

HERA



**Sustainability  
report  
2017**



**Consolidated Non-Financial Statement  
pursuant to the Articles 3 and 4 of the  
Legislative Decree no. 254/2016**





# **Sustainability Report 2017**

**Consolidated Non-Financial Statement pursuant to the Articles 3 and 4 of the Legislative Decree no.  
254/2016**

Content

<b>Sustainability, Strategy and Shared Value .....</b>	<b>7</b>
<i>A year of sustainable development</i>	7
Letter to stakeholders	7
<i>About us</i>	10
<i>Sustainability for the Hera Group</i>	14
<i>Sustainability KPIs</i>	18
<i>Shared value</i>	19
<b>Shared value .....</b>	<b>26</b>
<i>Smart use of energy</i>	26
The objectives and the results	26
Promotion of energy efficiency	28
Spreading renewable energy	38
Reduction of greenhouse gas emissions	47
Case study	52
<i>Efficient use of resources</i>	58
The objectives and the results	58
Transition to a circular economy	59
Sustainable management of water resources	93
Case study	104
<i>Innovation and contribution to development</i>	118
The objectives and the results	118
Development of occupation and new expertise	121
Spreading innovation and digitalization	131
Economic development and social inclusion	140
Air and soil protection	157
Case study	173
<b>The bases and the organisational levers.....</b>	<b>188</b>
<i>Governance and creation of value</i>	188
The objectives and the results	188
Sustainability and risk management	188
Economic value for the stakeholders	204
Shareholders and Financial Institutions	206
Dialogue with our stakeholders	215
<i>Quality, cost and safety of customer services</i>	238
The objectives and the results	238
Our customers	239

The cost of our services	242
The quality of our service	253
Quality of drinking water	257
Service safety and continuity	261
Customer relations	267
Case study	273
<b>People</b>	<b>274</b>
The objectives and the results	274
Workforce	275
Diversity and welfare	279
Training and professional development	282
Health and Safety	287
Remuneration and incentives	292
Industrial relations	295
Case study	300
<b>Suppliers</b>	<b>304</b>
The objectives and the results	304
Our suppliers	305
The qualification, selection and assessment of suppliers	306
Contract management	318
Supplier relations	320
Case study	320
<b>Methodological guide to the Report</b> .....	<b>322</b>
<i>Quality, cost and safety of customer services</i>	330
Training and professional development	330
<b>GRI content index</b> .....	<b>332</b>
<b>Independent Auditors' Report</b> .....	Errore. Il segnalibro non è definito.
<b>Annexes</b> .....	<b>342</b>

## Analytical list of contents

Absence .....	269	Members of unions .....	290
Approach to sustainability.....	12, 346	Methodological guide.....	312
Balanced scorecard.....	14, 285	Organisational model for corporate crime prevention .....	192
Billing Quality.....	247	Pending legal proceedings.....	220
Biodiversity .....	163	Protection of personal data.....	262
Branch offices .....	259	Qualification of the suppliers .....	297
Certified suppliers.....	298	Quality of readings .....	245
Climate survey .....	210	Relations with Local Authorities.....	222
Code of Ethics .....	193	Relations with regulatory and supervisory authorities .....	223
Collection of bulky waste .....	64, 65	Relations with the investors.....	200
Commercial conduct.....	231	Remuneration.....	283
Communication .....	216	Risk analysis.....	186
Company management system .....	193	Safety downstream of the meter .....	256
Complaints.....	260	Shareholding structure breakdown.....	204
Conciliation .....	261	Social cooperatives.....	146, 147
Consumer groups and trade associations .....	209	Stakeholders.....	206
Continuity of the electricity service.....	250	Stakeholders' dialogue and consultation initiatives .....	206
Continuity of the water service .....	256	Stock Performance .....	198
Control of the suppliers .....	299	Strikes .....	290
Corporate governance.....	179	Tariffs for families facing financial hardship ....	143
Corporate vehicles.....	158	Tenders using the economically advantageous bid .....	301
Cost of Services.....	232	The gas bill.....	235
Disposal of urban waste .....	68	Thermal energy produced .....	41
Disputes .....	262	Total energy produced .....	42
District heating .....	154	Waste prevention initiatives .....	65
District heating bill.....	242	Waste produced .....	85
Electric transportation.....	162	Water consumption.....	93
Electricity bill .....	236	Water leak fund.....	172
Emissions from the Imola plant.....	158	Water network components .....	90
Energy efficiency.....	30	Water network losses.....	91
Expense for waste collection and disposal.....	239	Water service bill.....	238
Green Bonds .....	204	Website .....	217
Health and Safety .....	278	Work accidents at suppliers .....	309
HeraLab.....	215, 347, 351		
Litigation .....	226, 291, 311		
Media relations.....	219		

# Sustainability, Strategy and Shared Value

## A year of sustainable development

### Letter to stakeholders

#### ***Our 2017 sustainability report... is completely new: the scenario and our answers***

We are proud to present this year a completely new sustainability report which allows us - once again - to testify our strong commitment to a system of *accountability* and the central role we assign to measuring the results achieved and the impacts generated, with the aim of identifying room for improvement and effectively communicating with our stakeholders.

