruments have been implemented (such as the half-yearly regulatory review or the regulatory agenda prepared during the budget/planning); these are constantly updated to consider the potential impacts of the regulation on Group companies and envisage constant dialogue with Business Units, not only to simulate impacts on current business but also to assess new initiatives taking into account the medium-term regulatory framework.

The European regulatory areas are also monitored, through participation in the tables of community associations of reference, which allows knowing "in advance" what will be the subject of transposition into Italian law.

The Institutional and Regulatory Committee was also set up, composed of the Chairman and CEO, as well as the managers of the structures "National and International Institutional Relations" and "Regulatory and Market Affairs". This Committee meets periodically involving from time to time the Managers of the BUs/staff areas concerned, in order to transfer to them the new legislation and regulations, take a corporate position on evolving standards and collect the requests of the business to convey them to the stakeholders of reference.

The dissemination of the "culture" of Regulation and of the dimension of risks and opportunities deriving from it is also carried out through the organization of internal in-depth analysis (which took the form of Regulatory Breakfasts) on issues of particular relevance for the sectors in which the Group operates, thus allowing internal stakeholders to focus (also thanks to the involvement of external experts) on the evolution of the framework of rules and technological scenarios, in particular on those that are disruptive with respect to the existing scenario.

Finally, thanks to the participation in events and moments of in-depth analysis organized by research centers and specialized think tanks, discussion is encouraged with academic realities and communities of researchers, as well as with the different industrial systems and consumer associations. In light of the evolving scenario of energy and climate policies, these opportunities stimulate the convergence of different stakeholders with respect to the objectives of sustainability, decarbonization and circular economy.

From January 2017 and January 2019, respectively, the organizational structure also monitors the regulatory risk for the LGH Group and the ACSM AGAM Group in order to monitor and manage their impact in a coordinated manner.

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10.2.4 A2A and relations with territorial committees and associations

Relations and dialogue with the reference territory underlie the very identity of the Group and have a major impact on the degree of acceptance of the business activities. This dialogue is also based on constant relations with consumer and environmental associations, national and local, and with the numerous territorial committees.

Continuing on from the previous years, in 2018 various activities were carried out, including:

- organization of meetings, in the main areas of reference and in the plants, reserved for representatives of consumer and environmental associations and committees for the **presentation and in-depth study of initiatives and projects concerning all Group companies**;
- analysis and extension of the areas of activity concerned through specific meetings and participation in conferences on consumerist, social (focus on energy poverty linked to the Banco dell'Energia social responsibility project) and environmental issues;
- preparation, with the territorial consumer associations and local administrations, of the quality charters of the environmental services in the municipalities managed by Aprica;
- constant dialogue with the associations of Campania that are engaged in the territory in the promotion and support of the A2A project "Missione Terra Global Goal" and for visits to the waste-to-energy plant of Acerra;
- coordination of activities relating to the protocol for the out-of-court settlement of disputes, also known as ADR (Alternative Dispute Resolution), for joint settlements and management of the conciliation secretariat for the ARERA Conciliation Service managed by the Single Buyer.

With reference to **conciliation** requests, 2018 was the year of consolidation of activities started with the new **Memorandum of Understanding signed in 2016 between A2A and the national consumer associations for the promotion of joint multiservice conciliation, aimed at ensuring an amicable settlement of any**

disputes (ADR) that may arise between consumers and A2A in respect of the supply and distribution of gas, electricity, water and district heating.

According to that introduced by the Integrated Conciliation Act (TICO) approved by ARERA, as from January 2017, electricity and gas customers, domestic and otherwise, must obligatorily apply for conciliation (ADR instrument) to settle any disputes not settled through complaints made to operators before referring to the ordinary judge. The attempt at **obligatory conciliation can be exercised through the bodies provided for by the TICO, including the body ADR A2A - Consumer Associations**, Chambers of Commerce and other recognized bodies.

The obligation to seek conciliation will also be introduced progressively to other regulated sectors. In the event of failure, an attempt at conciliation is an essential condition in order to be able to proceed with a lawsuit, whilst the minutes of the agreement constitutes executive deed between the parties.

Regarding **joint conciliations**, in 2018, the files received registered a slight increase compared with the previous year; the conciliation secretary of the **Body ADR A2A - Consumer Associations** received 44 requests on behalf of gas, electricity and water customers: 42 requests regarding A2A Energia, 1 Unareti and 1 A2A Ciclo Idrico, concerning mainly aspects related to the metering of consumption and invoicing. As far as the ARERA Conciliation Service **managed by the Single Buyer is concerned, requests have doubled**; in fact, 92 requests have been received: 85 regarding A2A Energia and 7 related to Unareti.

Unareti also received **122 summonses** (compulsory) as technical aide insofar as necessary and essential to the correct, effective processing of the disputes for conciliations started by customers of other sales companies.

In addition, in coordination with other ADR entities, online training courses for Conciliators in the energy sector were organized, coordinated by Consumers' Forum.

BANCO DELL'ENERGIA ONLUS

In 2018, 15 projects were launched, winning the "Doniamo Energia" tender promoted in collaboration with the Cariplo Foundation, with the aim of assisting families in vulnerable social and economic positions throughout Lombardy. The selected bodies have worked to intercept fragile people at an early stage and facilitate their reactivation, supporting them in paying for urgent expenses (such as the bills of any energy operator), but also trying to provide broader responses, taking into account the issues related to work and social ties. In 2018, 6,000 people were intercepted, so that they can count on personalized paths and initiatives, thanks to which they can strengthen relevant relationships within their own community and take action to "return" to the benefit of the community.

On the strength of this first positive experience, in early 2018, Banco dell'Energia Onlus, with the support of A2A and the AEM and ASM Foundations, activated a new fundraising, aimed at supporting a second edition of the "Doniamo Energia2" call, in collaboration with Fondazione Cariplo. Banco dell'Energia's new objective is to collect 1 million euro by July 31, 2019, while Fondazione Cariplo will reiterate its commitment to double this figure, allowing a total new contribution of 2 million euro to be allocated.

➔ For more information www.bancodellenergia.it

This second edition follows in the scope of action, objectives and content of the previous one, also presenting elements of innovation that focus more on the issue of "fuel poverty".

In December 2018, the ranking of the winning projects was published: 16 projects with a total of 205 organizations working in a network. Families can request aid and inclusion in the recovery programmes by contacting the lead partners directly, according to their territory.

There are various instruments to take part in this innovative fundraising: in addition to using the bill, a free donation can be made on their postal bill, bank transfer or credit card. A2A will contribute by doubling the donations made by domestic customers of A2A Energia.

At the end of 2018, thanks to a partnership with Ubi Comunità, UBI Banca has announced the issue of a new "UBI Comunità per Banco dell'Energia Onlus" joint bond (Social Bond) for a total amount of 20 million euro, the proceeds of which, amounting to 100,000 euro, were donated to Banco dell'Energia Onlus.

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10.2.5 Responsible investments in the community

The Group has always offered its support to multiple social activities and initiatives, which have allowed it to collaborate closely with the reference community.

In 2018, the Group's **total investment** in the community came to approximately 4.2 million euro including contributions made in sponsorships, donations and support of the Group Foundations.

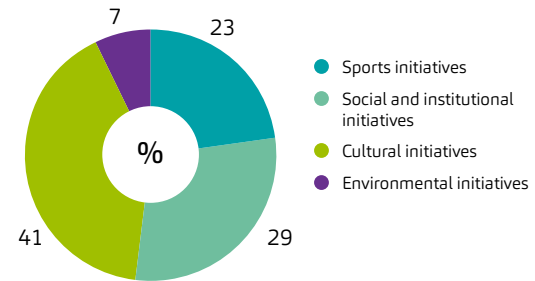
The contributions were lower than the previous year, but in line with 2016, as in 2017, they included a one-off contribution of one million euro to the Musil Foundation of Brescia and the last tranche of the multi-year project to support the restoration of the Sala delle Asse at Castello Sforzesco in Milan.

Sponsorships of sports, social, environmental and cultural activities in favour of the territory come to about 749 thousand euro.

The main sponsorships include:

- the **X National Conference on Energy Efficiency 2018** and the **XI edition of the Energy Festival**, two of the major national events dedicated to energy issues, with a focus on climate policies and sustainability issues;
- the **47th edition of the Stramilano**, the **XII edition of the Concert Season Milano Arte Musica**, the **Cantiere-evento del Teatro Lirico**, the **About a City** initiative, an event dedicated to the transformations of contemporary and future urban environments, and **STEM in the City** on Milan;
- the second edition of the **International Festival of Lights on the Castle** of Brescia, as well as the set-up for the **Christmas lights** of Brescia and **Smart Future Academy 2018**;
- the **Magna Graecia Film Festival** in Calabria;
- the contribution to the **sports season of New Basket Brindisi**;
- the Bookshop Fair and the **Symposium On Urban Mining** in Bergamo;
- the **cultural, social, sporting and recreational initiatives** of the Municipality of Corteolona and Genzone (PV);
- the cycle race **Carnia Classic Fuji/Zoncolan** in Friuli Venezia Giulia;
- the **XXXII edition of the Sondrio Festival** and the **Energy2Run - Tour of the lakes of Cancano** in Valtellina;
- the **TonoSummerFest**, the **5th "quiNteatro" Theatre Season in Milazzo** and the **10th VVF (Firefighters) Beach Volley Italian Championship** in Sicily;
- the **cultural programme** of the Municipality of Cremona;
- the 2018 edition of the **Festival Altrestorie** in the Municipality of Crema.

Figure 59_Breakdown of sponsorships by area of activity



In addition to sponsorships, there are other initiatives aimed at contributing to the sustainable development of the territories in which the Group operates.

These include activities related to the allocation of scholarships to students.

A2A, in collaboration with the Intercultura Foundation, has made available **25 scholarships** for 4-week summer programs abroad, giving the winners the opportunity to stay and attend language courses in Europe, America or Asia.

In addition, A2A and LGH are committed to supporting their employees by providing scholarships for their children. In 2018, A2A awarded scholarships to the 100 most deserving students, children of colleagues from Bergamo and Brescia, for the school results obtained (25 students from the lower middle school, 50 from the upper middle school and 25 for graduation were awarded).

LGH has set up "**LGH e lode!**", a study award reserved for the children of employees engaged in higher or university studies. Scholarships, amounting to 500 euro for new high school graduates and 1,000 euro for new university graduates, were awarded to 8 students.

LGH has also established the **LGH Start Up 2018** award to support, give space and visibility to young companies that, starting from an original idea, have managed to bring new products or services to the market. The prize was awarded to companies registered in the register of innovative start-ups for no more than 24 months, with registered offices in the provinces of Cremona, Brescia, Lodi and Pavia. The winner was awarded a cash prize of 5,000 euro gross, the opportunity to use the spaces of the Cremona Cobox for 6 months, and the opportunity to request 50 hours of consultancy from qualified staff of the LGH Group.

Also in 2018, the **Group's Civil Protection Volunteers Association** gave its contribution to the community. Volunteers were called upon to intervene in Milan on the occasion of the derailment of the Cremona-Milano Garibaldi railway train. In addition, in October, two teams of volunteers participated with the Lombardy Region in the work of safety and restoration of electrical and lighting systems in some towns

of Cadore (Upper Veneto) affected by the flood and tornadoes. In addition, at the Lovero Training Centre, more than 300 young people participated in training and awareness-raising activities on international civil protection activities, as part of a wider Active European Citizenship project, which also included a visit to the European Community headquarters in Strasbourg and one to a Nazi concentration camp.

THE DUOMO CATHEDRAL LIGHTS UP IN SPLENDOUR: NEW EXTERIOR LIGHTING OF THE CATHEDRAL

On December 20, the new outdoor lighting of the Duomo of Milan was switched on. The project, commissioned by the Veneranda Fabbrica del Duomo and approved by the Superintendence of Fine Arts and Landscape of Milan, was the result of an agreement signed jointly last February with the Municipality of Milan and A2A for the

enhancement of outdoor lighting of the Cathedral.

Today, the Duomo is a virtuous "model" also from the point of view of environmental sustainability, thanks to the connection to the district heating network and the new LED lighting.

10.2.6 Education and training

A2A is investing significantly in involving and raising the awareness of the new generations on issues relating to environmental education, with the aim of encouraging the growth of ecological awareness and encouraging conscious behaviour in the service of improving the quality of life in the territories. This has led to a number of initiatives and activities, aimed in particular at the world of school: lessons in class, guided tours of the facilities, seminars for teachers, competitions and educational exhibitions (for more information: scuole.a2a.eu).

Guided tours of the offices and facilities take place throughout the year, always involving a great deal of interest. In 2018, participation grew further (+7%), with over 33,600 visitors, of whom 29,200 were students.

Casa dell'Energia e dell'Ambiente in Milan remains the most visited site, with 7,800 entries recorded. This structure, the operational premises of the **AEM Foundation**, is a museum open to students and citizens, where it is possible to learn about and explore the issues relating to the world of energy and sustainability. The AEM Foundation has always been committed to supporting scientific research, training and the development of innovative knowledge and skills in the field of energy and environmental sustainability throughout Lombardy and in particular in the areas of Milan and Valtellina. In a parallel fashion, the **ASM Foundation**, with activities dedicated to social aspects, the promotion of art and culture, as well as support for training and environmental protection, operates in the territories of Brescia and Bergamo.

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The table below shows the Group's main **environmental education projects**, which involved schools in 2018, at both national and local level.

INITIATIVE	DESCRIPTION	AREA OF REFERENCE
"CIAK: L'AMBIENTE"	Continuation of the initiative "CIAK: L'AMBIENTE" in collaboration with MIC - Museo Interattivo del Cinema , a film festival on environmental sustainability, dedicated to primary and secondary schools of first and second grade. Last year, the second edition saw the participation of more than 750 young spectators in the 8 proposed appointments.	Milan
Il Gioco delle 4 R	The interactive educational exhibition Il Gioco delle 4 R , aimed at primary and secondary schools, focuses on the waste cycle. The game is a fun route that helps reflect on four keywords: reduction, reuse, recycling and recovery. Through quizzes and games, children are encouraged to adopt sustainable behaviour, reduce waste and put recycling and reuse into practice. The exhibition was held in Milan, in Casa dell'Energia dell'Ambiente, in three Municipal buildings and two schools (IC Galvani and IC Elsa Morante), involving a total of about 3,000 participants, with the program to continue its activities in other areas of the city. In April and May, the exhibition was hosted by the second educational club of Acerra (NA) with the participation of 25 classes and about 700 students.	National
"Maccheariachefa" and "Riciclo Aperto"	Created by the AEM Foundation, at Casa dell'Energia e dell'Ambiente in Milan, the Maccheariachefa exhibition uses art comics as a means of raising awareness of the issue of air quality. 1,400 students were involved in drawing workshops. Casa dell'Energia e dell'Ambiente has also joined Riciclo Aperto , the Comieco event that opens the doors of the paper and cardboard recycling chain to schools throughout Italy.	Milan
"La nostra energia per l'ambiente"	In Brescia, "La nostra energia per l'ambiente" (Our energy for the environment) continues, the television programme created in collaboration with Teletutto, with the contribution of the ASM Foundation and with the patronage of the Municipality of Brescia. The program involves 12 classes of primary and secondary schools in the city.	Brescia
"Rifiuto: da scarto a risorsa"	The didactic path on environmental issues, realized at Casa dell'Energia e dell'Ambiente in Milan, hosts the laboratory "La fabbrica della carta", developed in collaboration with Comieco, to experiment how to create new sheets of paper by recycling old newspapers.	Milan
"Conoscere l'energia"	The educational path of Casa dell'Energia e dell'Ambiente in Milan raises awareness and prepares students for the intelligent consumption of energy.	Milan
"Liter of Light"	The international solidarity project involves 60 students, on the issue of access to energy. The children, accompanied by educators, make real LED lamps that are then installed in some countries of Africa, where there is no power supply.	Milan
"L'Energia a 360°"	The initiative, promoted by A2A and AENV Energie, is aimed at fourth and fifth year secondary school students with the aim of providing a general framework and some specific insights on aspects of particular interest and current issues related to the world of energy.	Valtellina
"Missione Terra"	"Missione terra – S.O.S.tieni il tuo pianeta" is a project focused on raising awareness of respect for the environment and natural resources, water and energy (see dedicated box).	National
"STEMintheCity"	A2A has been a partner of "STEMintheCity", an initiative of the Municipality of Milan created to promote the spread of technical and scientific disciplines and a new digital culture among the new generations. A2A has organized two robotics workshops for secondary school students. Moreover, during the inaugural event in Stem, the head of the Mese hydroelectric plant took part, explaining to the students her experience as the first woman in charge of electricity production plants in Italy.	Milan

In addition to visits and local initiatives, A2A proposed, within the framework of service contracts with some Lombardy municipalities, public meetings and classroom lessons on environmental education and sustainability, workshops focused on recycling and saving, on the reduction of waste and food waste that involved about 13,000 people.

In Como there were also some replicas of the play "Facciamo la differenza" (Let's make a difference) focused on the issues of separate collection and reduction of waste, which involved about 400 students from primary and secondary schools.

In addition, events and **initiatives dedicated to teachers and school leaders** were organized, including workshops, such as those in Brescia and Milan, which involved about 200 participants, addressing issues such as diversity and the fight against food waste.

MISSIONE TERRA

For the year 2018, the focus of A2A's proposals for schools was the **"Missione terra" project**, divided into several initiatives, such as events, a national educational test and the free distribution of a boxed game to all participating classes and those who visited the facilities of the group. The educational test "Missione terra – S.O.S.tieni il tuo pianeta", open to all primary and secondary schools of first grade, focused on issues of environmental sustainability, with a strong commitment to the protection of the planet earth. The participating classes were asked to play with the boxed game "Missione terra" and then design a new "test card" with 4 questions, related to the 4 issues of the game (water, energy, waste and food waste) with the corresponding answers. 533 classes participated, 196 institutes from 24 Italian provinces.

The six winning classes (3 for primary and 3 for secondary level) were awarded during territorial events organized in schools. At the end of this course and of a school year full of educational moments on environmental issues, which involved over 60,000 participants including students and teachers throughout Italy, **two important events** were organized in Milan and Brescia.

On April 19, held at the Arena Civica in Milan was **"Missione Terra – La sfida finale"** (The final challenge) organized by Amsa and A2A, in collaboration with the Municipality of Milan, to send a message to all schools in Milan about environmental sustainability, engaging them to become "guardians of the earth". The event saw the participation of more than 800 students from 35 classes of third, fourth, fifth of 16 primary schools in Milan and the Milan metropolitan area. Classes challenged each other on different types of games, from quizzes to sports competitions, on recycling and waste



reduction, on saving water and energy, on separate waste collection and on the fight against waste. An inflatable sphere 5 meters in diameter launched the message of the day: "The land is ours" and has been used as a photographic corner for the souvenir photos of the classes, testifying to their commitment to become "guardians of the earth".