Our sustainability report for 2017 offers a new and cutting-edge representation of its content, which focuses on the creating shared value (Csv), in line with the strategic approach towards sustainability we established in 2016. From this perspective, the results achieved by the Group and our future targets are brought together - for the first time - with a summary of the scenario regarding sustainability, taking into account the size of Hera's businesses, in order to represent our positioning and provide our own response to the important challenges faced by the communities for whom we work.

#### ***Our new strategic approach works: shared value Ebitda is up by 10%***

In 2016, we acknowledged that our vision of Csv was inspired by Porter and Kramer and the latest EU communication on Csr: shared value is created by business activities which generate Ebitda for the company and respond to the drivers of the global agenda as well. These activities respond, more specifically, to those calls to action for change towards a sustainable growth indicated by the UN's 2030 Agenda and other global, European, national and local policies. This definition of Csv is the basis for our new and evolved approach to sustainability, which, along with renewing our non-financial reporting, also represents for us an important guideline for future strategy and new planning.

We have identified three drivers for creating shared value: (i) smart use of energy, (ii) efficient resource management and (iii) innovation and contribution to local sustainable development. These drivers also represent for us a new reference for a new aggregation of economic results. 2017 shared value Ebitda reached 329 million euro, up 10% over 2016. This outcome is part of the trajectory marked by the 2017-2021 Industrial Plan, which was devised in such a way for about 40% of Ebitda to come from Csv activities by 2021.

In line with this perspective, in 2017 we acquired new tools for comparison and inspiration, by joining programs such as the UNGC CEO Water Mandate and the Ellen MacArthur Foundation's CE100, the global network of the 100 companies most committed to the transition towards a circular economy.

#### ***Hera for a smarter use of energy: energy efficiency is a priority for us and our clients***

Our initiatives in the framework of Iso 50001, presented in detail in our report "Value to Energy", allowed for a reduction of energy consumption reaching 8,300 toe, i.e. -3.6% compared to 2013. The plan for improvement provides for further energy efficiency initiatives which will allow an overall savings of 4.4%, close to the 5% target set for 2020.

A number of energy efficiency initiatives are also implemented between customers and business partners, to whom we offer our know-how. In 2017 seven new agreements were signed with trade bodies and local companies. Additional new commercial offers launched in 2017 integrated this set of proposals, allowing our clients to analyse and reduce their consumption.

The extension of the exclusive use of renewable electricity to AcegasApsAmga and Marche Multiservizi to supply power to their business activities, the opening of the construction site for building the plant for biomethane production in Bologna, the production of 607 GWh of renewable energy and the carbon footprint for energy production dropping by 16% compared to 2015 all integrate, without completing, the framework of our contribution to countering climate change.

### ***Hera for an efficient use of resources: a relevant role in the transition towards a circular economy***

In 2017, the Group further improved its contribution to the development of a circular economy and achieved the EU's goals well in advance. In particular, the use of landfills for disposal of urban waste further decreased to 7%. This outcome confirms that we have reached EU's goal almost 20 years in advance and places our region on the same level of the best-performing European countries. Separate waste collection reached 57.7%, five points over the national average.

The seventh edition of the report "Retracing Waste", verified by Dnv-GI, provides guarantees to the users we serve as to an effective recovery of collected separate waste, which rose further and topped at 94.6%. The report provides a further contribution to evaluating the position of the territory served in comparison with the EU's recycling goals: the total recycling rate of 48% ranks well in comparison with the aim of 55% for 2025, while the packaging recycling rate of 68% has already exceeded the goal for 2025. For the first time, this outcome was aided by the contribution of Aliplast, which produced about 103 thousand tons of recycled plastic in 2017.

Moreover, our strong commitment to the sustainability of the sewage treatment system made progress in 2017. Our main projects were focused on Rimini and Trieste, upgrading the Servola treatment plant in the latter city (as of March 2018). Finally, the long-term plan for upgrading urban areas continued: 91% of urban areas (100% in Emilia-Romagna) were upgraded by the end of 2017.

### ***Hera for innovation and sustainable development of the local area: important results in 4 areas of impact***

In 2017 we obtained meaningful results in Csv areas linked to economic and job development of the local area, innovation, digitalisation and air and soil protection.

The share distributed to local providers reached 66% of total results, coming to 592 million euro (+6% over 2016), while about 6,500 new jobs were created. This data confirms our major role in developing the local area. As far as new jobs are concerned, 807 people facing hardship were hired in 2017, also recording a further increase.

Investments in innovation are equal to 78 million euro, for projects in four areas: smart city, circular economy, utility 4.0 and customer experience. In the smart city area we highlighted smart eco-friendly islands, monitoring environmental quality, video monitoring and IT and mobility services. In the circular economy area, in 2017 we launched three projects aimed at recovering material or energy from wastewater sewage sludge, and the Biorefinery 2.0 project.

As far as digitalisation is concerned, along with a number of projects aimed at further digitalising operational processes, in 2017 our commitment to the development of digital channels for customer relations continued. Relations with customers are also characterized by the constant increase of customers registered in our online service (19%) and e-billing service (20%). Our commitment to this topic, along with attention to local communities, involved launching a new promotional campaign for e-billing - named Digi e Lode – including economic bonuses for digitalisation in local schools.

Air protection confirms its prior positive results: the ten waste-to-energy plants managed have an average level of emission into the atmosphere which is 86% below legal limits, and the co-generation plant in Imola has an average concentration of PM<sub>10</sub> which is 99% below legal limits. Finally, regarding soil protection, the planning introduced by HeraTech in 2016-2017 reused 75% of all soil.

In conclusion, our results in measuring the creation of shared value, which we can now report in a new and cutting-edge way, give us the confidence to state that 2017 was an important milestone along our path of growth and, for various reasons, represented a new starting point. We are also aware that it is fundamental to maintain our commitment to the other dimensions which complete our social responsibility profile, whose results remain a key factor in our non-financial reporting. Our governance system, our dialogue with local communities, our customer-centred and high-quality service, our attention towards our employees and the role of our suppliers are the organizational bases and levers through which we are building a new business perspective capable of providing an effective response and a tangible contribution to the important challenges for the new development model that lies ahead of us.

**Tomaso Tommasi di Vignano**

*Executive Chairman*

**Stefano Venier**

*Chief Executive Officer*

## About us

The Hera Group is one of the major multi-utility companies in Italy: it offers the sustainable management of several public services to 4.4 million citizens in 349 municipalities spread over 5 Italian regions (Emilia Romagna, Veneto, Friuli Venezia Giulia, Marche and Tuscany), where around 4.4 million citizens live. The Aresgas company provides distribution and sales of gas in Bulgaria

Hera provides energy (distribution and sale of gas and electricity), water (water systems, sewage and treatment) and waste management (collection and disposal) services to citizens and enterprises.

Hera is a company renowned for its reliability, soundness and competitiveness.

- Its strengths lie in: the **balance of its services**, comprised of services managed according to free market criteria (sale of gas and electricity, and disposal of special waste) and regulated services (gas and electricity distribution, integrated water services, collection and disposal of waste);
- strong **roots in the areas** in which it operates and **deep focus on sustainability**;
- a **widespread shareholding structure** with around 20 thousand shareholders.

In 2017 the Hera Group completed the important acquisition of the **Aliplast Group**, a national and European leader in plastic recycling, allowing Hera to reach the goal of plastic recycling and playing a significant role in the Italian circular economy. The Aliplast Group of Istrana di Treviso is in fact a leading company in Italy that deals with plastic waste collection, recycling and regeneration (especially polyolefins and PET). The Aliplast Group produced over 103,000 tonnes of recycled plastic materials, with a turnover of more than Euro 110 million in 2017. In December 2017, Hera's control over the Aliplast Group reached 80% with a binding agreement between the parties to purchase the remaining 20% by the end of 2022.

In the energy sector, of note is the acquisition of Verducci Servizi, a company operating in Abruzzo mainly in the provinces of Pescara and L'Aquila.