Also in Brescia, at the end of June, with a similar format, the event "Missione terra" (Earth Mission) was held in the Castelli Park, open to guest (summer schools) and families, with the participation of about a thousand people. Finally, during the Milan Green Week (September 27-30, 2018), A2A participated in the event **Milan Kids Festival** organized in the City Life Park, with a workshop that re-proposed the boxed game "Missione terra – S.O.S.tieni il tuo pianeta" and the sphere "La terra è nostra" for souvenir photos of young and old.



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10.2.7 External communication

In 2018, the **Press Office** produced a total of 352 media communications. 82% of the communications were given out as Press releases and notes with the remaining 18% taking the form of letters. In 2018, there were 350 opportunities to meet with journalists, amongst interviews and one-to-one dialogues, press conferences and press visits.

The A2A Group is present on the following **social channels**: Facebook, LinkedIn and Twitter. Communication through the 9 active social profiles, with a fan base of over 150,000 users, allows more direct contact with citizens and customers, informing them about central issues for the Group such as, for example, the circular economy, the smart city and energy saving. In addition, it is possible to initiate social media caring flows to promptly intercept the needs and reports to be transmitted to customer care channels: a total of approximately 2,700 requests received from users have been resolved.

The channels recorded over 50,000 interactions in 2018. Finally, the activity allows to know and collect the main topics discussed on the web, taking cues to design new services and products.

In order to provide better communication of the activities and services of Group companies, the websites of companies dealing with the environment were entirely revised in 2018: A2A Ambiente, Amsa and Aprica. The entire project was characterized by three main areas of development that are closely linked: the story of the proximity of the companies to the territories in which they operate through the presentation of their projects; the in-depth study of the Group's circular economy model and the synergies between services for the territory and for businesses; the enhancement of digital services in terms of customer care.

The Illuminiamo app has also been entirely revised in order to present the activities carried out by A2A Illuminazione Pubblica in the area through the possibility of monitoring the progress of individual projects for municipalities.

On the occasion of the celebrations of the "Dieci anni più cento" of A2A, a new editorial section of the Group website called "Storie" was also inaugurated. A representation of CITTA2A allows users to discover the services of the A2A Group, which has always looked to the future, through the telling of its stories.



A2A AND ITS 10 YEARS PLUS 100

10 years that go hand in hand with a story that began more than a century ago with AEM and AMSA in Milan and ASM in Brescia.

A2A celebrated its birthday with two events, one in Milan and one in Brescia, two moments of sharing to reaffirm the solid bond that the company has with the territory in which it operates.

On October 17, at the Teatro Dal Verme in Milan was the Jazz Special Night: Nick The Nightfly, historical voice of Radio Monte Carlo, presented the evening accompanied by the notes of his Orchestra, Sarah Jane Morris, the sensational performances of Emilio Soana and the great voice of Nicky Nicolai accompanied by the enthusiasm of Stefano di Battista on the saxophone. Mario Biondi closed the evening with a selection of his greatest successes.

The entire proceeds from the sale of tickets for the evening, already sold out after a few days, was donated to Banco dell'Energia Onlus.

On October 28, instead, in Brescia, Piazza Paolo VI was transformed into a large open-air theatre thanks to the *Extreme Acrobatic Night* show of the company *Kitonb Project*. A unique performance made of acrobatics, aerial dances, three-dimensional installations and light shows. A large metal structure crossed by elastic ropes was the central setting of the show that wanted to represent the creation of the world through the light and heat of the sun, the strength of water, the energy of the wind and the colors of the earth that change with the succession of seasons.



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10 Relational capital



Suppliers

INPUTS

New procedure for access to the Suppliers Register with the obligation to sign the **Integrity Pact**

1,682 inspection visits of road sites

91% of controls carried out in accordance with the regulations

Financial capital

Manufacturing capital

Natural capital

Human capital

Intellectual capital

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A2A SERVICES AND PROCESSES



1.5 billion euro ordered from suppliers, of which 91.6% Italian

82% of orders issued to suppliers in possession of **at least one certification**

3% of the value of orders goes to social cooperative companies and non-profit organisations

Increased **site safety**, reduction in environmental impacts, improvement in quality of works and guarantee of complete compliance with current standards

OUTCOME

RESPONSIBLE MANAGEMENT OF THE SUPPLY CHAIN

Adoption of supplier, collaborator and commercial partner selection policies to ensure that they apply fair, transparent processes integrating sustainability criteria; the promotion of social responsibility practices amongst suppliers, stimulating the improvement to reliability and safety in supplying services.

RISK FACTORS FOR SUSTAINABILITY	OPPORTUNITY FACTORS FOR SUSTAINABILITY	MANAGEMENT METHOD	2018 ACTIONS	SUSTAINABILITY PLAN ACTION
<p>Risks to the health and safety of workers of third party companies.</p> <p>Possibility of unethical behaviour.</p> <p>Non-compliance with environmental law.</p>	Not yet identified.	<p>Continuous involvement of suppliers with the aim of spreading awareness of sustainability issues.</p> <p>Adoption of controls to verify the requirements of supplier suitability, QAS certifications and any other specific certifications for the type of goods.</p> <p>Adaptation of company procedures that envisaged the stipulation by a supplier of an ethical clause and a declaration of compliance with the legality protocol.</p> <p>Progressive development of a process for the qualification and choice of suppliers, commercial partners and collaborators integrating sustainability.</p>	<p>Revised the procedure for access to the Suppliers Register, which requires suppliers to sign an Integrity Pact.</p> <p>Audits planned at the suppliers' premises to verify as stated in the qualification request.</p> <p>Inspections were carried out on 41 contractors and 36 subcontractors working at the Networks & District Heating BU sites.</p>	<p>PEOPLE INNOVATION - Responsible Procurement</p>

In 2018, **20,120 orders** were issued by Group companies for supplies, services or works, making for a total value of about 1.5 billion euro. **91.6%** of orders are placed with **Italian suppliers**.

Figure 60_Order value by business unit

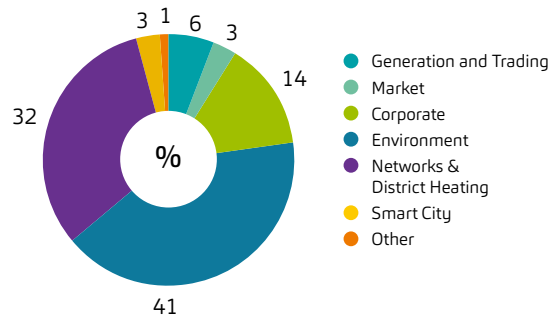
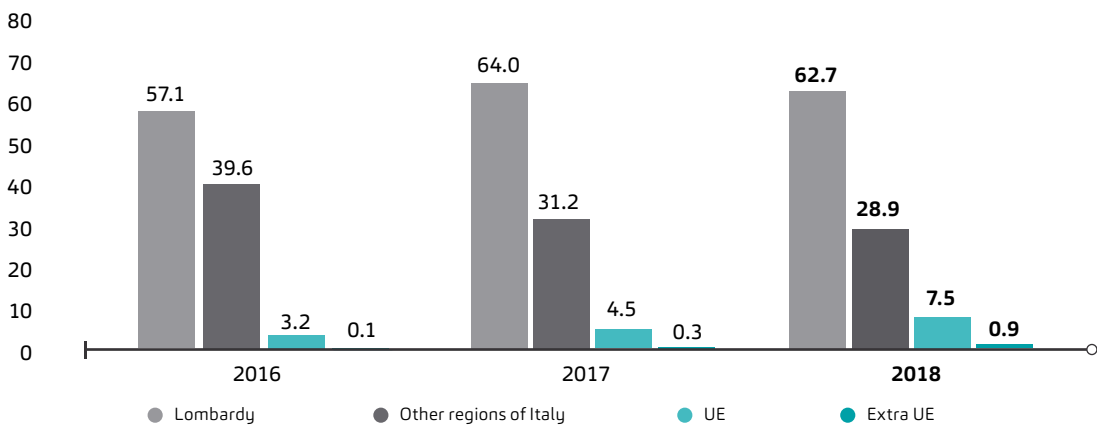


Figure 61_Geographic breakdown of orders [GRI 204-1] (%)



In addition to the amount spent on supplies, works and services, approximately 1.7 billion euro were spent on the purchase of fuels used in Group plants or conveyed as carrier to end customers, of which 89% for natural gas. Carbon purchases were made 44% from Colombia, 36% from Russia, 13% from Indonesia and 7% from Kazakhstan.

10.3.1 Sustainable management of the value chain

In order to create value in the long-term, the A2A Group aims to establish a responsible relationship with its supply chain, through which to consolidate fair, transparent relations. In fact, the Group operates with suppliers that apply high standards in terms of staff health and safety and environmental protection. To this end, A2A has adopted a specific system by which to assess the suitability of companies, so as to ensure the technical and economic-financial capacity in line with the legal requirements and the provisions of the Group Code of Ethics (in respect of the Organisational Model pursuant to Italian Legislative Decree no. 231/01).

In 2018, **2,306 suppliers** had **at least one quality, environment and safety certification**, 1,144 of which were activated with at least one order. In addition, the value of orders issued by the A2A Group to suppliers with at least one certificate amounts to approximately **82% of the total value of our orders**.

In the selection and validation of suppliers, A2A is open to all companies interested in participating in tenders called by the Group, ensuring the maintenance of a Qualified Vendor List by product category, which buyers must refer to for the definition of vendor list of a tender. Qualification remains valid for 36 months but may be revoked early if risk factors should arise or there should be negative changes in performance assessments. Each qualified supplier is assigned a score (global scoring) calculated as the average of the preventive assessment, carried out on the basis of the information collected during the qualification (accident indices, certifications obtained, financial rating, etc.) and the assessment of performance, given by the supplier's behaviour during the execution of the contract. If the global scoring assigned to a supplier is insufficient, A2A reserves the right to take steps such as suspending, revoking qualification or starting an audit.

In 2018, during the qualification processes for registration or renewal, **982 suppliers were evaluated on social issues and 975 on environmental issues**.

Figure 62. Qualified A2A Group suppliers by certification held

	2016	2017	2018
ISO9001	2,800	1,981	2,103
ISO14001	915	566	633
OHSAS18001	662	610	611
SA8000	22	62	51
Respondents to the TenP (Global Compact) questionnaire	22	71	166
Total suppliers with at least one certification	2,843	2,215	2,306
<i>of which activated with order</i>	<i>na</i>	<i>na</i>	1,144

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NEW FEATURES INTRODUCED WITH THE NEW SUPPLIER QUALIFICATION PROCESS

Acceptance of the Integrity Pact and reputational verification for companies wishing to access the Suppliers Register of the A2A Group

During the Portal registration phase, all suppliers must sign the Integrity Pact. Failure to sign it, in fact, makes it impossible for the supplier to access the "qualification" form to apply for registration in the Suppliers Register of A2A, and access the "subcontracting" form.

In addition to the economic/financial and technical/professional verification, there is also the "reputational" verification, which consists in carrying out activities aimed at acquiring relevant information regarding the reputational profiles of potential suppliers and subcontractors. Suppliers are assigned an integrity risk rating, on the basis of which it may be decided to preclude access to the A2A Supplier Portal.

On-site audits

The qualification process may also include audits at the supplier's premises to verify as stated in the request for qualification, with reference to technical aspects, environmental and safety requirements. The audits may also be required in the event that, during the execution of contracts, particular non-conformities occur in the supply of goods or in the execution of contracts or services, with the aim of identifying the causes of the lack of performance and proposing actions for improvement (action plan).

Technical Evaluation

For the product categories covered by the category leaders, there is also a further technical verification of suppliers requesting qualification, which will be structured on the basis of a specific questionnaire for each category. Obtaining a positive technical evaluation is preparatory to the final evaluation of the Vendor Management Structure Manager for obtaining the qualification.



10.3.2 Site management

Attention to safety in the workplace, not only in its own activities, but throughout the supply chain, is increasingly an issue of fundamental importance for the Group. For this reason, and in particular, 2016 saw the Networks & District Heating BU carry out strict controls over site management for works assigned to external companies, also with a view to ensuring responsibility and awareness among contracting companies.

The verifications concern in particular:

- adherence to the provisions of the tender specifications, in terms of completion of the works commissioned within the time frame, with the materials provided and with the performance of the tests required;
- compliance with the provisions on health and safety at work (Legislative Decree 81/08) and environmental provisions (Legislative Decree 152/06).

In 2018, the Group carried out **inspections on 41 contractors and 36 subcontractors (+38% compared to 2017)** and **doubled the percentage of sites inspected**, from 6% in 2017 to 12% of the total sites opened in 2018.

The **control visits** were carried out on a sample of road construction sites (considering the census of the sites opened and the different types of interventions) with the help of special **check lists and photographic surveys**, subsequently sharing the results of the checks through periodic analytical reports sent to the company structures concerned. The check list consists of three fault levels (red = blocking, orange = severe and yellow = relevant). In the event of red anomalies, the site managers are immediately alerted to take appropriate countermeasures involving the contractors as soon as possible.

Figure 63_Site inspections - summary

	2016	2017	2018
Number of inspections carried out	1,406	727	1,682
Number of checks performed	24,196	15,572	25,612
<i>of which compliant</i>	80%	90%	90%
Companies concerned	Unareti, A2A Ciclo Idrico, A2A Calore & Servizi	Unareti, A2A Ciclo Idrico, A2A Calore & Servizi, A2A Illuminazione Pubblica	Unareti, A2A Ciclo Idrico, A2A Calore & Servizi
Areas concerned	Province: Milan, Bergamo and Brescia	Province: Milan, Bergamo and Brescia	Province: Milan, Bergamo and Brescia
Corrective actions planned	Training and information action planned that, during the early months of 2017, involved both internal operators and contractors	Completion of training activities planned in 2016. Introduction of the tablet for line controls. Constant information on the results of inspections to all parties concerned	Constant information on the results of inspections to all parties concerned
Number of corrective actions taken	na*	36*	83
Results expected	Minimise anomalies with a consequent improvement to safety, reduction in environmental impacts, improvement in quality of works and guarantee of complete compliance with current standards		

* The systematic and tracked reporting activity was introduced in May 2017.

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Relations with suppliers

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Independent auditors' report on the consolidated disclosure of non-financial information in accordance with Article 3, par. 10, of Legislative Decree 254/2016 and with Article 5 of CONSOB Regulation adopted with Resolution n. 20267 of January 18, 2018

(Translation from the original Italian text)

To the Board of Directors of
A2A S.p.A.

We have been appointed to perform a limited assurance engagement pursuant to article 3, paragraph 10, of Legislative Decree 30 December, 2016, n. 254 (hereinafter "Decree") and article 5 of CONSOB Regulation adopted with Resolution 20267/2018, on the consolidated disclosure of non-financial information of A2A S.p.A. and its subsidiaries (hereinafter the "Group") for the year ended on December 31, 2018 in accordance with article 4 of the Decree and approved by the Board of Directors on April 3, 2019 (hereinafter "DNF").

Responsibilities of Directors and Board of Statutory Auditors for the DNF

The Directors are responsible for the preparation of the DNF in accordance with the requirements of articles 3 and 4 of the Decree and the "Global Reporting Initiative Sustainability Reporting Standards" defined in 2016 from GRI - Global Reporting Initiative (hereinafter "GRI Standards") identified by them as a reporting standard.

The Directors are also responsible, within the terms provided by law, for that part of internal control that they consider necessary in order to allow the preparation of the DNF that is free from material misstatements caused by fraud or not intentional behaviors or events.

The Directors are also responsible for identifying the contents of the DNF within the matters mentioned in article 3, par. 1, of the Decree, considering the business and the characteristics of the Group and to the extent deemed necessary to ensure the understanding of the Group's business, its performance, its results and its impact.

The Directors are also responsible for defining the Group's management and organization business model, as well as with reference to the matters identified and reported in the DNF, for the policies applied by the Group and for identifying and managing the risks generated or incurred by the Group.

The Board of Statutory Auditors is responsible, within the terms provided by the law, for overseeing the compliance with the requirements of the Decree.

EY S.p.A.
Sede Legale: Via Po, 32 - 00198 Roma
Capitale Sociale Euro 2.525.000,00 i.v.
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A member firm of Ernst & Young Global Limited



Auditors' independence and quality control

We are independent in accordance with the ethics and independence principles of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, based on fundamental principles of integrity, objectivity, professional competence and diligence, confidentiality and professional behavior. Our audit firm applies the International Standard on Quality Control 1 (ISQC Italia 1) and, as a result, maintains a quality control system that includes documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable laws and regulations.

Auditors' responsibility

It is our responsibility to express, on the basis of the procedures performed, a conclusion about the compliance of the DNF with the requirements of the Decree and of the GRI Standards. Our work has been performed in accordance with the principle of "International Standard on Assurance Engagements ISAE 3000 (Revised) - Assurance Engagements Other than Audits or Reviews of Historical Financial Information" (hereinafter "ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. This principle requires the planning and execution of work in order to obtain a limited assurance that the DNF is free from material misstatements. Therefore, the extent of work performed in our examination was lower than that required for a full examination according to the ISAE 3000 Revised ("reasonable assurance engagement") and, hence, it does not provide assurance that we have become aware of all significant matters and events that would be identified during a reasonable assurance engagement.

The procedures performed on the DNF were based on our professional judgment and included inquiries, primarily with company's personnel responsible for the preparation of the information included in the DNF, documents analysis, recalculations and other procedures in order to obtain evidences considered appropriate.

In particular, we have performed the following procedures:

1. analysis of the relevant matters in relation to the activities and characteristics of the Group reported in the DNF, in order to assess the reasonableness of the selection process applied in accordance with the provisions of article 3 of the Decree and considering the reporting standard applied;
2. analysis and evaluation of the criteria for identifying the consolidation area, in order to evaluate its compliance with the provisions of the Decree;
3. comparison of the economic and financial data and information included in the DNF with those included in the A2A Group's consolidated financial statements;
4. understanding of the following aspects:
 - o Group's management and organization business model, with reference to the management of the matters indicated in the article 3 of the Decree;
 - o policies adopted by the Group related to the matters indicated in the article 3 of the Decree, results achieved and related key performance indicators;
 - o main risks, generated or suffered related to the matters indicated in the article 3 of the Decree.

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With regard to these aspects, we obtained the documentation supporting the information contained in the DNF and performed the procedures described in item 5. a) below.

5. understanding of the processes that lead to the generation, detection and management of significant qualitative and quantitative information included in the DNF.

In particular, we have conducted interviews and discussions with the management of A2A S.p.A. and with the personnel of Linea Group Holding S.p.A., A2A Energiefuture S.p.A., A2A Calore e Servizi S.r.l., Lomellina Energia S.r.l. and Acsm-Agam S.p.A., and we have performed limited documentary evidence procedures, in order to collect information about the processes and procedures that support the collection, aggregation, processing and transmission of non-financial data and information to the management responsible for the preparation of the DNF.

Furthermore, for significant information, considering the Group activities and characteristics:

- at Group level:
 - a) with reference to the qualitative information included in the DNF, and in particular to the business model, policies implemented and main risks, we carried out inquiries and acquired supporting documentation to verify its consistency with the available evidence;
 - b) with reference to quantitative information, we have performed both analytical procedures and limited assurance procedures to ascertain on a sample basis the correct aggregation of data.
- For A2A Energiefuture S.p.A. (Monfalcone thermoelectric power plant), A2A Calore e Servizi S.r.l. (Brescia – Lamarmora plant) and Lomellina Energia S.r.l. (Parona waste-to-energy plant), that we have selected based on their activities, relevance to the consolidated performance indicators and locations, we have carried out site visits during which we have had discussions with management and have obtained evidence about the appropriate application of the procedures and the calculation methods used to determine the indicators.

Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the DNF of the A2A Group for the year ended on December 31, 2018 has not been prepared, in all material aspects, in accordance with the requirements of articles 3 and 4 of the Decree and the GRI Standards.



Other Information

The Group has prepared the document “Integrated Report” for the year ended on December 31, 2016; such data are presented for comparative purposes in the DNF. This document has been subject to voluntary limited assurance procedures in accordance with ISAAE 3000 by EY that has expressed an unqualified conclusion.

Milan, April 16, 2019

EY S.p.A.
Paolo Zocchi
(Partner)

This report has been translated into the English language solely for the convenience of international readers.

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* Consolidated Financial Statements 2018 - Annex 3. List of companies included in the Consolidated Financial Statements.

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* Consolidated Financial Statements 2018 - paragraph 3. Notes - Other Information - 9) Update of the main legal and fiscal disputes pending.

** Report on Operations 2018 - paragraph 3. Evolution of the regulation and impacts on the Business Units of the A2A Group.

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D 403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	100	31-33; 56

* Biodiversity indicator is not fully available. The Group undertakes to make this indicator available over the next few years. The same KPI is also one of the objectives included in the Sustainability Plan 2019-2023.

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Milan, April 2019



www.a2a.eu



a2a

SHAPING THE FUTURE TODAY



2018

Supplement Integrated Report

Consolidated Disclosure of
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in accordance with Italian
Legislative Decree no. 254/2016

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Stakeholder engagement and materiality analysis

Figure 1_Stakeholder engagement initiatives activated in 2018

STAKEHOLDERS INVOLVED	MODE OF COMMUNICATION AND INVOLVEMENT	ISSUES ADDRESSED DURING ENGAGEMENT ACTIVITIES, IDENTIFIED BY BU		
Consumer Associations	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) • Convention/press conferences/events • Work groups/committee • Plant tours 	<p>Group</p> <ul style="list-style-type: none"> • Meeting with the various BUs of the Group to illustrate the news of the market and the activities that will be carried out in the territories. Presentation of conciliation data. A moment of dialogue with consumer associations. <p>Environment BU</p> <p>Visit to the Acerra plant reserved for national and local president</p> <p>Networks and District Heating BU</p> <ul style="list-style-type: none"> • Preparatory meetings for an out-of-court agreement with Codacons on the subject of incorrect commercial contracts on district heating to the detriment of certain condominiums • Advocacy Federconsumatori for intervention <i>referendum</i> public water Brescia • Codacons Agreement - district heating communication planning <p>Market BU</p> <ul style="list-style-type: none"> • Presentation of the proposed project communication on electric mobility • Meeting with consumer associations dedicated to A2A Energia: presentation of new commercial actions, actions designed to accompany consumers towards the free market, ADR updates • Verification of consumer association positions on AGCM survey towards A2A Energia • Verification and analysis of data from commercial survey results • Training meeting dedicated to Adiconsum operators on overcoming the protected market and on A2A Energia's activities <p>Corporate BU</p> <ul style="list-style-type: none"> • Participation in the events of associations with activities of social responsibility and environmental education • Meetings with new summits • Evaluation of collaboration proposals • Meetings of the ADR A2A Joint Guarantee Body 2018, conciliatory courses, presentation of conciliation data <p>Smart City</p> <ul style="list-style-type: none"> • Presentation of the A2A Smart City-Open Fiber optical fibre laying project 		
		Environmental associations	<ul style="list-style-type: none"> • Convention/press conferences/events • Meetings (physical, telephone and Web) • Plant tours 	<p>Environment BU</p> <ul style="list-style-type: none"> • Definition of activities A2A Ambiente 2018 • Distribution compost gardens Legambiente • Definition of 2018 collaboration activities with Legambiente Lombardia • Participation in the national conference on energy efficiency of Amici della Terra (Friends of the Earth) <p>Networks and District Heating BU</p> <ul style="list-style-type: none"> • Meetings in Brescia and Milan to define the stakeholder questionnaire on investments in the network managed by Unareti • Definition of 2018 collaboration activities with Legambiente Lombardia • Visit to the Vetrobalsamo plant to illustrate the recovery of heat fed into the grid • Presentation of the A2A Ciclo Idrico Investment Plan • Intervention at "Fa la Cosa Giusta" on investments and innovations in district heating in Milan <p>Market BU</p> <ul style="list-style-type: none"> • Proposed collaboration Legambiente on electric mobility <p>Corporate BU</p> <ul style="list-style-type: none"> • Presentation of activities to various environmental associations • Meetings with new summits • Evaluation of collaborations and ways of listening to territorial needs <p>Generation and Trading BU</p> <ul style="list-style-type: none"> • Meetings on the themes of decarbonisation and conversion of Monfalcone plant

STAKEHOLDERS INVOLVED	MODE OF COMMUNICATION AND INVOLVEMENT	ISSUES ADDRESSED DURING ENGAGEMENT ACTIVITIES, IDENTIFIED BY BU
<p>Institutions Regulatory and Inspection Authorities</p>	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) • Convention/press conferences/events • Work groups/committee • Plant tours 	<p>Environment BU</p> <ul style="list-style-type: none"> • Start of relations with ARERA. Information meetings on the activities of A2A Ambiente, providing first priority points and "hot" themes • Meeting with administrators of the municipality of Pero for problems of fumes in the area near the waste-to-energy plant Silla2 • Plant/office visits • Hearings and commissions <p>Networks and District Heating BU</p> <ul style="list-style-type: none"> • Meeting of the AU Conciliation Service - assessment of the management and reporting of critical issues detected • Presentation of Unareti's first evaluations of the 2G smart meters commissioning plan for the areas for which it is responsible and initiation of discussions with Arera's Infrastructure Department on the main technical and regulatory criticalities • Meetings with institutions to review the prices of district heating and tax credit services • Visit to the site of the new Nuvolera purification plant by the mayors, assessors and councillors of the municipalities involved <p>Market BU</p> <ul style="list-style-type: none"> • Meeting of the AU Conciliation Service - assessment of the management and reporting of critical issues detected • With the support of the company Utilitatis, organized a workshop to present the Green Book to the Directorate of Energy and Basic Industry (DG Competition of AGCM) • Meetings for expansion of electric mobility Valtellina • Meetings for expansion of electric mobility Milan <p>Corporate BU</p> <ul style="list-style-type: none"> • Meetings with the representatives of the institutions in the territories in which the Group operates to listen to needs, report on activities and evaluate future projects <p>Generation and Trading BU</p> <ul style="list-style-type: none"> • Meeting with directors for various activities on hydroelectric plants in Calabria • Meeting with the Commission for the Project for the redevelopment of the chimney of the Ponti sul Mincio power plant • Meetings for activities related to the conversion of Monfalcone Plant • Delivery of Intercultura Scholarships at the Monfalcone Thermoelectric Power Plant • Meeting with administrators for requests for enhancement of the territory • Meeting for industrial heat recovery
<p>Multi-stakeholders</p>	<ul style="list-style-type: none"> • Conventions/press conferences/events • Meetings (physical, telephone and Web) • Work groups/committees • Studies/Surveys • Plant tours • The forumAscolto programme 	<p>Group</p> <ul style="list-style-type: none"> • Materiality analysis <p>Environment BU</p> <ul style="list-style-type: none"> • Inauguration of the new plastic selection plant in Cavaglià • Visits to national and international delegation facilities • Presentation of the university study on energy/environment • Presentation with the Municipality of Brescia of the booklet "Il viaggio della materia" (The journey of matter) • Event DM Biomethane at the House of Energy - Training and public information on the new biomethane decree for exclusive use in transport • Compostable information campaign • Food Waste Reduction, project from forumAscolto Milan • Project Urban Decoration, project from forumAscolto Milan • Ecoisole Project • Project for the collection of waste from electrical and electronic equipment (WEEE) at large-scale retail • Project for the collection of used food oil at large-scale retail • Conference "The sustainable evolution of vehicles for environmental services" at the auditorium via Olgettina: a day of discussion between the most authoritative players in the market of reference that illustrated the developments of new technologies on vehicles for waste collection and street sweeping • Collaboration with the Bollate Prison for the introduction of separate collection within the Institute with the collaboration of prisoners • Presentation to Consumer Associations of the results of Customer Satisfaction on the services provided by AMSA

Stakeholder engagement and materiality analysis

Financial capital

Manufacturing capital

Natural capital

Human capital

Relational capital

The Acsm Agam Group

STAKEHOLDERS INVOLVED	MODE OF COMMUNICATION AND INVOLVEMENT	ISSUES ADDRESSED DURING ENGAGEMENT ACTIVITIES, IDENTIFIED BY BU
Multi-stakeholders	<ul style="list-style-type: none"> • Convention/press conferences/events • Meetings (physical, telephone and Web) • Work groups/committee • Studies/Surveys • Plant tours • The forumAscolto programme 	<p>Networks and District Heating BU</p> <ul style="list-style-type: none"> • Presentation of the new decorations of the electrical stations of the municipality of Brescia • Plan advocacy <i>referendum</i> on public water • Training course for water and district heating conciliators • Participation in the Robot&scienza event with workshops on waste and water saving • Presentation of the new Valtrompia purification plant • Presentation of the works of the collector in the stretch between Brozzo di Marcheno and Tavernole sul Mella, as part of the project of the new collector Valtrompia • Presentation of the intervention on the river Mella prodromal to the realization of the purifier of Valtrompia • Inauguration of a drinking water treatment plant for the abatement of Chromium VI • Visit of the Korean delegation to the Verziano purification plant • Presentation of the project to phase out coal for the Lamarmora cogeneration plant <p>Market BU</p> <ul style="list-style-type: none"> • Research project for the creation of a new commercial offer • Table: What are the scenarios for the end of protection in energy markets? • Meeting ARERA - Adr organisms • Presentation of the installation of 32 new electric recharging stations in the municipality of Bergamo • Joint Board of Directors between Confindustria Bergamo/Varese and AIB Brescia tertiary sector with visit to the waste-to-energy plant <p>Corporate BU</p> <ul style="list-style-type: none"> • Meetings with authorities, consumer associations, competitors and other companies on the subject of ADR conciliation and definition of communication plans • Meetings with companies, start-ups and young entrepreneurs for possible collaborations • School-Work Alternation (lessons, visits to facilities and internships) • Presentation of 2017 Integrated Financial Statements • Presentation of territorial sustainability reports (Milan, Brescia, Bergamo, Valtellina and Valchiavenna, FVG, Piedmont) • forumAscolto Piedmont • Award ceremony for the territorial sustainability initiative CreiAMO FVG, from the forumAscolto FVG <p>Generation and Trading BU</p> <ul style="list-style-type: none"> • Ampezzo and Somplago open plants • Conference Ideas Competition - Renovation of the central chimney of Ponti sul Mincio and awarding <p>Smart City</p> <ul style="list-style-type: none"> • Delegation of young entrepreneurs to visit the waste-to-energy plant and smart city lab • Presentation of the Smart City project in collaboration with the Province of Brescia for fibre coverage and smart services in 26 Brescia municipalities
Shareholders Investors	<ul style="list-style-type: none"> • Meeting (physical, telephone and Web) • Work groups/committee 	<p>Environment BU</p> <ul style="list-style-type: none"> • Intervention "Sustainability in A2A", with focus on the Circular Economy <p>Corporate BU</p> <ul style="list-style-type: none"> • Presentation of fiscal year 2017 Results and 2018-2022 Strategic Plan • Presentation of first quarter 2018 Results • Presentation of first half 2018 Results • Presentation of third quarter 2018 Results
Suppliers	<ul style="list-style-type: none"> • Conventions/press conferences/events • Meetings (physical, telephone and Web) 	<p>Market BU</p> <ul style="list-style-type: none"> • Event with commercial suppliers to share strategies and objectives • Training events for sales network

STAKEHOLDERS INVOLVED	MODE OF COMMUNICATION AND INVOLVEMENT	ISSUES ADDRESSED DURING ENGAGEMENT ACTIVITIES, IDENTIFIED BY BU
Customers	<ul style="list-style-type: none"> • Convention/press conferences/events • Meetings (physical, telephone and Web) • Work groups/committee • Focus Group • Studies/Surveys 	<p>Environment BU</p> <ul style="list-style-type: none"> • Mobile Office • Comieco and AMSA's "Virtual cart, real packaging" campaign • Communication and information activities on waste in favour of correct separate collection (administrators, citizens, foreign communities, residents of ALER houses) • Customer satisfaction surveys for environmental hygiene services in Milan and province (residential users, commercial users and facebook page) <p>Market BU</p> <ul style="list-style-type: none"> • Inauguration of A2A Energia temporary store to inform citizens about the free market • Online survey to verify the interest of domestic customers in the proposals of VAS products and services of A2A Energia in place and under study • Survey for the collection of opinions from A2A Energia customers for the activation of the new sales channel, consisting of physical stores, and of the local sales force to be combined with the traditional channels • Survey on the effectiveness of the brand awareness campaign, which for the first time saw the presence of a testimonial • Annual meeting events with major customers • Promotion of energy efficiency solutions (Brescia Sustainability Event, Brixia Forum, Temporary Management at Brescia Castle on the occasion of the event CIDNEON, Bergamo Environment Festival with electric car exhibition) • e-moving promotion fair/event (Fa' la cosa giusta, Quattroruote Street Show, e-Mob, Sustainability Week) <p>Corporate BU</p> <ul style="list-style-type: none"> • Presentation of the new call "Doniamo Energia 2" by Banco dell'Energia, in collaboration with Fondazione ASM and Fondazione CARIPL0 • Customer satisfaction surveys for environmental hygiene services in Milan and province, Como, Bergamo
Local community Citizens	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) • Convention/press conferences/events • Studies/Surveys • Work groups/committee • Plant tours 	<p>Environment BU</p> <ul style="list-style-type: none"> • Environmental education activities • Participation in the Neighbourhood Plan organized by the Municipality of Milan • Meetings open to all citizens to learn about activities and methods to make quality compost from organic and green waste in your garden using composters • Campaign to raise public awareness of the correct use of road bins <p>Networks and District Heating BU</p> <ul style="list-style-type: none"> • Meeting with the Civil Protection of the Municipality of Milan • Meeting Water Cycle, Purification and Aqueduct, Respect for water as a resource and Fight against waste • Presentation of new smart water meters and communication start replacement of old ones <p>Market BU</p> <ul style="list-style-type: none"> • BARCOLANA - event sponsorship and institutional relations • A2A Energia match sponsor of the Brescia Basketball match against Milan <p>Corporate BU</p> <ul style="list-style-type: none"> • Testimonials and career days at universities • Environmental education initiatives for families • Support for innovative start-ups to promote territorial development <p>Generation and Trading BU</p> <ul style="list-style-type: none"> • Activity planning 2018 with local associations
Media	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) 	<p>Corporate BU</p> <ul style="list-style-type: none"> • Planning of communication initiatives with local media

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STAKEHOLDERS INVOLVED	MODE OF COMMUNICATION AND INVOLVEMENT	ISSUES ADDRESSED DURING ENGAGEMENT ACTIVITIES, IDENTIFIED BY BU
<p>Employees</p> <ul style="list-style-type: none"> • Convention/press conferences/events • Meetings (physical, telephone and Web) • Work groups/committee • Focus Group • Studies/Surveys 		<p>Group</p> <ul style="list-style-type: none"> • Induction A2A, a project dedicated to new recruits under 35 years of age who are professional graduates of the Group • As part of the Talent Management project, the Young Talent programme was launched, dedicated to the Group's potential young people (under 35 years of age, graduates with a professional role), about 130 • ABC Managerial Development - Start of the third, fourth, fifth and sixth Plenaries and 2 training modules of the managerial training course dedicated to the 1,100 managers • LiHS programme, aimed at developing the culture of safety within the organization through a cascading path • Awareness-raising activities for employers on the subject of procurement with regard to environmental and occupational safety aspects • Survey to understand the status of application and effectiveness of the currently adopted HSE organizational model <hr/> <p>Environment BU</p> <ul style="list-style-type: none"> • Team building and change management initiatives <hr/> <p>Networks and District Heating BU</p> <ul style="list-style-type: none"> • Network Day: 2,000 people from the Networks and District Heating BU were involved in 9 half-day training sessions on the following topics: Positioning and strategy of the BU; Projects in progress for the BU Companies; HR Themes; Lean and Mistral Sites and improvement paths <hr/> <p>Market BU</p> <ul style="list-style-type: none"> • Change management initiatives • Various training initiatives: Digital Customer Experience (training project to support Digital Transformation), training aimed at the Group's Marketing function, aims to explore technical skills, industry developments, reference trends and customer-centric approach, issues related to SEUs and self-production to support new investments of the A2A Group internally or related to third parties <hr/> <p>Corporate BU</p> <ul style="list-style-type: none"> • ABC Managerial Development - coordination with CoDir for the in-depth study of priority issues and in phase of innovation and process review related to the management model, issued after the first phase of the project ABC • Team building and change management initiatives • Meetings Ambassador Banco dell'Energia • Widespread training initiatives, both on site and through webinars on various topics (purchases, 231, sales, security...) • Events Ad Incontra • Sharing and openness to the use of the Bussola 2.0 tool and sharing with all Staff Directors of the Dynamic Dimensioning Model • Lean methodology application through 15 project initiatives in all BUs • Welfare day aimed at presenting the new welfare platform and its services to employees • Events of scholarship delivery to the children of employees • Survey of internal customers of corporate functions and BUs on the level of satisfaction perceived with regard to the services provided by the Staff functions • Participation in a survey by Panorama magazine. Results: A2A is one of the companies where the best work is done in Italy in the Raw Materials, Energy, Procurement and Disposal sectors <hr/> <p>Generation and Trading BU</p> <ul style="list-style-type: none"> • Change management initiatives • Internal training initiative on market abuse regulation and the role of enforcement authorities <hr/> <p>Smart City</p> <ul style="list-style-type: none"> • Smart City Day at "Campus Party": develop the ability to collaborate and work in teams; strengthen the sense of identity and increase engagement with the Group and the Company