### *Main awards in 2017*

Hera's process of expansion is also marked by the awards received. Among the most recent awards, the main ones are:

- 2018 **Top Utility** Award for sustainability
- **Top employers** 2018 Award for human resource management
- 1st in Italy in the **Diversity and Inclusion Index** of Thomson Reuters
- 3rd in the **Webranking by Lundquist** in 2017 for online communication
- Top Five in the **Online Talent Communication** ranking by **Potentialpark** for the most sought-after companies by young people searching for employment

### *Hera among the top performers in all sectors*

The **Hera Group** confirmed its leading position in Italy in all businesses in which it operates and obtained the following ranking, compared to other listed companies:

**1st operator** in the environmental sector for treated waste

**2nd operator** in the water cycle sector for volume of water supplied

**2nd operator** in the public lighting sector for number of light points managed

**3rd operator** in the distribution of gas for volume supplied

**4th operator** in the gas and electricity sector for quantity sold

**5th operator** in the electricity sector for volume distributed.

2016 data

*Aliplast: Italian plastic recycling excellence joins the Hera Group*

Aliplast, with 9 industrial plants, 4 of which in France, Spain and Poland, manages the plastic integrated cycle, transforming waste into finished products, mainly PE films, rigid PET films and polymer granules/flakes. Its main commitment is to make the plastic lifecycle sustainable, by collecting and recycling plastic to produce new materials, with the lowest possible environmental impact. Focusing on constant research, development and technological innovation (regarding products, services and processes), Aliplast manages a traceable plastics production chain, which is capable of transforming a disjointed chain into a virtuous circle and of ensuring high quality final products that are efficient and economically more convenient than traditional materials.

*Services provided*

Hera's growth has developed with a strong focus on the aspects of sustainability with regard to regulated services (distribution of gas and electricity, water service and waste collection) and services managed according to free market criteria (hazardous waste disposal, sale of gas and electricity). Development was balanced across the sectors, confirming that Hera is strongly rooted to the local area and that it places quality at the core of the services it manages.

	<b>Energy services</b> Sale and distribution of gas and electricity, district heating, heat management and public lighting	<b>Integrated water service</b> Civil and industrial water system, sewerage and purification	<b>Waste management services</b> Collection, recovery, treatment and disposal of urban and special waste
Customers	Gas: 1.4 million Electricity: 1 million District Heating: 12 thousand	Water: 1.5 million	
Municipalities served	Gas distribution: 259 Electricity distribution: 26 District heating: 16 Public lighting: 165	Water system: 230 Sewerage and purification: 231	Waste collection: 187
Residents served	3.6 million	3.6 million	3.3 million
Volumes	Gas sold: 5.2 billion cubic metres Electricity sold: 10.5 TWh	Water sold: 302.8 million cubic metres	Waste collected: 2.0 million tons Waste disposed of: 6.8 million tons

## Customers and municipalities served in the local areas (regulated services)

Local area	Company	Energy services	Water services	Waste management services	At least one service
Bologna Area	Hera	813 thousand (93%)	855 thousand (98%)	701 thousand (80%)	855 thousand (98%)
Ferrara Area	Hera	195 thousand (56%)	249 thousand (71%)	132 thousand (38%)	298 thousand (85%)
Forlì-Cesena Area	Hera	326 thousand (83%)	394 thousand (100%)	394 thousand (100%)	394 thousand (100%)
Imola-Faenza Area	Hera	195 thousand (76%)	257 thousand (100%)	257 thousand (100%)	257 thousand (100%)
Modena Area	Hera	475 thousand (68%)	466 thousand (67%)	494 thousand (71%)	498 thousand (71%)
Padua Area	AcegasApsAmga	327 thousand (35%)	299 thousand (32%)	265 thousand (28%)	417 thousand (45%)
Pesaro-Urbino Area	Marche Multiservizi	255 thousand (63%)	280 thousand (69%)	269 thousand (66%)	327 thousand (81%)
Ravenna Area	Hera	240 thousand (87%)	277 thousand (100%)	277 thousand (100%)	277 thousand (100%)
Rimini Area	Hera	35 thousand (10%)	336 thousand (100%)	319 thousand (95%)	336 thousand (100%)
Trieste Area	AcegasApsAmga	222 thousand (94%)	235 thousand (100%)	204 thousand (87%)	235 thousand (100%)
Udine, Gorizia and Pordenone Area	AcegasApsAmga	495 thousand (72%)	-	-	495 thousand (72%)
<b>Hera Group</b>		<b>3.6 million (66%), 263 municipalities</b>	<b>3.6 million (77%), 231 municipalities</b>	<b>3.3 million (70%), 187 municipalities</b>	<b>4.4 million (80%), 349 municipalities</b>

Number of municipalities, residents and percentage of total residents in the province or the local area (as at 1 January 2017, source: Istat) in which Hera manages at least one energy service (distribution of gas, electricity or district heating), water service (water systems, sewage or treatment) and waste management service (separated or non-separated waste collection, or sweeping). The local area of Imola-Faenza includes three municipalities belonging to the Province of Florence in which Hera manages energy, water and waste management services. The Padua area includes 1 municipality from the Province of Venice in which AcegasApsAmga manages water services. The area of Pesaro-Urbino includes six municipalities belonging to the Province of Ancona in which Marche Multiservizi manages the waste management services.