STAKEHOLDERS INVOLVED	MODE OF COMMUNICATION AND INVOLVEMENT	ISSUES ADDRESSED DURING ENGAGEMENT ACTIVITIES, IDENTIFIED BY BU
Auditors	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) • Focus Group 	<p>Environment BU</p> <ul style="list-style-type: none"> • Performance bonus agreement years 2018-2019 • Provision of a business contribution in the event of obtaining a C licence and CQC certification • Annual education and training plan <p>Corporate BU</p> <ul style="list-style-type: none"> • Sharing with trade unions: • Conversion Welfare Project • Smartworking Project
Trade associations/ professional orders/Civic and spontaneous committees	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) • Convention/press conferences/events • Work groups/ committee 	<p>Corporate BU</p> <ul style="list-style-type: none"> • Meetings with new summits • Evaluation of possible synergies, partnerships and collaborations • Fundraising events for Banco dell'Energia <p>Smart City</p> <ul style="list-style-type: none"> • Meeting for possible collaboration in drafting the report "Osservatorio Milano 2019" with focus on smart cities
Schools	<ul style="list-style-type: none"> • Meetings (physical, telephone and Web) • Convention/press conferences/events 	<p>Environment BU</p> <ul style="list-style-type: none"> • Exhibition workshop "The game of 4R - Reduction, Reuse, Recycling, Recovery" to raise awareness among new generations and their families on the theme of waste reduction and recycling in the philosophy of the circular economy; the exhibition and its free use by schools has had a very significant educational value. It has been set up in Milan, Brescia and Acerra • Involvement and participation in the STEM (Science Technology Engineering Mathematics) initiatives promoted by the Municipality of Milan to raise awareness among the new generations towards the study and professional path in the technical and technological field • Event Mission Earth for 35 classes of the city of Milan which challenged each other in skill games and quizzes on the listed themes - Civic Arena, April 19 • Development of differentiated waste collection in schools in Milan through the pilot project #Ambienteascuola involving 540 classes of primary and I and II grade secondary schools, distributed in about thirty school complexes in the nine municipalities, for a total of 12 thousand pupils. 2,400 containers were distributed in the classrooms and common areas as well as eight hundred informative posters <p>Corporate BU</p> <ul style="list-style-type: none"> • Event of presentation to teachers of activities for schools in Milan and Brescia on the themes of respect and enhancement of diversity • Training meetings with groups made up of school leaders, teachers, staff, student representatives and parents on the subject of separate collection • Award event for the 6 winning classes of the reality game "Our energy for the environment" <p>Generation and Trading BU</p> <ul style="list-style-type: none"> • Meetings with universities for possible collaboration activities and research grants • School-Work Alternation project: Promotion of environmental education initiatives, active citizenship and knowledge of the Group's activities, also through the organization of plant visits and internships for II grade secondary school students

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Figure 2_Material aspects and scope of application

MATERIAL THEMES FOR A2A	GRI CORRESPONDENT ASPECTS	SCOPE/ INTERNAL BOUNDARY	SCOPE/ EXTERNAL BOUNDARY
Ethical pursuit of business	<ul style="list-style-type: none"> • Anti-corruption (GRI 205) • Anti-competitive behaviour (GRI 206) • Environmental compliance (GRI 307) • Social compliance (GRI 419) 	Group	-
Sustainability elements in corporate governance	<ul style="list-style-type: none"> • Non discrimination (GRI 406) 	Group	-
Risk management and sustainability opportunities	<ul style="list-style-type: none"> • Social compliance (GRI 419) • Anti-corruption (GRI 205) • Research and development (EU Supplement) 	Group	Community/ Customers/ Suppliers*
Respect and promotion of human rights in the Group's value chain	<ul style="list-style-type: none"> • Freedom of association and bargaining agreements (GRI 407) • Assessment of human rights (GRI 412) 	Group	Suppliers*
Creation of sustainable economic value	<ul style="list-style-type: none"> • Economic performance (GRI 201) • Indirect economic impacts (GRI 203) 	Group	Shareholders/ Institutions
Innovative development and efficient management of Group infrastructures	<ul style="list-style-type: none"> • Energy (GRI 302) • Efficient management (EU Supplement) 	Group	-
Circular economy and responsible use of resources	<ul style="list-style-type: none"> • Materials (GRI 301) • Drains and waste (GRI 306) 	Environment BU Networks and District Heating BU Generation and Trading BU	Community
Efficient water use	<ul style="list-style-type: none"> • Water (GRI 303) • Drains and waste (GRI 306) 	Group	Suppliers*
Fight against climate change and containment of atmospheric emissions	<ul style="list-style-type: none"> • Energy (GRI 302) • Emissions (GRI 305) 	Group	Suppliers*/ Customers
Safeguarding biodiversity	<ul style="list-style-type: none"> • Environmental compliance (GRI 307) • Biodiversity (GRI 304) 	Group	Community
Quality of distributed water	<ul style="list-style-type: none"> • Environmental compliance (GRI 307) 	Networks and District Heating BU	Community/ Customers
Sustainable mobility	<ul style="list-style-type: none"> • Energy (GRI 302) • Emissions (GRI 305) • Efficient management (EU Supplement) 	Group	Community/ Customers
Protection of health and safety at work	<ul style="list-style-type: none"> • Health and safety at work (GRI 403) 	Group	Contractors
Development of human capital	<ul style="list-style-type: none"> • Employment (GRI 401) • Development and training (GRI 404) 	Group	-

MATERIAL THEMES FOR A2A	GRI CORRESPONDENT ASPECTS	SCOPE/ INTERNAL BOUNDARY	SCOPE/ EXTERNAL BOUNDARY
Diversity and company welfare	<ul style="list-style-type: none"> Diversity and equal opportunities (GRI 405) 	Group	-
Technological innovation and Smart Cities	<ul style="list-style-type: none"> Research and development (EU Supplement) Demand side management (EU Supplement) 	Group	Institutions
Responsibility and Safety in the provision of services and products	<ul style="list-style-type: none"> Consumer health and safety (GRI 416) Labelling of products and services (GRI 417) Consumer privacy (GRI 418) 	Market BU Networks and District Heating BU	Institutions/ Communities/ Customers
Quality and innovation in the provision of services and products	<ul style="list-style-type: none"> Consumer privacy (GRI 418) Service accessibility (EU Supplement) Demand side management (EU Supplement) 	Market BU Networks and District Heating BU Smart City	Institutions/ Communities/ Customers
Relationship with Group stakeholders	<ul style="list-style-type: none"> Local community (GRI 413) Public policy (GRI 415) 	Group	-
Active local and environmental education	<ul style="list-style-type: none"> Local community (GRI 413) 	Group	-
Responsible management of the supply chain	<ul style="list-style-type: none"> Procurement practices (GRI 204) Environmental assessment of suppliers (GRI 308) Social impact assessment of suppliers (GRI 414) 	Group	Suppliers*

* Limited scope: reporting relates solely to direct suppliers and not to level-two suppliers.

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Financial capital

Figure 3_Statement for calculating the global added value [GRI 201 - 1_4]

(millions of euro)		2016	2017	2018
+A)	Production value	4,860	5,796	6,494
	Revenue from sales and services (- revenue adjustments)	4,576	5,590	6,270
	Change in inventory of products in progress, semi-finished products and finished products	0	0	0
	Change in contract work in progress	5	0	1
	Other revenue and income	279	206	223
	Government grants	0	0	0
- B)	Intermediate production costs	3,382	4,000	4,740
	Raw materials and consumables consumption	176	296	344
	Energy and fuel consumption	1,938	2,554	3,038
	Costs for services	758	849	985
	Other operating expenses	108	106	93
	Accruals to bad debt provision - current receivables	21	35	25
	Provisions for risks	50	10	-5
	Other write-downs of fixed assets	245	34	160
	Other operating expenses	100	135	136
	Material own work capitalised	-14	-19	-36
	GROSS CORE VALUE ADDED	1,478	1,796	1,754
- C)	Financial balance	-2	4	4
	Financial income	16	19	16
	Financial expenses other than interest on loans	-15	-20	-16
	Unrealised gains and losses on equity investments in associates	-3	5	4
-D)	Auxiliary and extraordinary components	116	-145	56
	+/- auxiliary balance	64	-145	42
	+/- extraordinary balance	52	0	14
	GROSS GLOBAL VALUE ADDED	1,592	1,655	1,814
	- Depreciation and amortisation	403	410	463
	NET GLOBAL VALUE ADDED	1,189	1,245	1,351

Figure 4_Statement for distribution of the gross global added value [GRI 201 - 1_4]

(millions of euro)	2016	2017	2018
REMUNERATION OF PERSONNEL	450	475	492
Wages and salaries	389	420	428
Employees' leaving entitlement (TFR)	26	29	31
Other costs	35	26	33
REMUNERATION OF EQUITY CAPITAL	125	159	190
Profits distributed	126	153	180
Net Income attributable to minority Interests	-1	6	10
REMUNERATION OF DEBT CAPITAL	159	138	116
TRANSFERS TO THE GOVERNMENT	286	268	322
Direct taxes for the Treasury	139	106	148
Other taxes and duties for the Treasury	1	2	1
Social security charges	146	160	173
TRANSFERS TO THE LOCAL COMMUNITY	63	65	67
Direct taxes for local authorities	28	26	30
Local taxes and duties	31	33	33
Sponsorships	1	1	1
Contributions to AEM and ASM foundations, aid, donations and charity	3	5	3
COMPANY REMUNERATION	509	550	627
Reserves	106	140	164
Amortization, depreciation	403	410	463
GROSS GLOBAL VALUE ADDED	1,592	1,655	1,814

Stakeholder engagement and materiality analysis

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Figure 5_Gross operating margin by Business Unit*

(millions of euro)	2016	2017	2018
Generation and Trading	404	356	370
Market	144	216	206
Environment	240	261	268
Networks and District Heating	397	391	410
Smart City	6	7	11
Corporate	-29	-30	-34
International	69	-2	0
Total	1,231	1,199	1,231

* 2017 data have been restated as they reflect the reclassification of the EPCG Group's results in accordance with IFRS 5.

Figure 6_Balance Sheet - millions of euro

	2016	2017	2018
Net fixed assets	6,136	5,780	6,131
Working capital	278	235	302
Assets/liabilities held for sale	1	224	112
Net capital employed	6,415	6,239	6,545
Shareholders' equity	3,279	3,013	3,523
- Attributable to the Group	2,726	2,878	3,135
- Attributable to minorities	553	135	388
Net debt	3,136	3,226	3,022
Total sources	6,415	6,239	6,545
Gross debt	3,817	3,961	3,692

Figure 7_Main balance sheet indicators

	2016	2017	2018
Turnover by permanent worker (millions of euro)	0.44	0.51	0.54
EBITDA per permanent worker (millions of euro)	0.10	0.11	0.10
Average number of permanent workers	11,086	11,280	12,136

Figure 8_CAPEX* (capital expenses) - millions of euro [GRI 201_1]

	2016	2017	2018
Generation and Trading	36	64	57
Market	8	11	18
Environment	79	107	103
Networks and District Heating	213	229	261
Smart City	6	10	11
International	27	4	0
Corporate	17	29	29
Total	386	454	479

* Data 2017 reclassification has been restated to reflect the internal changes in the reporting scope, in particular: MARKET BU and NETWORKS & DISTRICT HEATING BU.

Figure 9_Share performance

	2016	2017	2018
Average capitalisation (millions of euro)	3,685	4,455	4,763
Capitalisation at December 31 (millions of euro)	3,853	4,831	4,926
Average volumes	11,140,269	9,729,351	9,807,945
Average share price* (euros per share)	1.176	1.422	1.520
Maximum share price* (euros per share)	1.287	1.635	1.687
Minimum share price* (euros per share)	0.956	1.232	1.392

* Euro per share (Source: Bloomberg)

Manufacturing capital

Energy production

Figure 10_Average availability factor for all plants [G4 - EU30]

A2A AVERAGE AVAILABILITY FACTOR (%)	2016	2017	2018
Traditional coal-powered	89%	81%	80%
Traditional heavy fuel oil	80%	75%	80%
Combined cycle natural gas	79%	82%	87%
Run-of-the river hydroelectric	86%	86%	86%
Basin hydroelectric	88%	89%	85%
Storage hydroelectric	88%	85%	87%

LGH AVERAGE AVAILABILITY FACTOR (%)	2016	2017	2018
Run-of-the river hydroelectric	-	90%	90%

Stakeholder engagement and materiality analysis

Financial capital

Figure 11_Net electricity produced divided up according to plant type and source – GWh [G4 - EU2]

		2016	2017	2018
Generation and Trading Business Units	Thermoelectric plants*	7,872	11,442	10,671
	Hydroelectric plants	4,218	3,464	4,464
	Photovoltaic plants (including energy consumed)	3	12	63
Networks and District Heating Business Units	Cogeneration plants	187	277	285
Environment Business Unit	Waste-to-energy plants (including biogas) and natural gas boilers**	1,002	1,141	1,183
Total***		13,282	16,336	16,666

Manufacturing capital

Natural capital

Human capital

* The data differ from those in the Report on Operations as the Scandale thermoelectric plant has been separated, as described in the Methodological Note, in line with the data of the natural capital and the Sustainability Plan.

** The 2017 figure has been updated by separating the production of the Acerra waste-to-energy plant, equal to 631 GWh.

*** For the reasons stated above, 2017 total production is modified.

Relational capital

Figure 12_Net thermal energy produced divided up according to plant type and source – GWh

		2016	2017	2018
Environment Business Unit	Waste-to-energy plants (including biogas) and natural gas boilers	1,348	1,362	1,403
Networks and District Heating Business Unit	Cogeneration plants, natural gas thermal, heat pumps, biogas, solar panels	931	1,324	1,213
Generation Business Unit	Heat recovery	20	40	33
Total		2,299	2,726	2,649

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Electricity distribution

Figure 13_Extension of electricity distribution service [G4 - EU4]

	2016	2017	2018
Km of electricity network	14,039	14,919	15,014
<i>of which underground cable</i>	<i>12,013</i>	<i>12,745</i>	<i>12,039</i>

Figure 14_Extension of the gas distribution service

	2016	2017	2018
Km of natural gas network	8,057	11,183	11,193

Figure 15_Electricity, thermal energy and gas released to the network

	2016	2017	2018
Electricity distributed (GWh)	11,204	11,590	11,747
Heating and cooling energy distributed (GWh)	2,885	3,133	3,130
Natural gas distributed (Mm ³)	2,096	2,480	2,425
Natural gas transported (Mm ³)	324	370	372

Figure 16_Public lighting

	2016	2017	2018
Light points (no.)	210,805	213,817	225,590

Integrated water cycle

Figure 17_Procurement and distribution

TECHNICAL DATA	2016	2017	2018
Wells (no.)	262	276	190
Sources (no.)	243	331	275
Drinking water conversion plants (no.)	65	94	122
Total network length (km)	4,878	5,305	4,010
Water delivered to the user and accounted for (Mm ³)	62	69	54
Water withdrawn (Mm ³)	112	124	94
Network losses and water not booked (Mm ³)	38	44	41

Stakeholder engagement and materiality analysis

Figure 18_Collection and purification

TECHNICAL DATA	2016	2017	2018
Sewers - network length (km)	2,203	2,551	2,567
Waste water treated (Mm ³)	46	49	52
Purifiers (no.)	54	73	61

Financial capital

Manufacturing capital

Waste management

Figure 19_Waste collected

	2016	2017	2018
Tonnes	1,320,938	1,605,000	1,584,955

Natural capital

Human capital

Figure 20_Waste processed by type of plant* (kt)

	2016	2017	2018
Waste-to-energy plants	1,411	1,676	1,790
Landfills	192	481	455
Bio-drying plants and production of RDF	481	541	545
Recovery of materials and processing	503	938	997
Total	2,587	3,636	3,787

Relational capital

The Acsm Agam Group

* All incoming waste to the Group's plants is considered. The 2018 portion of waste disposal, net of intermediation (467 kt) and elisions (-751 kt) is 3,504 kt. Waste treated in plants managed on behalf of third parties (Acerra waste-to-energy plant and Caivano CSS plant) is not included.

Figure 21_Intermediated waste

	2016	2017	2018
Tonnes	109,790	133,082	216,374

District heating and heat

Figure 22_Thermal energy sold (GWh)

	2016	2017	2018
Heating / cooling energy	2,412	2,682	2,620

Smart City

Figure23_Smart City Services- Smart Land

	2016	2017	2018
Video cameras (no.)	1,902	1,999	2,013
SOS bollards (no.)	196	250	250
Monitoring stations (no.)	48	51	51
Digital islands (no.)	29	29	29
WIFI antennas (no.)	1,140	1,140	1,198
Remote natural gas reading concentrators (no.)	170	540	555
Environmental sensors installed (no.)	50	100	118
Smart bins installed	-	300	6,500
Smart landsensors	-	-	62
Smart parking sensors	-	-	110
ZTL gates	-	-	9
Variable message panels + park	-	-	15
Museum sites			
Sites	-	27	31
Cameras	-	1,023	1,463
Break-in sensors	-	3,299	5,025
Fire sensors	-	2,622	3,373
IoT sensors (laser, protection, flooding)	-	-	216
Evac speakers	-	-	33
A2A offices			
Offices	-	159	159
Break-in sensors	-	1,908	2,754
Cameras	-	1,376	1,862
Presence/access readers	-	789	841

Natural capital

Figure 24_Percentages of electricity generated by type of source [G4-EU2]

	2016	2017	2018
Renewable sources (hydraulic, renewable fraction of waste*, biogas, solar)	36%	25%	31%
Coal	17%	13%	12%
Natural gas	34%	51%	49%
Petroleum products	9%	8%	4%
Non-renewable fraction of waste	4%	3%	4%

* For non-hazardous waste, a renewable fraction of 51% was assumed (ref. Decree of the Ministry of Economic Development of December 18, 2008). As a result, the non-renewable fraction considered was 49%.

Figure 25_Energy Performance [GRI 302-3; G4 - EU11]

	2016	2017	2018
Average yield of thermoelectric plants	41%	44%	45%
Yield of high-performance natural gas combined cycles	50%	51%	51%
Yield of multi-fuel plants	34%	33%	32%
Average cogeneration efficiency of fossil fuel plants	78%	77%	77%
Average electricity produced from 1 t waste (kWh/t)	803	778	754
Average thermal energy produced from 1 t waste (kWh/t)	918	816	780

Figure 26_Global impact indicators

	2016	2017	2018
Total emissions of gases harmful to the ozone layer (KgR11 _{eq})	4.7	0.1	1.0
Total acidifying emissions* (tSO _{2eq})	3,378	3,910	3,409

* 2017 data has been updated as the calculation method of Grottaglie Landfill has been realigned, and due to a material error in the transitory emissions data input of the Chivasso Plant.

Figure 27_Indicators of impact due to the purchase and use of fossil fuels [GRI 305-3]

	2016	2017	2018
Carbon footprint (tCO _{2eq} /year)	863,223	1,031,979	933,332
Water footprint (thousands of m ³ water)	24,048	28,583	20,597

Figure 28_Environmental sanctions* [GRI 307-1]

	2016	2017	2018
Number	3	8	18
Value (euro)	10,800	30,516	66,314

* The most significant sanctions relate to the biodrying plants of Villafalletto and the plant complex of Corteolona (13,000 euro each). All sanctions relate to infractions of authorisation measures or administrative imprecisions that did not result in any damages or concrete temporary or permanent danger to the environment.

All sanctions relate to breaches of authorisation requirements or administrative inaccuracies.

Stakeholder engagement and materiality analysis

Financial capital

Manufacturing capital

Natural capital

Human capital

Relational capital

The Acsm Agam Group

Natural capital in the Environment BU

Resources and materials used

Figure 29_Resources used - Environment Business Unit [GRI 301-1; GRI 302-1_2; GRI 303-1]

	2016	2017	2018
Fuel (TJ)			
Natural gas	464	656	694
Petroleum derivatives (heavy fuel oil and diesel)	24	67	71
Waste, biomass and CSS	15,889	19,317	21,095
Biogas (from landfills and treatment facilities)	624	631	484
Automotive fuels (TJ)			
Petrol	6	9	7
Diesel	398	552	504
Methane	96	98	111
Electricity (GWh)	52	53	54
Water resource consumed (thousands m³)			
From aqueducts	871	735	511
From wells	2,495	3,004	3,160
Chemical products and materials (t)			
Mineral acids	1,771	1,305	1,565
Water additives/conditioners	310	263	260
Ammonia (solution)	5,223	5,722	6,196
Lime and solid neutralisers	26,068	32,124	33,152
Active carbon	1,052	1,293	1,422
Cement, sand and inert materials	136,605	216,722	188,808
Sodium chloride	98	1,704	283
Technical gases (nitrogen, CO2, hydrogen, oxygen)	848	1,118	1,370
Sodium hydroxide (solution)	3,131	1,917	2,260
Methanol, solvents and other products	1,486	1,923	2,461
Oils and lubricants	58	141	100
Urea (solution)	1,139	2,032	1,704
Total chemical products	177,789	266,265	239,583

Effluents

Figure 30_Industrial waste water [GRI 306-1]

		2016	2017	2018
Volumes (thousands of m³)	Discharged into sewers	404	491	503
	Discharged into surface water	1,402	1,115	919
	Recovered in the production cycle	363	387	401
	<i>% of total water withdrawn</i>	9.9%	10.5%	10.9%
	Derivative waters for cooling	709	703	713
Pollutant discharges into surface water (t)	BOD	27	27	20
	COD	114	69	47

Waste

Figure 31_Special waste produced [GRI 306-2_4]

	2016	2017	2018
Special non-hazardous (t)	443,791	515,353	529,422
Special hazardous (t)	84,306	104,612	111,751
Total special (t)	528,097	619,965	641,173
Sent for recovery (% of total)	47%	52%	52%

Emissions

Figure 32_Total emissions – Environment BU [GRI 305-1_2_6_7]

	2016	2017	2018
CO ₂ from combustion processes (t)	904,171	1,147,430	1,209,825
Biogenic emissions	856,550	1,083,853	1,087,985
CO ₂ from motor vehicles (t)	35,060	46,430	43,434
CO ₂ indirect from energy acquisition (t)	16,982	17,558	17,148
Fluorinated gases (t CO _{2eq})	409	448	524
NO _x (t)	621	893	883
SO ₂ (t)	16	17	36
Powders (t)	2.8	5.7	6.2
Methane (CH ₄) – biogas losses released in landfills (t CO _{2eq})	49,092	94,452	90,188
Polycyclic aromatic hydrocarbons (kg)	0.04	0.37	0.07
Mercury (kg)	15	14	15
Other metals (Sb + As + Pb + Cr + Cu + Mn + Ni + V + Sn+Cd+Tl) (kg)	166	321	215
Dioxins* (grams - toxic equivalency)	0.015	0.033	0.039
Dioxin-like PCBs (polychlorinated biphenyls) (grams - toxic equivalency)	0.0043	0.0038	0.0079

* 2016 data have been updated in line with the scope of Environment BU compared to the following years.

Figure 33_Energy generated by waste-to-energy processes [G4-EU2]

	2016	2017	2018
Thermal energy from waste-to-energy and biogas process	56%	52%	55%
Electricity from waste-to-energy and biogas process	8%	7%	7%

Stakeholder engagement and materiality analysis

Financial capital

Manufacturing capital

Natural capital

Human capital

Relational capital

The Acsm Agam Group

Natural capital in the Generation and Trading BU

Resources and materials used

Figure 34_Resources used – Generation BU [GRI 301-1; GRI 302-1_2; GRI 303-1]

	2016	2017	2018
Fuel (TJ)			
Natural gas	31,661	56,472	56,336
Coal	23,315	20,999	19,577
Petroleum derivatives (heavy fuel oil and diesel)	14,771	16,415	9,342
Automotive fuels (TJ)			
Petrol	1.46	1.12	2.09
Diesel	5.09	3.99	5.44
Methane	0.04	0.02	0.00
Electricity (GWh)	172	154	162
Water resources consumed (thousands of m³)			
From aqueducts*	87	108	104
From wells	3,239	3,531	3,144
From surface water	660	984	802
Chemical products and materials (t)			
Mineral acids	307	280	251
Water additives/conditioners	77	98	130
Ammonia (solution)	1,191	998	1,067
Lime and solid neutralisers	30,399	27,088	23,615
Active carbon	-	-	2.7
Cement, sand and inert materials	-	-	0.5
Sodium chloride	5	6	9.25
Technical gases (nitrogen, CO ₂ , hydrogen, oxygen)	39	66	87
Sodium hydroxide (solution)	227	243	192
Methanol, solvents and other products	8	29	39
Oils and lubricants	98	82	86
Total chemical products	32,351	28,890	25,479

* 2017 data have been updated due to an input material error.

Effluents

Figure 35_Industrial waste water - Generation and Trading BU [GRI 306-1]

		2016	2017	2018
Volumes (thousands of m ³)	Discharged into sewers	204	207	281
	Discharged into surface water	1,927	1,924	1,919
	Recovered in the production cycle	1,088	1,084	1,258
	<i>% of total water withdrawn</i>	34%	33%	31%
	Derivative waters for cooling*	1,292,490	1,619,880	1,403,857
	Water extracted for hydroelectric generation	2,432,901	2,436,679	3,158,118
Pollutant discharges into surface water (t)	BOD	14.0	22.9	20.3
	COD	47.6	58.8	45

* 2016 and 2017 data have been updated due to an input material error.

Waste

Figure 36_Special waste produced - Generation and Trading BU [GRI 306-2_4]

	2016	2017	2018
Special non-hazardous (t)	36,040	42,322	47,842
Special hazardous (t)	4,903	3,064	3,113
Total special (t)	40,943	45,386	50,955
Sent for recovery (% of total)	72%	91%	92.4%

Emissions

Figure 37_Total emissions - Generation and Trading BU [GRI 305-1_2_6_7]

	2016	2017	2018
CO ₂ from combustion processes (t)	5,047,153	6,299,134	5,700,406
CO ₂ from motor vehicles (t)	483	376	553
CO ₂ indirect from energy acquisition (t)	55,647	51,261	51,045
Fluorinated gases (t CO _{2eq})	2,906	1,576	1,193
NO _x (t)	1,881	2,313	2,060
SO ₂ (t)	1,348	1,340	1,135
Powders (t)	114	127	109
Polycyclic aromatic hydrocarbons (kg)	0.02	0.02	0.16
Mercury (kg)	3	4	2
Other metals (Sb + As + Pb + Cr + Cu + Mn + Ni + V + Sn+Cd+Tl) (kg)	328	293	215
Dioxins (grams - toxic equivalency)	0.001	0.003	0.006

Stakeholder engagement and materiality analysis

Financial capital

Manufacturing capital

Natural capital

Human capital

Relational capital

The Acsm Agam Group

Natural capital in the Networks & District Heating BU

Resources and materials used

Figure 38_Resources used – Networks and District Heating BU [GRI 301-1; GRI 302-1_2; GRI 303-1]

	2016	2017	2018
Fuel (TJ)			
Natural gas	2,804	4,215	3,830
Coal	1,846	1,828	1,781
Petroleum derivatives (heavy fuel oil, diesel)	0.5	0.3	0.1
Biogas (from group purification plants)	7	7	6
Automotive fuels (TJ)			
Petrol	12	12	10
Diesel	18	18	18
Methane	10	7	9
Electricity (GWh)	128	145	118
Heat energy (GWh - purchased from external sources)	385	446	456
Water resources consumed (thousands of m³)			
From aqueducts	673	806	728
From wells	1,857	1,764	2,070
Chemical products and materials (t)			
Mineral acids	554	547	674
Water additives/conditioners	8,581	8,457	8,141
Lime and solid neutralisers	1,420	1,812	1,910
Active carbon	50	53	94
Sodium chloride	1	23.65	10.8
Technical gases (nitrogen, CO ₂ , hydrogen, oxygen)	162	174	140
Sodium hydroxide (solution)	176	159	198
Methanol, solvents and other products	738	678	740
Odorants	48	52	57
Oils and lubricants	22	43	48
Urea (solution)	439	520	528
Total chemical products	12,191	12,519	12,541

Effluents

Figure 39_Industrial waste water - Networks and District Heating BU [GRI 306-1]

	2016	2017	2018	
Volumes (thousands of m ³)	Discharged into sewers	372	418	355
	Discharged into surface water	170	143	251
	Recovered in the production cycle	3.8	2.3	3.1
	<i>% of total water withdrawn</i>	<i>0.1%</i>	<i>0.1%</i>	<i>0.1%</i>
	Derivative waters for cooling	18	15	22
Pollutant discharges into surface water (t)	BOD	0.9	0.4	1.2
	COD	3.3	1.7	3.2

Waste

Figure 40_Special waste produced - Networks and District Heating BU [GRI 306-2_4]

	2016	2017	2018
Special non-hazardous* (t)	32,333	38,662	38,979
Special hazardous (t)	275	299	321
Total special** (t)	32,608	38,961	39,299
Sent for recovery (% of total)	92%	92%	91%

* 2017 data have been updated to correct an input material error.

** 2017 total value changed due to the update of the data relating to special non-hazardous waste.

Emissions

Figure 41_Total emissions - Networks and District Heating BU [GRI 305-1_2_6_7]

	2016	2017	2018
CO ₂ from combustion processes (t)	338,675	419,238	392,712
CO ₂ from motor vehicles (t)	2,721	2,608	2,541
CO ₂ indirect from energy acquisition (t)	41,854	48,100	37,237
Fluorinated gases (t CO ₂ eq)	2,154	292	960
Methane (CH ₄) - losses from natural gas distribution networks (t CO ₂ eq)	43,931	38,824	43,154
NO _x (t)	203	259	179
SO ₂ (t)	118	123	129
Powders (t)	0.4	0.5	0.7

Figure 42_Electricity losses in the grid [GRI EU 12]

	2016	2017	2018
GWh	323	389	354

Stakeholder engagement and materiality analysis

Financial capital

Manufacturing capital

Natural capital

Human capital

Relational capital

The Acsm Agam Group

Natural capital in the Corporate BU

Resources and materials used

Figure 43_Resources used – Corporate Business Unit [GRI 301-1; GRI 302-1_2; GRI 303-1]

	2016	2017	2018
Water (thousand m³)	184	169	168
Electricity (GWh)	17	16	14
Fuel (TJ)			
Methane	35	29	25
Fuels (TJ)			
Petrol	2	4	3
Diesel	12	56	48
Methane	2	3	3

Waste

Figure 44_Special waste produced – Corporate BU [GRI 306-2_4]

	2016	2017	2018
Special non-hazardous (t)	48	111	169
Special hazardous (t)	26	93	93
Total special (t)	74	204	262
Sent for recovery (% of total)	90%	90%	98.5%

Emissions

Figure 45_Total emissions – Corporate BU [GRI 305-1_2_6_7]

	2016	2017	2018
CO ₂ from combustion processes (t)	1,940	1,613	1,425
CO ₂ from motor vehicles (t)	1,070	4,601	3,927
CO ₂ indirect from energy acquisition (t)	5,454	5,368	4,377
Fluorinated gases (t CO _{2eq})	536	276	552

Human capital

Composition of personnel

Figure 46_Personnel by category and type of contract [GRI 102-8; 405-1]

	2016			2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Managers	121	24	145	147	27	174	146	29	175
Supervisors	381	112	493	458	135	593	485	145	630
White-collar workers	2,844	1,141	3,985	3,185	1,416	4,601	3,213	1,421	4,634
Blue-collar workers	4,527	193	4,720	5,241	205	5,446	4,992	202	5,194
Permanent workers	7,873	1,470	9,343	9,031	1,783	10,814	8,836	1,797	10,633
<i>of which, on-the-job training and first job contracts</i>	5	-	5	11	-	11	-	-	-
Fixed-term workers	406	28	434	551	51	602	518	45	563
of which:									
Managers	1	-	1	1	-	1	1	1	2
Supervisors	1	-	1	2	-	2	2	-	2
White-collar workers	23	18	41	40	39	79	32	32	64
Blue-collar workers	381	10	391	507	11	518	483	12	495
TOTAL	8,279	1,498	9,777	9,582	1,834	11,416	9,354	1,842	11,196
<i>of which workers with part-time contracts</i>	51	244	295	38	286	324	75	275	350
<i>of which workers with full-time contracts</i>	8,228	1,254	9,482	9,544	1,548	11,092	9,279	1,567	10,846
Workers with non-standard contracts* (temporary/interns/collaborators)	26	9	35	84	44	128	118	40	158

* Workers under non-standard contracts do not include consultants.

Figure 47_Personnel by type of contract applied [GRI 102-41]

	2016	2017	2018
Executive contracts	146	174	177
Electrical contracts	3,160	3,387	3,473
Single natural gas and water contracts	1,250	1,781	1,567
Commercial contracts	341	389	453
Urban hygiene contracts	4,246	4,756	4,556
FISE contracts	456	661	735
Chemical contracts	178	178	178
Other contracts	-	90	57
Total	9,777	11,416	11,196

Stakeholder engagement and materiality analysis

Financial capital

Manufacturing capital

Natural capital

Human capital

Relational capital

The Acsm Agam Group

Figure 48_Personnel by workplace [GRI 102-8]

REGION	2016			2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Abruzzo	51	5	56	51	5	56	50	5	55
Calabria	79	1	80	78	1	79	77	1	78
Campania	192	15	207	192	16	208	193	17	210
Emilia Romagna	47	6	53	46	6	52	54	10	64
Friuli Venezia Giulia	156	5	161	151	5	156	149	5	154
Lazio	2	1	3	2	1	3	3	2	5
Lombardy	7,491	1,440	8,931	8,757	1,769	10,526	8,508	1,770	10,278
Marches	-	-	-	7	4	11	8	4	12
Piedmont	78	21	99	88	21	109	100	22	122
Puglia	28	-	28	48	2	50	47	2	49
Sicily	151	4	155	160	4	164	160	4	164
Veneto	-	-	-	-	-	-	4	-	4
International	4	-	4	2	-	2	1	-	1
TOTAL	8,279	1,498	9,777	9,582	1,834	11,416	9,354	1,842	11,196

Figure 49_Number of hires and turnover rate, by age, gender and geographical area [GRI 401-1]

AGE BRACKETS	2016			2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Permanent workers									
Up to age 30	83	12	95	108	26	134	130	26	156
From 31 to 40	67	8	75	90	16	106	114	26	140
From 41 to 50	36	6	42	84	4	88	61	12	73
Over 50	34	-	34	24	-	24	31	3	34
Fixed-term workers									
Up to age 30	224	24	248	221	24	245	188	22	210
From 31 to 40	144	8	152	157	6	163	141	12	153
From 41 to 50	58	2	60	108	1	109	97	5	102
Over 50	22	-	22	35	2	37	47	5	52
Total	668	60	728	827	79	906	809	111	920
Percentage of new employees out of total workforce	8.10%	4.00%	7.40%	8.63%	4.31%	7.94%	8.44%	6.05%	8.22%

Figure 50_Workers leaving, by gender [GRI 401-1]

ITALY	2016			2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Retirement	133	7	140	168	10	178	251	9	260
Voluntary resignation	88	22	110	118	27	145	149	27	176
Decease	9	1	10	14	-	14	10	1	11
Dismissal	132	13	145	35	3	38	53	2	55
Other (e.g., end of fixed-term contract)	239	20	259	292	9	301	318	25	343
Total	601	63	664	627	49	676	781	64	845
Turnover rate*	7.30%	4.20%	6.80%	6.54%	2.67%	5.92%	8.15%	3.49%	7.55%

* The turnover rate was calculated according to the following formula: (outgoing) / (employees) at December 31.

Figure 51_Workers leaving, by age bracket [GRI 401-1]

ITALY	2016					2017					2018				
	UP TO 30	31-40	41-50	OVER 50	TOTAL	UP TO 30	31-40	41-50	OVER 50	TOTAL	UP TO 30	31-40	41-50	OVER 50	TOTAL
Retirement	-	-	-	140	140	-	-	-	178	178	-	-	-	260	260
Voluntary resignation	23	27	16	44	110	27	43	32	43	145	41	41	37	57	176
Decease	-	1	3	6	10	1	1	5	7	14	-	1	4	6	11
Dismissal	-	8	11	126	145	8	9	12	9	38	8	12	20	15	55
Other (e.g., end of fixed-term contract)	113	74	39	33	259	116	92	63	30	301	143	92	60	48	343
Total	136	110	69	349	664	152	145	112	267	676	192	146	121	386	845
Turnover rate	16.77%	6.08%	2.16%	8.81%	6.80%	15.80%	6.50%	3.14%	5.69%	5.92%	19.96%	6.50%	3.40%	8.23%	7.55%

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Welfare and diversity

Figure 52_Personnel by age bracket and gender [GRI 405-1]

AGE BRACKETS	2016								
	MANAGERS		SUPERVISORS		WHITE-COLLAR WORKERS		BLUE-COLLAR WORKERS		TOTAL
	M	W	M	W	M	W	M	W	
Up to age 30			1		173	129	498	10	811
From 31 to 40	4	1	52	23	406	292	971	60	1,809
From 41 to 50	42	14	131	40	850	410	1,619	91	3,197
Over 50	76	9	198	49	1,438	328	1,820	42	3,960
Total	122	24	382	112	2,867	1,159	4,908	203	9,777

AGE BRACKETS	2018								
	MANAGERS		SUPERVISORS		WHITE-COLLAR WORKERS		BLUE-COLLAR WORKERS		TOTAL
	M	W	M	W	M	W	M	W	
Up to age 30	-	-	-	-	235	147	541	6	929
From 31 to 40	5	-	83	27	562	404	1,103	48	2,232
From 41 to 50	45	17	154	55	819	445	1,736	100	3,371
Over 50	97	13	250	63	1,629	457	2,095	60	4,664
Total	147	30	487	145	3,245	1,453	5,475	214	11,196

Figure 53_Personnel by protected categories [GRI 405-1]

PROTECTED CATEGORIES	2016			2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
PRO.CAT. (ART.18 PARA.2 LAW 68/99)	34	16	50	36	18	54	36	18	54
PEOPLE WITH DISABILITIES	329	88	417	348	104	452	326	97	423
DISADVANTAGED GROUPS (MOBILITY-REDUNDANCY)	5	-	5	-	-	-	-	-	-
Total	368	104	472	384	122	506	362	115	477

Figure 54_Personnel by position and company seniority [G4-EU15]

COMPANY SENIORITY	2016						2017					
	MANAGERS	SUPERVISORS	WHITE-COLLAR WORKERS	BLUE-COLLAR WORKERS	TOTAL	%	MANAGERS	SUPERVISORS	WHITE-COLLAR WORKERS	BLUE-COLLAR WORKERS	TOTAL	%
Up to age 10	58	145	1,066	2,142	3,411	34.9%	60	192	1,383	2,548	4,183	36.6%
From 11 to 20	42	102	631	1,125	1,900	19.4%	59	141	845	1,433	2,478	21.7%
From 21 to 30	35	160	1,495	1,403	3,093	31.6%	41	156	1,531	1,522	3,250	28.5%
Over 30	11	87	834	441	1,373	14.1%	15	106	920	464	1,505	13.2%
Total	146	494	4,026	5,111	9,777	100.0%	175	595	4,679	5,967	11,416	100.0%

Figure 55_Personnel by educational qualification

	2016				2017				2018			
	MEN	WOMEN	TOTAL	%	MEN	WOMEN	TOTAL	%	MEN	WOMEN	TOTAL	%
Undergraduate degree	703	408	1,111	11.4%	927	533	1,460	12.8%	1,022	570	1,592	14.2%
Secondary school diploma	3,195	760	3,955	40.5%	3,548	917	4,465	39.1%	3,672	921	4,593	41.0%
Vocational degree	606	78	684	7.0%	796	93	889	7.8%	661	73	734	6.6%
Compulsory schooling	3,775	252	4,027	41.2%	4,311	291	4,602	40.3%	3,999	278	4,277	38.2%
Total	8,279	1,498	9,777	100.0%	9,582	1,834	11,416	100.0%	9,354	1,842	11,196	100.0%

	2017								TOTAL
	MANAGERS		SUPERVISORS		WHITE-COLLAR WORKERS		BLUE-COLLAR WORKERS		
	M	W	M	W	M	W	M	W	
	-	-	1	-	231	167	553	10	960
	5	1	76	29	502	388	1,152	47	2,200
	47	15	145	47	891	462	1,853	104	3,564
	96	11	238	59	1,600	441	2,190	55	4,690
	148	27	460	135	3,224	1,458	5,748	216	11,416

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	2018					
	MANAGERS	SUPERVISORS	WHITE-COLLAR WORKERS	BLUE-COLLAR WORKERS	TOTAL	%
	61	199	1,387	2,348	3,995	35.7%
	62	168	862	1,607	2,699	24.1%
	39	139	1,351	1,212	2,741	24.5%
	15	126	1,097	523	1,761	15.7%
	177	632	4,697	5,690	11,196	100.0%

Personnel training and development

Figure 56_ Training delivered by role [GRI 404-1]

	2016		2017		2018	
	NUMBER OF HOURS	AVERAGE ANNUAL HOURS OF TRAINING PER EMPLOYEE	NUMBER OF HOURS	AVERAGE ANNUAL HOURS OF TRAINING PER EMPLOYEE	NUMBER OF HOURS	AVERAGE ANNUAL HOURS OF TRAINING PER EMPLOYEE
Managers	4,322	29.6	6,691	38.2	9,313	52.6
Supervisors	15,935	32.3	22,542	37.9	35,099	55.5
White-collar workers	78,124	19.4	96,744	20.7	116,255	24.7
Blue-collar workers	65,443	12.8	86,979	14.6	66,996	11.8
Total	163,824	16.8	212,956	18.7	227,663	20.3

Figure 57_ Training delivered by gender [GRI 404-1]

	2016		2017		2018	
	NUMBER OF HOURS	AVERAGE HOURS PER EMPLOYEE	NUMBER OF HOURS	AVERAGE HOURS PER EMPLOYEE	NUMBER OF HOURS	AVERAGE HOURS PER EMPLOYEE
Men	144,317	17.4	185,338	19.3	186,109	19.9
Women	19,507	13	27,617	15.1	41,554	22.6
Total	163,824	16.8	212,956	18.7	227,663	20.3

Figure 58_ Health and safety training

	2016	2017	2018
Training hours	86,492	112,023	102,776

Figure 59_ Cost of training

	2016	2017	2018
€	1,800,223	3,013,190	2,520,072
% of training costs covered by inter-professional funds	30%	29%	29%

Figure 60_ Employees trained in the year (percentage of total)

	2016	2017	2018
%	87%	92%	85%

Figure 61_ Attendance of training courses (total number)

	2016	2017	2018
no.	37,634	55,830	57,209

Figure 62_Percentage of employees who regularly receive performance assessments [GRI 404-3]

	2016	2017	2018
%	47%	47%	49%

Figure 63_Third-party employees that have undergone relevant health and safety training

	NO. EMPLOYEES INVOLVED	TRAINING HOURS PROVIDED
2016	1,691	6,011
2017	2,353	4,506
2018	1,291	3,876

Stakeholder engagement and materiality analysis

Health and safety at work

Figure 64_Data on injuries* [GRI 403-2]

	2016	2017	2018
Number of deaths	-	-	-
No. of incidents (excl. during travel)	556	577	521
<i>Men</i>	506	526	485
<i>Women</i>	50	51	36
No. of days absence	14,109	14,861	12,710
Average duration	25.42	25.76	24.21
Frequency index FI	35.66	31.80	29.14
Severity index SI	0.91	0.82	0.71
Incidence index II	11.52	10.0	8.0
<i>Commuting accidents</i>	112	113	90

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* When calculating indices, only professional accidents, that result in at least one day of absence, not including the day of the event, are considered. Medications and precautionary absences and unrecognised accidents are therefore excluded. Professional accidents also include those that occur in transit, with or without a vehicle. The table counts all injuries involving employees.

FI = frequency index (no. accidents x 1,000,000: hours worked)

SI = severity index (no days of absence x 1,000: hours worked)

II = incidence index (no accidents x 1,000: headcount) – it is calculated on the number of commuting accidents.

Commuting accidents: accidents suffered by workers while commuting from home to work and vice-versa (but not while in service).

Figure 65_Incident indices of contractors and subcontractors for construction and maintenance works [GRI 403-2_G4-EU17]

	NO. OF HOURS WORKED BY CONTRACTORS	DEATHS	NO. OF ACCIDENTS	DAYS LOST	FREQUENCY INDEX	SEVERITY INDEX
2016	1,720,753	-	11	464	6.39	0.27
2017	2,350,008	-	15	354	6.38	0.15
2018	2,264,294	-	22	169	9.72	0.07

Figure 66_Health data by BU

	GENERATION AND TRADING BU			MARKET BU			ENVIRONMENT BU			NETWORKS AND DISTRICT HEATING BU			CORPORATE			TOTAL		
	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018	2016	2017	2018
Visits as per 81/08	722	825	746	152	171	260	4,119	6,112	5,880	1,513	1,259	1,226	454	420	513	6,960	8,787	8,625
Tox visits	-	-	166	-	-	60	-	-	2,120	-	-	285	-	-	-	-	-	2,631
Assessments	1,414	1,715	1,833	95	174	277	7,604	8,789	11,045	1,793	2,633	2,533	366	461	494	11,272	13,772	16,182
Influenza Vaccination	-	-	35	-	-	39	-	-	223	-	-	198	-	-	129	-	-	624
Vaccinations	40	80	79	-	29	42	541	943	851	67	509	314	-	114	2	648	1,675	1,288
Site inspections	-	17	16	-	8	6	-	29	54	-	35	31	-	11	12	83	100	119
Reported professional disease	-	-	5	-	-	0	-	-	4	-	-	0	-	-	0	8	3	9
Health provisions	-	-	17	-	-	5	-	-	27	-	-	9	-	-	7	40	41	65
Specialist visits	-	7	-	-	-	-	-	272	68	-	3	7	-	-	-	191	282	75

Figure 67_Percentage of workers represented in formal health and safety committees [GRI 403-1]

	2016	2017	2018
Percentage of the total	100%	100%	100%

Absenteeism

Figure 68_Number of working days lost by gender [GRI 403-2]

	2016		2017		2018	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Illness	94,360	17,629	97,453	18,880	98,515	18,166
Unpaid leave/absence	5,761	1,681	6,461	1,473	6,008	698
Company strikes	2,926	209	-	-	-	-
National strikes	410	29	497	84	626	73
Accidents*	12,884	1,983	14,082	1,782	12,390	1,391
Total	116,340	21,531	118,493	22,219	117,539	20,327
Total days worked by the workforce in the reporting period	2,142,530	369,643	2,091,868	370,106	2,424,831	457,695
Absentee Rate	5%	6%	6%	6%	5%	4%

* It should be noted that the figures presented in this table refer solely to working days lost due to accidents and not to calendar days lost, which are used to calculate the severity index.

Figure 69_Lost day rate* (total number of days lost through injury or illness out of total working hours by the workforce in the reporting period) [GRI 403-2]

	2016			2017			2018		
	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL	MEN	WOMEN	TOTAL
Days lost to accidents	12,037	1,983	14,020	14,802	1,782	15,864	12,390	1,391	13,781
Total workable hours of the workforce in the reporting period	14,911,363	2,595,243	17,506,606	15,217,692	2,633,211	17,850,903	17,613,164	3,346,340	20,959,504
Total hours worked by the workforce in the reporting period	13,003,431	2,111,103	15,114,534	13,157,472	2,120,568	15,278,040	15,279,598	2,694,030	17,973,628
Lost day rate	0.08%	0.08%	0.08%	0.10%	0.07%	0.08%	0.07%	0.04%	0.07%

* Days lost means days on which work cannot be performed due to an occupational accident or occupational disease. They are not counted if there is a partial return to working activity. Occupational disease is defined as an illness caused by the working environment or professional activity (e.g., stress or regular exposure to harmful chemical substances) or resulting from an accident.

Figure 70_Return to work and retention rates after parental leave*

	2016		2017 **		2018	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
Employees who took parental leave	119	133	229	195	325	208
<i>of whom, employees who returned to work in 2016</i>	103	103	-	-	-	-
<i>of whom, employees who returned to work in 2017</i>	13	25	216	165	-	-
<i>of whom, employees who returned to work in 2018</i>	1	-	13	30	302	176

* Employees who did not return to work relative to 2018 have not necessarily resigned, but are continuing their leave.

** Due to the change in the HR management software in 2017, errors were detected in the entries in the new system on data relating to parental leave when preparing the 2018 Integrated Financial Statements. For this reason, it was decided to extract the same data from the payroll system, and recalculate the data communicated in 2017.

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Figure 71_Registrations with trade union

	2016		2017		2018	
	N°	%	N°	%	N°	%
Italy - members of union federations	3,424	35.0%	3,662	32.1%	3,646	32.6%
Italy - members of other unions	1,062	10.9%	1,137	10.0%	1,188	10.6%
Employees not enrolled in unions	5,287	54.1%	6,617	58.0%	6,362	56.8%
Abroad - Employees not enrolled in unions	4	0.0%	-	0.0%	-	0.0%
Total	9,777	100.0%	11,416	100.0%	11,196	100.0%

Figure 72_Hours spent on strike

	2016	2017	2018
Total strike hours	22,700	4,402	502
Strike hours per capita*	2.3	0.4	0.0

* Per capita hours are calculated on the average headcount.

Benefits and remuneration

Figure 73_Contributions to Recreational and Welfare Circles

	2016	2017	2018
Total (€)	4,631,251	5,000,668	5,097,116

Relational capital

Relations with customers

Electricity and natural gas sales service

Figure 74_Electricity supply contracts by type of market

	2016	2017	2018
Protected market	674,551	619,114	547,994
Free market	321,746	472,003	586,998
Total	996,297	1,091,117	1,134,992

Stakeholder engagement and materiality analysis

Figure 75_Electricity supply contracts by type of customer [G4 - EU3]

	2016	2017	2018
Domestic	820,420	895,041	914,937
SME	111,179	128,704	133,237
Large customers	30,954	34,292	52,563
Condominiums	33,744	33,080	34,255
Total	996,297	1,091,117	1,134,992

Financial capital

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Figure 76_Gas supply contracts by type of market

	2016	2017	2018
Protected market	813,729	841,282	698,406
Free market	276,898	453,141	542,554
Total	1,090,627	1,294,423	1,240,960

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Figure 77_Gas supply contracts by type of customer [G4 - EU3]

	2016	2017	2018
Domestic	1,022,433	1,212,980	1,161,611
SME	53,859	64,933	63,722
Large customers	4,997	6,748	6,582
Condominiums	9,338	9,762	9,045
Total	1,090,627	1,294,423	1,240,960

Figure 78_Geographic breakdown of electricity sales volumes

	2016	2017	2018
Lombardy	78%	83%	76%
Rest of Italy	22%	17%	24%

Figure 79_Geographic breakdown of gas sales volumes

	2016	2017	2018
Lombardy	88%	90%	88%
Rest of Italy	12%	10%	12%

Figure 80_Number of fidelity programme adhesions

	2016	2017	2018
Adhesions	257,075	286,834	40,522
Increase (percentage)	31%	12%	-86%

Figure 81_Quality of the call centre

	ARERA TARGET	A2A ENERGIA			LINEA PIÙ		
		2016	2017	2018	2016	2017	2018
Percentage of successful calls	>=80%	95.5%	94.2%	96.7%	92.3%	97.4%	96.1%
Accessibility of lines and services (time when line is free vs operator presence time)	>=80%	98.8%	99.3%	100.0%	100.0%	100.0%	100.0%
Average waiting time on the telephone	<=240"	131	140	122	147	84	84

* The position in the rankings derives from the comparison of the performance of A2A Energia with that of the main market players, apart from the macro category of "Other suppliers", which combines several operators and whose results cannot be read individually due to the number of associated interviews.

Figure 82_Customer satisfaction on call centre operations

	FIRST HALF 2016	2ND HALF 2016	1ST HALF 2017	2ND HALF 2017	2018 (ANNUAL)
A2A Energia	97.1%	95.7%	95.7%	95.2%	98.1%
Linea Più	n.a.	94.5%	93.2%	90.5%	94.0%
National average	91.0%	92.4%	93.2%	91.7%	92.3%

Figure 83_Gas and electricity complaint trend

	2016	2017	2018
A2A Energia - number of complaints	2,823	3,447	3,550
Linea Più - number of complaints	-	2,399	1,682
A2A Energia - percentage "simple" complaints out of average no. of customers*	0.14%	0.17%	0.18%
Linea Più - percentage "simple" complaints out of average no. of customers*	-	0.82%	0.56%

* ARERA defines complaints as "simple" when they refer exclusively to the seller and do not require any data pertaining to the distribution company in order to prepare the answer.

Figure 84_Electricity bill cost trends (in euro) for a typical household*

	A2A ENERGIA			LINEA PIÙ		
	2016	2017	2018	2016	2017	2018
Sales services	216.05	245.16	274.78	266.51	264.52	302.46
Network services	215.35	206.04	204.03	213.84	206.35	204.05
Tax	21.79	21.82	21.82	21.79	21.79	21.79
VAT	45.32	47.3	50.06	50.21	49.27	52.83
Total	498.51	520.32	550.69	552.35	541.93	581.13

* For electricity, the Authority took as an example a resident domestic use contract, with 3 kW of available power and an average annual use of 2,700 kWh.

Figure 85_Gas bill cost trends (in euro) for a typical household*

	A2A ENERGIA			LINEA PIÙ		
	2016	2017	2018	2016	2017	2018
Sales services	401.88	411.56	454.70	488.88	421.68	478.95
Network services	209.62	214.75	224.25	212.75	212.16	221.24
Tax	224.68	224.68	224.68	224.68	224.68	224.68
VAT	170.55	173.2	182.61	165.68	153.55	185
Total	1,006.73	1,024.19	1,086.24	1,091.99	1,012.08	1,109.87

* For gas, domestic use with independent heating in the north-east and an annual use of 1,400 cm was considered by the Authority.

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Figure 86_Affluence at branches

	2016	2017	2018
Total number of customers served	300,814	285,550	246,409
A2A Energia	300,814	200,140	170,513
Linea Più	-	85,410	75,896
Average office waiting time in minutes			
A2A Energia	13:48	07:30	06:18
Linea Più	-	12:13	09:51

Figure 87_Customer satisfaction on the services provided at AEN counters

	2016	2017	2018
Positive	95.90%	96.84%	98.30%
Negative	4.10%	3.16%	1.70%

Figure 88_Number of electricity and gas contracts with the Bollett@mail service

	2016	2017	2018
A2A Energia	289,613	325,580	367,018
Linea Più	-	47,231	66,315
Total	289,613	331,985	433,333
Increase (percentage)	16.5%	14.6%	30.5%

* The 2017 data for Linea Più has been modified to align it with the methodology used by A2A Energia.

Figure 89_Number of visits to the commercial websites

	2016	2017	2018
Total number of visits	2,686,178	4,144,495	4,153,558
Registered with the online counter	-	-	391,626
Number of self-readings via web A2A Energia	-	-	49%
Number of self-readings via web Linea Più*	-	n.a.	33%

Figure 90_Green energy sold (GWh)

MARKET SEGMENT	2016	2017	2018
Government	1%	1%	2%
Mass market	71%	68%	45%
Others	28%	31%	53%
Total GWh	769	1,273	2,229

Electricity and natural gas distribution service

Figure 91_ Extension of the electricity distribution service* [G4 – EU3_EU4]

	2016	2017	2018
Customers connected	1,135,038	1,176,799	1,183,035

* Weighted average number of POD active during the year calculated on the basis of ARERA and CSEA provisions and valid for tariff purposes.

Figure 92_ Extension of the gas distribution service*

	2016	2017	2018
Customers connected	1,259,287	1,469,330	1,511,748

* Weighted average number of PDR active during the year calculated on the basis of ARERA and CSEA provisions and valid for tariff purposes.

Figure 93_ Technical quality of electricity [G4 – EU29_EU28]

SERVICE CONTINUITY INDICATOR	MILAN											
	HIGH DENSITY AREA				MEDIUM DENSITY AREA				LOW DENSITY AREA			
	2016	2017	2018	OBJECTIVE ARERA 2018	2016	2017	2018	OBJECTIVE ARERA 2018	2016	2017	2018	OBJECTIVE ARERA 2018
Average annual minutes of outage per LV user due to long outages without notice	26.63	24.83	27.61	25	36.67	13.43	24.42	40	n.a.	n.a.	n.a.	/
Average annual number of outages per LV user due to long outages without notice	1.54	1.36	1.39	1.1	1.71	0.88	1.46	2.04	n.a.	n.a.	n.a.	/

SERVICE CONTINUITY INDICATOR	BRESCIA											
	HIGH DENSITY AREA				MEDIUM DENSITY AREA				LOW DENSITY AREA			
	2016	2017	2018	OBJECTIVE ARERA 2018	2016	2017	2018	OBJECTIVE ARERA 2018	2016	2017	2018	OBJECTIVE ARERA 2018
Average annual minutes of outage per LV user due to long outages without notice	5.24	4.92	7.39	25	9.92	8.03	16.97	40	21.77	26.46	31.65	60
Average annual number of outages per LV user due to long outages without notice	0.69	0.58	0.76	1.00	1.33	1.18	1.67	2.00	2.46	2.88	3.10	4

SERVICE CONTINUITY INDICATOR	CREMONA									
	HIGH DENSITY AREA			MEDIUM DENSITY AREA			LOW DENSITY AREA			
	2017	2018	OBJECTIVE ARERA 2018	2017	2018	OBJECTIVE ARERA 2018	2017	2018	OBJECTIVE ARERA 2018	
Average annual minutes of outage per LV user due to long outages without notice	4.54	2.44	25	n.a.	n.a.	-	10.41	27.90	60	
Average annual number of outages per LV user due to long outages without notice	0.31	0.13	1	n.a.	n.a.	-	0.88	0.78	4	

Stakeholder engagement and materiality analysis

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Figure 94_Electricity emergency service [G4 – EU28]

	MILAN			BRESCIA			CREMONA	
	2016	2017	2018	2016	2017	2018	2017	2018
No. MV customers with more than 6 interruptions per year for high density areas	35	14	25	-	-	-	-	-
No. of MV customers with more than 8 interruptions a year for medium-concentration areas	-	-	-	-	-	5	n.a.	n.a.
No. MV customers with more than 9 interruptions per year for low density areas	-	-	-	18	12	12	-	-

In the event of an electricity shortfall, Terna - National Electrical Network requests that distributors implement a scheduled rotating outage plan in order to avoid a general blackout. There are five levels of severity of electricity shortfall used to determine the number of users involved and the frequency of outages. The disconnections, which will last up to 90 minutes, are notified by Terna 30 minutes in advance and can take place at any time during the specified time frames and not necessarily at their start. The scheduled outage plan prepared by A2A Reti Elettriche, by day and time slot, is available from the company's website.

Figure 95_Commercial quality of electricity: specific indicators for the Milan-Brescia area [G4 – EU21]

SIMPLE INDICATORS	ARERA LEVEL RES. 646/15	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)			AVERAGE TIME TO EXECUTE THE SERVICE (DAYS)		
		2016	2017	2018	2016	2017	2018
Time to prepare estimate for work on the network	15 working days for LV 30 working days for MV	99.61%	98.66%	98.40%	6.38	6.61	6.89
Execution time for simple work	10 working days for LV 20 working days for MV	99.71%	99.32%	98.66%	5.06	4.71	5.43
Execution time for complex work	50 working days	100.00%	99.86%	99.46%	9.19	10.14	10.21
Activation time for LV/MV supply	5 working days	99.89%	99.84%	99.68%	0.73	0.63	0.62
Supply de-activation time	5 working days for LV 7 working days for MV	99.81%	99.86%	99.59%	0.64	0.59	0.64
Reactivation time following suspension due to non-payment	1 working day	99.87%	99.90%	99.70%	0.1	0.08	0.08
Observance of time bracket for appointments	Two hours	99.85%	99.84%	99.45%	n.a.	n.a.	n.a.
Time to restore service following failure of meter equipment during business days from 8 AM to 6 PM on the LV network	Three hours	90.42%	88.01%	81.87%	1.77	2.01	2.31
Time to restore service following failure of meter equipment during non-working days from 6 PM to 8 AM on the LV network	Four hours	98.28%	97.02%	93.73%	1.4	1.52	2.11
Time to report results of testing of LV/MV meter equipment	15 working days	97.16%	92.70%	92.45%	9.2	11.40	10.62
Time for notifying the result of the verification of voltage	20 working days	96.55%	95.45%	84.62%	15.76	15.28	20.93

Figure 96_C commercial quality of electricity: specific indicators for the Cremona area [G4 – EU21]

SIMPLE INDICATORS	ARERA LEVEL RES. 646/15	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)		AVERAGE TIME TO EXECUTE THE SERVICE (DAYS)	
		2017	2018	2017	2018
Time to prepare estimate for work on the network	10 working days for LV 30 working days for MV	100% 100%	98.64% 81.82%	3.34 8.88	4.39 20.91
Execution time for simple work	10 working days for LV 20 working days for MV	98%; 100%	99.45%	2.98 3.00	2.62
Execution time for complex work	50 working days for LV 50 working days for MV	100% 100%	100% 100%	14.45 10.50	16.50 10.50
Activation time for LV/MV supply	5 working days	100%	99.96% 100%	0.58	0.31 3
Supply de-activation time	5 working days for LV 7 working days for MV	100% 100%	99.98% 100%	0.5 4.00	0.43 6
Reactivation time following suspension due to non-payment	1 working day on zeroed 1 working day reduced 15%	100% 100%	99.83%	0.11 0.6	0.08
Observance of time bracket for appointments	Two hours	100%	100%	-	-
Time to restore service following failure of meter equipment during business days from 8 AM to 6 PM on the LV network	Three hours	100%	100%	1h and 10 min	1h and 22 min
Time to restore service following failure of meter equipment during non-working days from 6 PM to 8 AM on the LV network	Four hours	100%	100%	1h and 10 min	1h and 48 min
Time to report results of testing of LV/MV meter equipment	15 working days	100%	78%	13	9.67
Time for notifying the result of the verification of voltage	20 working days	n.a.	n.a.	n.a.	n.a.

Stakeholder engagement and materiality analysis

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Figure 97_C commercial quality of electricity: general indicators for the Milan-Brescia area [G4 – EU21]

TYPE OF SERVICE	ARERA LEVEL - LV	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)		
		2016	2017	2018
Minimum percentage of detailed responses to written complaints or requests for information provided within the maximum period of 30 calendar days	95%	99.41%	93.93%	96.59%

TYPE OF SERVICE	ARERA LEVEL - MV	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)		
		2016	2017	2018
Minimum percentage of detailed responses to written complaints or requests for information provided within the maximum period of 30 calendar days	95%	99.72%	98.93%	99.50%

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Figure 98 Commercial quality of electricity: general indicators for the Cremona area [G4 – EU21]

TYPE OF SERVICE	ARERA LEVEL - LV	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)	
		2017	2018
Minimum percentage of detailed responses to written complaints or requests for information provided within the maximum period of 30 calendar days	95%	100%	100%

TYPE OF SERVICE	ARERA LEVEL - MV	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)	
		2017	2018
Minimum percentage of detailed responses to written complaints or requests for information provided within the maximum period of 30 calendar days	95%	100%	n.a.

Figure 99 Technical quality of natural gas [G4 – EU21]

	BASE LEVEL	BASE REFERENCE	BASE ACTUAL 2016						
			MILAN	BRESCIA	BERGAMO	VARESE	CREMONA	LODI	PAVIA
Annual percentage of the high and medium pressure network inspected	30%	90%	73%	100%	100%	65%	-	-	-
Annual percentage of the low pressure network inspected	20%	70%	62%	63%	100%	77%	-	-	-
Annual number of leaks located per km of network inspected	0.8	0.1	0.09	0.083	0.005	0.229	-	-	-
Annual number of leaks located in response to reports from third parties per km of network	0.8	0.1	0.232	0.081	0.031	0.063	-	-	-
Conventional number of measurements of degree of natural gas odorant per thousand end customers	0.19	0.5	0.94	1.73	4.8	1.39	-	-	-

Figure 100 Natural gas emergency service [G4 – EU21]

ANNUAL NUMBER OF CALLS TO THE SWITCHBOARD WITH A TIME TO ARRIVAL OF THE TEAM AT DESTINATION <= 60 MIN BASE LEVEL 90% REF. LEVEL 95%	2016	2017	2018
Milan	98.85%	99.00%	98.65%
Brescia	99.72%	99.81%	99.90%
Bergamo	100.00%	100.00%	100.00%
Cremona	-	99.80%	99.60%
Lodi	-	100.00%	100.00%
Pavia	-	100.00%	100.00%

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	BASE ACTUAL 2017							BASE ACTUAL 2018					
	MILAN	BRESCIA	BERGAMO	VARESE	CREMONA	LODI	PAVIA	MILAN	BRESCIA	BERGAMO	CREMONA	LODI	PAVIA
	72%	78%	n.a.	85%	100%	100%	100%	75%	100%	100%	100%	100%	100%
	56%	56%	n.a.	97%	100%	100%	100%	65%	70%	100%	100%	100%	100%
	0.13	0.07	n.a.	0.00	0.01	0.02	0.05	0.15	0.08	0.06	0.01	0.01	0.03
	0.20	0.07	0.03	0.08	-	0.01	0.02	0.17	0.05	0.03	0.03	0.01	0.02
	0.63	1.70	4.48	1.39	1.70	1.80	1.10	0.95	1.81	2.23	1.70	1.80	1.10

Figure 101_Natural gas commercial quality: general indicators [G4 – EU21]

SERVICE PROVIDED WITHIN THE TIMEFRAME SPECIFIED (%)	LEVEL ARERA	UNARETI			LD RETI			ASVT		
		2016	2017	2018	2016	2017	2018	2016	2017	2018
Percentage of requests to execute complex work completed within the maximum period of 60 working days	90%	99.70%	98.83%	97.69%	-	100.00%	100.00%	-	n.a.	n.a.
Percentage of detailed responses to written complaints or requests for information provided within the maximum period of 30 working days	95%	99.21%	94.56%	97.37%	-	100.00%	100.00%	-	100.00%	100.00%

Figure 102_Natural gas commercial quality: specific indicators: Milan, Brescia, Bergamo and Chieti Area [G4 – EU21]

TYPE OF SERVICE	ARERA LEVELS RES. 574/13	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)			AVERAGE TIME TO EXECUTE THE SERVICE (DAYS)		
		2016	2017	2018	2016	2017	2018
Estimate time (simple work)	15 working days	96.34%	85.86%	93.96%	9.03	10.58	9.37
Execution time (simple work)	10 working days	92.79%	80.97%	80.41%	7.13	8.5	8.34
Estimating time (complex works)	30 working days	94.24%	96.08%	96.39%	15.09	13.92	14.89
Supply activation time	10 working days	99.93%	99.86%	99.88%	3.72	3.31	3.1
Supply de-activation time	5 working days	99.49%	99.51%	99.58%	3.09	3.05	2.8
Reactivation time following suspension due to non-payment	2 working days	97.59%	97.07%	98.14%	1.24	1.18	1.15
Observance of time bracket for appointments	Two hours	99.79%	99.83%	99.83%	n.a.	n.a.	n.a.
Time to notify results of testing of meter equipment	20 working days	62.86%	96.39%	77.08%	20.11	18.01	15.6

Figure 103_Natural gas commercial quality: specific indicators for ASVT [G4 – EU21]

TYPE OF SERVICE	ARERA LEVELS RES. 574/13 OF 01/01/2014	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)		AVERAGE TIME TO EXECUTE THE SERVICE (DAYS)	
		2017	2018	2017	2018
Estimate time (simple work)	15 working days	96.64%	100.00%	4.96	4.45
Execution time (simple work)	10 working days	98.96%	100.00%	1.96	1.04
Estimating time (complex works)	30 working days	100.00%	n.a.	3.00	n.a.
Supply activation time	10 working days	100.00%	99.89%	1.72	1.74
Supply de-activation time	5 working days	100.00%	100.00%	1.70	1.88
Reactivation time following suspension due to non-payment	2 working days	100.00%	100.00%	0.65	0.52
Observance of time bracket for appointments	Two hours	100.00%	99.74%	n.a.	n.a.
Time to notify results of testing of meter equipment	20 working days	100.00%	80.00%	16.20	26.20

Figure 104_Natural gas commercial quality: specific indicators for LGH [G4 – EU21]

TYPE OF SERVICE	ARERA LEVELS RES. 574/13 OF 01/01/2014	SERVICES PROVIDED ON THE INDICATED TIMETABLE (%)		AVERAGE TIME TO EXECUTE THE SERVICE (DAYS)	
		2017	2018	2017	2018
Estimate time (simple work)	15 working days	100.00%	99.61%	3.95	4.43
Execution time (simple work)	10 working days	99.81%	99.50%	3.16	3.14
Estimating time (complex works)	30 working days	100.00%	100.00%	5.33	6.08
Supply activation time	10 working days	99.58%	99.83%	3.05	3.19
Supply de-activation time	5 working days	96.06%	96.85%	2.65	2.60
Reactivation time following suspension due to non-payment	2 working days	97.33%	98.10%	1.23	1.23
Observance of time bracket for appointments	Two hours	98.89%	99.12%	-	-
Time to notify results of testing of meter equipment	20 working days	67.35%	59.65%	18.31	20.72

Integrated water service

Figure 105_Extension of integrated water service

	2016	2017	2018
Municipalities served by Integrated Water Service	114	129	95
Municipalities served by aqueduct service	108	120	86
Customers served - aqueduct	283,479	308,178	194,362
Inhabitants served - aqueduct	812,654	886,195	614,896
Inhabitants served by sewer systems	563,516	652,956	652,754
Inhabitants served by purification services	549,311	641,194	640,967

Figure 106_Call center quality [GRI 102-43_44]

	A2A CICLO IDRICO		
	2016	2017	2018
Service accessibility rate (free lines with respect to operator presence time)	100%	100%	100%
Number of calls to the call centre	79,277	118,231	94,205
Average telephone waiting time for calls from end customers (sec)	73	78	72
Percentage of successful calls	87.70%	64.67%	94.06%

Figure 107_Quality of the A2A Ciclo Idrico and ASVT service

Data in days	A2A CICLO IDRICO			ASVT		
	2016	2017	2018	2016	2017	2018
Response time to requests for estimate for connection to the aqueduct	7.37	5.16	10.5	-	2.3	2.73
Response time to requests for estimate for connection to the sewers	4.6	3.21	9.64	-	1.67	0.85

District heating and heat management

Figure 108_Transformations*

	2016	2017	2018
Transformations (no.)	13	40	28
Capacity installed (kW)	16,950	16,918	17,400

* These refer to replacement of methane with methane with a condensing boiler, of methane with district heating, of diesel with methane with a condensing boiler and of diesel with district heating.

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Integrated waste cycle

Figure 109_Population served by the urban hygiene service

	2016	2017	2018
Municipalities served	117	258	215
Population served	2,646	3,549	3,376

Figure 110_Customer Satisfaction of the urban hygiene service carried out by AMSA (average vote)

SERVICE	2017	2018
Urban waste collection	7.8	7.74
Road and pavement cleaning and washing	7.29	7.57
Emptying of large road bins	7.27	7.32
Cleaning of market areas	7.78	7.61
Cleaning of green areas	7.06	7.52
Cleaning and collection during and after events	7.57	7.61
Cumbersome waste collection	8.3	7.88
Clarity and completeness of the communication on separate collection	7.86	7.61
Toll Free Number	7.59	7.9
Amsa counter	7.33	7.63
Website	7.57	7.68
App Puliamo	-	8
Recycling	8.2	7.78
Snow service	-	7.56

Figure 111_Customer Satisfaction of the urban hygiene service carried out by Aprica (average vote)

SERVICE	2016*	2018
Overall satisfaction with the service	7.77	7.84
Urban waste collection	8.28	8.29
Home collection of cumbersome waste	8.83	8.7
Vegetable oil collection	-	8.61
Ecological platform	8.55	8.67
Road and pavement cleaning	7.12	7.44
Road bins	7.55	7.62
Toll Free Number	8.06	8.55
Website	7.66	8.03
Counter	8.28	8.79

* The survey is carried out every two years.

Figure 112_Services in exchange for payment (waste disposal and other services specifically for private customers)

CUSTOMERS SERVED	2016	2017	2018
Amsa	9,206	9,091	9,899
Aprica	1,357	1,397	1,375
La.Bi.Co. Due	-	259	260
LGH Group	n.a.	n.a.	744

Figure 113_Waste disposal service

	2016	2017	2018
Municipalities served	962	988	992
Companies served	1,860	3,160	3,150

Figure 114_Call centre services

	AMSA			APRICA		
	2016	2017	2018	2016	2017	2018
Number of calls to the call centre	321,778	376,027	419,383	45,901	80,962	57,618
Accessibility of lines and services (time when line is free vs operator presence time)	100%	100%	100%	100%	100%	100%
Average waiting time on the telephone (seconds)	70	76	47	60	52	45
Percentage of successful calls	94%	94%	97%	82%	72%	93%

Conciliation management

Figure 115_ADR A2A-Consumer associations conciliation procedures

ISSUES OF DISPUTES RECEIVED	GAS	%	ELECTRICITY	%	DUAL FUEL	%	TOTAL REQUESTS	%	WATER	%
Invoicing	5	31%	8	31%	-	-	13	30%	-	-
Size	9	56%	16	62%	-	-	25	58%	-	-
Contracts	-	-	1	4%	-	-	1	2%	-	-
Market	-	-	1	4%	1	100%	2	5%	-	-
Connections, works and technical quality	1	6%	-	-	-	-	1	2%	1	100%
Other (not included in protocol)	1	6%	-	-	-	-	1	2%	-	-
Overall total	16	37%	26	60%	1	2%	43	100%	1	100%

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Relations with suppliers

Figure 116_Number and value of orders by supply type [GRI 204-1]

TYPE	2016		2017		2018	
	NO. ORDERS	AMOUNT (€)	NO. ORDERS	AMOUNT (€)	NO. ORDERS	AMOUNT (€)
Supplies	2,649	220,281,621	7,158	304,069,078	7,058	350,425,198
Works	1,842	340,739,182	2,723	324,169,902	2,233	489,485,553
Services	2,088	273,847,724	7,127	250,124,004	7,062	484,878,866
A2A Group orders	6,579	834,868,527	17,008	878,362,983	16,353	1,324,789,616
LGH orders	-	-	4,541	124,628,004	3,767	150,408,338
Total	6,579	834,868,527	21,549	1,002,990,987	20,120	1,475,197,954

Figure 117_Fuel suppliers

2018	COAL	HEAVY FUEL OIL	DIESEL	NATURAL GAS	TOTAL
Value of orders issued towards European suppliers (total only) - millions of euro	88.9	92.1	2.4	1,499.0	1,682.4

Figure 118_Geographic breakdown of orders [GRI 204-1]

% ORDERED	2016	2017	2018
Lombardy	57.1%	64.0%	62.7%
Other regions of Italy	39.6%	31.2%	28.9%
EU	3.2%	4.5%	7.5%
Non EU	0.1%	0.3%	0.9%

Figure 119_Suppliers with at least one A2A Group certification

	2016	2017	2018
Total suppliers with at least one certification	2,843	2,215	2,306
<i>of which activated with order</i>	-	-	1,144

Figure 120_Value of orders issued by the A2A Group to suppliers in possession of at least one certification

	2016	2017	2018
%	77%	80%	82%

Figure 121_Validated suppliers, by type

A2A GROUP QUALIFIED SUPPLIERS	2016	2017	2018
Large business (more than 250 employees)	307	276	317
Medium business (50-250 employees)	804	687	729
Small business (10-50 employees)	1,745	1,459	1,641
Micro business (1-10 employees)	1,854	1,456	1,523
n.a.	198	567	362
Total	4,908	4,445	4,572

Dispute management

EMPLOYEES

A total of 54 labour disputes were pending or concluded in 2018 involving employees of A2A Group companies (excluding AMSA and including the LGH group), of which 4 concerned the assessment of the illegitimacy of dismissals for just cause or dismissal for justified subjective reason and 3 concerned the assessment of the illegitimacy of dismissals for justified objective reason and 1 concerned the assessment of the illegitimacy of dismissals for exceeding the period of conduct. In addition, 14 plaintiffs applied for a finding that the sale of the business unit was unlawful, with the result that it was reinstated in the transferor company, and 5 applicants applied for a finding that they were entitled to a higher level of classification and order to pay the relevant differences in remuneration. Then there were 3 plaintiffs seeking compensation for the damage caused by the demotion of which 2 also requested a finding that the measure of secondment ordered against them was unlawful. In addition, in 2018, five cases were pending concerning the determination of the entitlement to compensation for damages arising from occupational illness or accident. The remaining cases concerned various requests, such as appeals against disciplinary measures and requests for payment of salary differences other than requests for a higher level of classification.

With regard to AMSA, there were a total of 132 labour disputes in progress or concluded in 2018, of which 8 concerned the assessment of the illegitimacy of dismissals for just cause or justified subjective reason, 2 concerned the assessment of the illegitimacy of dismissals for justified objective reason and 3 concerned the assessment of the illegitimacy of dismissals for exceeding the period of conduct.

In addition, 8 plaintiffs challenged the fixed-term contracts, 23 requested a determination of the right to recognition of the higher classification and an order for payment of the relevant salary differences, 69 a determination of fictitious interposition of labour and determination of the right to the establishment of an employment relationship and 7 a determination of the unlawfulness of the transfer of a business unit. The remaining cases concerned various requests, such as requests for payment of salary differences other than requests for a higher level of classification.

SUPPLIERS

There were 29 labour disputes in progress or concluded in 2018 initiated by workers of contracting firms that worked on contracts awarded by A2A Group companies (excluding AMSA and including the LGH Group). There have been 5 proceedings for compensation for damages resulting from accidents or occupational illnesses allegedly contracted within the framework of the contract and 1 proceeding for an order for the company to pay compensation arising from the agency relationship and to ascertain the right to compensation for damages from pre-contractual liability.

Moreover, 2 plaintiffs claimed the ascertainment of the right to the establishment of a subordinate contract of employment with the client company and 14 plaintiffs summonsed the contractor, their employer, to court as well as the A2A Group company as client, so as to obtain, by virtue of the joint liability pursuant to Art. 29 of Italian Legislative Decree 276/2003 and Art. 1676 of the Italian Civil Code, their sentencing to pay the salary differences claimed or remaining salaries. Finally, seven of the claimants sought a judgement ordering the contractors and principal, jointly and severally, to compensate them for damages deriving from failure to grant them employment at the enterprise that they alleged intermediated in the cleaning contract ordered by the A2A Group company.

As far as AMSA is concerned, in 2018 a judgement was defined in which 1 worker applied for the conviction of the contractor (the employer) and of AMSA - jointly liable pursuant to Art. 29 of Legislative Decree 276/2003 and Art. 1676 of the Italian Civil Code in its capacity as client - to the payment of the salary differences claimed by the same.

CUSTOMERS [GRI 206-1]

2018 ended with 22 open legal proceedings relating to billing disputes, due to the application of excise duties on gas supplies, incorrect detection of consumption due to malfunctioning of the meters, incorrect configuration of the available power of the electricity supply, incorrect termination of supply and, more generally, the failure and/or incorrect detection of electricity and/or gas consumption. There was also 1 ongoing case involving damages claimed due to delays in the activation of supply.

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In addition, in 2016, A2A Reti Elettriche was charged by the Milan Chamber of Commerce Metric Office with alleged administrative violations concerning 63 electric meters, establishing an administrative sanction of 500 euro per meter. A fine was also ordered against A2A Energia as the "intermediary" in the supply arrangement through the distributor's meters for 47 of these meters. All of the notices of violations and related penalties have been appealed by the two companies. As regards the sanctions charged by the Metrics Office of Milan Chamber of Commerce and as challenged, in 2017, the competent authority had not yet ruled.

Lastly, in 2018, a dispute continued brought by a customer of AMSA, A2A Ambiente and Aprica, who is claiming termination of contract due to it having become excessively expensive; moreover, A2A Ciclo Idrico has been notified of a petition brought pursuant to Art. 702 bis of the Italian Code of Criminal Procedure by a credit institute, which has brought a suit opposing the transfer of credit, which has subsequently been joined by a parallel request for payment (for invoices issued in respect of works partially carried out) by the receiver of the contractor (which has, in the meantime, been declared bankrupt).

COMMUNITY [G4 - EU25]

At the end of 2018, 75 cases of claims by citizens, mostly small amounts, for financial or property damage and 35 cases of physical damage related to personal injury were pending; of these, one relates to a fatal road accident involving a Group company (an operating vehicle for cleaning a cycle path) and one relates to a fall due to an uneven road surface due to work in progress on the electricity distribution network, but the company contracted to excavate and repair the road surface was held liable.

Finally, 3 cases of alleged infringements of property rights and 2 cases of alleged damage to neighbouring crops from previous years are pending.

Non-compliance with environmental regulations [GRI 307-1]

At December 31, 2018, there were 14 ongoing or concluded environmental proceedings, of which 4 closed proceedings, 1 new proceeding and 9 already ongoing proceedings, concerning challenges in various capacities of integrated environmental permits (A.I.A.) issued to Group companies, various alleged irregularities in waste management and other alleged violations of other laws or regulations. In addition, in 2018, 2 Linea Green S.p.A. employees were notified of their identification reports for the alleged violation of environmental regulations in relation to the Isola plant at the intake on the Val delle Valli stream in the Mantelera locality in the Municipality of Bienno (BS). With regard to pre-existing disputes, the following are the 4 proceedings closed in 2018:

- the GIP (Preliminary Investigations Judge) of Pavia has declared closed, due to the extinction of the crime, the procedure in progress for alleged violations of A.I.A. regulations;
- the GIP of Pavia decided not to proceed and revoked the decree of condemnation for alleged violations of A.I.A. prescriptions;
- the Milan Public Prosecutor's Office has ordered the definitive closure of certain criminal investigations against former AMSA executives;
- the Ivrea Public Prosecutor's Office has asked for a case to be dismissed for harmful emissions and the GIP has definitively dismissed it.

In addition, by opposing the criminal decree of conviction for violations of A.I.A. regulations, the GIP accepted the request for oblation that was paid. The sentence of extinction of the crime is awaited.

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Group Profile

The Acsm Agam Group includes 11 companies and is divided into 4 Business Units (BUs):

- **Networks BU** includes the companies that deal with:
 - water service and gas distribution for the provinces of Monza, Como and Varese;
 - only gas distribution in the provinces of Lecco and in Veneto;
 - gas and electricity distribution in the province of Sondrio.
- **Environment BU** deals with waste collection activities (in the province of Varese and Como) and waste-to-energy (Como);
- **Sales BU** to which the Group companies operating in the sale of natural gas and electricity refer;
- **Energy and Smart Technologies BU** oversees the activities of energy efficiency, electricity generation, heat management, new innovative and smart city services, public lighting and district heating.

AEV Farmacie s.r.l., which operates three pharmacies in the city of Sondrio, should also be added to these BUs.

Governance

The Company is listed on the Italian stock exchange in Milan and has adopted, since 2016, the Corporate Governance Code promoted by Borsa Italiana. The company's Corporate Governance structure is based on the traditional organizational model. Currently, all Group companies adopt their own Organization, Management and Control Models in accordance with Italian Legislative Decree No. 231/01 (MOG), covering 100% of the Group's employees (at December 31, 2018 only the subsidiary Serenissima did not have a 231 Model, which however approved one of its own on February 26, 2019).

In addition to the control instruments provided for in the Legislative Decree, 231/01, the Company has adopted a Code of Ethics, which also contains the main elements of its human rights policy: in 2018, there were no episodes of violation of the Code.

The Group companies are monitored with regards to risks connected with corruption. In accordance with the provisions of the Company's Code of Ethics, the Group does not allow active or passive corruption or collusion of any nature or form. In 2018, there were no cases of corruption and no cases of corruption are pending.

Finally, the company policy does not provide for the payment of contributions of any kind to parties or politicians.

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Economic value generated and distributed

Figure 122_Statement for distributing the gross global added value - millions of euro

(millions of euro)	2018
Remuneration of personnel	36.41
Wages and salaries	34.35
Employees' leaving entitlement (TFR)	1.72
Other costs	0.34
Remuneration of risk capital	6.2
Profits distributed	5.16
Net Income attributable to minority Interests	1.06
Remuneration of debt capital	0.92
Transfers to the government	6.96
Direct taxes for the Treasury	6.6
Other taxes and duties for the Treasury	0.32
Social security charges	0.04
Transfers to the local community	2.65
Direct taxes for local authorities	1.55
Local taxes and duties	0.52
Sponsorships, contributions to foundations, aid, donations, charities	0.58
Remuneration of the company	296.9
Reserves	269.81
Amortization, depreciation	27.09
Gross global value added	350.06

Figure 123_Investments in Group infrastructure

	2018
millions of euro	31.7

Efficient infrastructure management

Figure 124_Installed capacity

	2018
Electric (MW _e)	45
Thermal (MW _t)	245

Figure 125_Energy produced

	2018
Electricity (GWh _e)	149
Thermal energy (GWh _t)	301

Figure 126_Gas and electricity distribution

GAS	2018
Distributed natural gas (Mm ³)	621
Gas network extension (km)	3,247
ELECTRICITY	2018
Electricity distributed (GWh)	161
Electricity losses in the grid (GWh)	4
Extension of the electricity distribution service (km)	556
<i>of which underground cable (km)</i>	427

Figure 127_Thermal energy released to the network

	2018
GWh	191

Figure 128_Water service

	2018
Wells (no.)	96
Sources (no.)	168
Drinking water conversion plants (no.)	18
Total network length (km)	1,659
Water delivered to the user and accounted for (Mm ³)	27.8
Water withdrawn (Mm ³)	43
Network losses and water not booked (Mm ³)	15

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Figure 129_Municipal waste collected and separate collection

	2018	
	QUANTITY COLLECTED (t)	INDEX %
Varese	40,207	68.5%
Province of Varese	31,265	81.3%
Province of Como	4,568	74.5%
Total	76,040	74.1%

Figure 130_Urban waste collected by destination - tonnes

	2018	% OF TOTAL
Disposal (landfill or other type D destination)	2,791	4%
Waste-to-energy plant	14,378	19%
Recovery	58,871	77%
Total	76,040	100%

Environmental responsibility

Figure 131_Resources used

RESOURCES USED	2018
Fuel (TJ)	1,985
Automotive fuels (TJ)	36
Electricity (GWh)	46
Water resource consumed (thousands m ³)	368
Aqueduct	356
Well	12
Chemical products and materials used (t)	6,269

Figure 132_Greenhouse gases emissions¹ – tonnes of CO_{2eq}

	2018
Direct emissions (Scope 1)	144,359
Indirect emissions (Scope 2 - location based)	14,632

Figure 133_Emissions of pollutants

	2018
Nitrogen oxides (NO _x) (t)	82
Sulphur oxides (SO _x) (t)	0.6
Powders (t)	0.1
CO (t)	22
Fluorinated gases (kg)	13

1. Source of emission coefficients for natural gas/methane, diesel and oil, petrol and waste: Ministry of the Environment and Protection of Land and Sea, National Standard Parameter Table, 2018.

Figure 134_Industrial waste water

		2018
Volumes (thousands m ³)	Discharged into sewers	165
	Discharged into surface water	15
	Water extracted for hydroelectric generation	93

Figure 135_Special waste produced

		2018
Special non-hazardous waste (t)		17,475
Special hazardous waste (t)		2,233
Total (t)		19,708
<i>Sent for recovery (% of total)</i>		93%

Responsible management of people

Figure 136_Personnel by gender and type of contract

	2018		
	MEN	WOMEN	TOTAL
Workers	641	224	865
<i>Permanent contract</i>	627	219	846
<i>Temporary Contract</i>	14	5	19
Workers with non-standard contracts (temporary/interns/collaborators)	39	19	58
Total	680	243	923
<i>of which with part-time contract</i>	6	45	51

Figure 137_Number of hires, outgoing and turnover rate

		2018
Hires		36
Outgoing		33
Turnover rate		4%

Figure 138_Workers represented in formal health and safety committees

		2018
Percentage of the total		100%

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Figure 139_Number of accidents and days lost by gender - (number)

	2018		
	MEN	WOMEN	TOTAL
Accidents at work	25	1	26
Days lost due to accidents at work	1,041	52	1,093
Commuting accidents	2	2	4
Days lost due to commuting accidents	18	17	35

Figure 140_Personnel by qualification, gender and age bracket

	2018				
	MANAGERS	SUPERVISORS	WHITE-COLLAR WORKERS	BLUE-COLLAR WORKERS	TOTAL
Men	20	36	218	366	641
Women	2	14	208	1	224
Total	22	50	426	367	865
<30	-	1	35	23	59
30-50 years	7	27	252	168	454
>50	15	22	139	176	352
Total	22	50	426	367	865

Figure 141_Personnel covered by collective bargaining agreements

	2018
Percentage of the total	100%

With regard to employee training on human rights, the Code of Ethics and Model 231, in 2017, 580 hours of training sessions were provided with approximately 250 participants for a total of approximately 250 trained employees of the Group (approximately 60% of the company population).

In 2018, a training programme called "In.Te.Gr.A." was also launched, which will start in 2019, in order to guide the change and facilitate the progress of the individual projects that make it up:

- *INtegration*, with the aim of coordinating the Group's integration projects;
- *Territory*, with the aim of enhancing the best practices and ideas of employees;
- *Efficiency*, with the aim of simplifying and streamlining the processes of the organization, increasing their effectiveness and efficiency, also through a lean approach;
- *GRowth*, with the aim of creating a common corporate culture based on shared values and an evolved management model by developing people's transversal skills;
- *Agile*, with the objective of digitization and automation of activities, supporting the transformation of the business with integrated and intelligent systems.

Within the Acsm Agam Group, the well-being of workers is considered a key element for the achievement of company objectives and for this reason, many projects have been implemented, such as: the implementation of flexible working hours, smartworking, the addition of bonus hours for parent employees to accompany the integration of children at the beginning of the school year.

Relations with customers

Figure 142_Gas distribution: connected customers and municipalities served

	2018
Customers connected	314,066
Municipalities served	88

Figure 143_Electricity distribution: connected customers and municipalities served

	2018
Customers connected	25,757
Municipalities served	4

Figure 144_Urban hygiene: number of customers and municipalities served

	2018
Population served	154,858
Municipalities served	19

Figure 145_Water service: number of customers and municipalities served

	2018
Municipalities served by aqueduct service	37
Customers served aqueduct	83,178
Inhabitants served aqueduct	312,958

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Figure 146_Extension of the district heating service

	2018
Users (no.)	623

Figure 147_Gas supply contracts by type of market

	2018
Protected market	165,175
Free market	101,094
Total	266,269

Figure 148_Electricity supply contracts by type of market

	2018
Protected market	18,196
Free market	42,791
Total	60,987

Supply Chain

The Group adopts a register of suppliers (divided into product categories) whose qualification criteria do not constitute barriers to entry. Each selection procedure must be carried out in accordance with the widest possible conditions of competition. There are no evaluations of suppliers, who intend to qualify, on environmental or social issues. Almost all orders are from Italian suppliers, of which about 77% are based in Lombardy. In addition, 1,032 suppliers were activated with at least one order as at December 31, 2018, all in the Group's register of suppliers.

Figure 149_Number and value of orders by supply type

ORDERS	2018	
	NO. ORDERS	AMOUNT (€)
Supplies	863	19,258,619
Works	164	17,553,382
Services	1,078	23,930,446
Sponsorships	96	270,049
Other	12	272,923
TOTAL	2,213	61,285,419

Disputes

With regard to any cases of non-compliance with environmental laws and regulations, the inspection of the subsidiary Varese Risorse S.p.A., which began in 2016, concluded with the recording of a failure by the company, in accordance with AIA requirements, to comply with an acoustic campaign within the set time limits, punishable by a fine of between 5,000 and 15,000 euro.

With regard to the labour disputes in progress or concluded in 2018 by employees of the companies of the Acsm Agam Group (understood as a group resulting from the effectiveness of the merger known as MNL), there were a total of 14, relating to: appeals against dismissals for just cause, requests for recognition of the right to recognition of the performance bonus accrued before termination and claims for differences in remuneration other than higher classification.

With regard to disputes regarding suppliers, in 2018, Enerxenia received notification of a writ of summons from a company with which it had a contractual agency relationship, for a failure to pay commissions for a total amount of about 20,000.00 euro.

With reference to the community, in 2018, Acsm Agam received notification of a lawsuit for damages, quantified in approximately 9,000.00 euro.

No disputes have arisen with Group customers (with the exception of those relating to debt collection in which the company is a plaintiff), either for non-compliance linked to impacts on consumer health and safety or for supply services and related marketing activities.

There are no legal actions for recourse due to sanctions by the AGCM for causes related to anti-competitive conduct or unfair market practices.

With respect to the management of privacy, in 2018, the Group did not record evidence of theft of information on customer data, or complaints from private individuals or institutions regarding possible violations.

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