## Mission and values

### *The mission*

“Hera’s goal is to be the best multi-utility in Italy for its customers, workforce and shareholders. It aims to achieve this through further development of an original corporate model capable of innovation and of forging strong links with the areas in which it operates by respecting the local environment.

For Hera, being the best means inspiring the pride and trust of:

- **customers** who, thanks to Hera’s responsiveness to their needs, receive quality services that satisfy their expectations;
- **women and men** who work at Hera, whose skills, engagement and passion are the foundation of the company’s success;
- **shareholders**, confident that the economic value of the company will continue to be generated, in full respect of the principles of social responsibility;

- **areas** in which Hera operates, where economic, social and environmental wealth represent the promise of a sustainable future;
- **suppliers**, key elements in the value chain and partners for growth.”

#### *Values*

**Integrity**, proud to belong to a Group of people known for their honest and upright conduct;

**Transparency**, sincere, clear messages for all stakeholders;

**Personal responsibility**, shared commitment to the good of the company;

**Consistency**, living up to our Mission and Values.

#### *Company operational principles*

**Creation of value and social and environmental responsibility:** to be a company that is built to last, and to improve society and the environment for future generations

**Service quality and excellence:** putting customers first, as a trustworthy provider of services and safety

**Efficiency:** promoting the value of available resources, never wasting them

**Innovation and ongoing improvement:** feeling you are part of a team that generates ideas and improvement

**Engagement and optimisation of personnel:** sharing knowledge for self-improvement and improvement

**Empowerment to choose:** selecting the optimal solution for growth

The company’s Mission, Charter of Values and Operational Principles are set forth and detailed on the Group’s website, on the corporate intranet and in the Code of Ethics, which is reviewed every three years.

The Mission, Values and Operational Principles were created with the participation of the Hera Group’s entire workforce and were approved by the Board of Directors of Hera Spa.

# Sustainability for the Hera Group

*Sustainability as a key element of company strategy*

## Hera's approach to sustainability

Sustainability has always played a key role in Hera's strategy ever since its establishment. The approach adopted by the Group is based on **integrating sustainability** in its **planning and control** systems and, therefore, in the management of its business activities. This aspect has been effectively implemented through a **balanced scorecard** system involving all the company management and with our constant commitment to stakeholder reporting, as confirmed by the sustainability report. The Report has been published on a yearly basis ever since the Group's establishment and, since 2007, has the timescale as the financial statements.

Competitiveness and sustainable development for the company and local area in which the company operates form the vision at the basis of Group's approach towards corporate social responsibility and sustainability.

The Company's mission and values have merged into the Code of Ethics, which is updated every three years with the involvement of employees, forming the basis of corporate conduct and serving as a point of reference for all the people working in the Group. These values represent the strategic and cultural focus with which to draw up the Business Plan every year and report the results to stakeholders transparently. Lastly, a balanced scorecard system makes it possible to translate the strategy into operational projects that are an integral part of the management bonus system.

This process features a wide range of listening and **dialogue actions with stakeholders**.

In the two-year period 2016-2017, a new **shared value** approach was defined with the aim of further integrating sustainability into our business activities and directing both our strategy and sustainability reporting to the urgencies dictated by the Global Agenda on Sustainable Development.

## Integrating sustainability into the strategy

Hera Group's Business Plan for period 2017-2021 period shows growing economic results achieved with strong and constant attention to the compliance with economic, financial, environmental and social sustainability logics.

In this regard, in 2016 the Group introduced **shared value** reporting, i.e. that part of marginality generated by projects that bring benefits for the company and, at the same time, contribute to attaining the goals of the UN 2030 Agenda (at least 10 of the 17 goals indicated). In the years of the Plan, this share will become more important thanks to the actions taken by Hera to respond to the **three drivers of change** (smart use of energy, efficient use of resources, innovation and contribution to development), thus reaching 40% of total marginality in 2021.

In line with the past, the Group's strategy is based on **five** well-established **strategic levers** that are shared with all Organisational Units and act as a reference for the development of the respective projects.

**Agility** will continue to be the response to the dynamic external context, which has become a structural feature of the competitive scene and requires the rapid transition from learning into action (agile learning organization).

Organisational units have included the key role of **innovation** in their planning, accelerating the contribution we expect from it. Innovation is also a factor that enables us to reach a strategy based on the opportunities of the Circular Economy and Utility 4.0, through the increasing digitalisation of processes, data collection and analysis, and the dissemination of "smart" infrastructures.

**Efficiency** is confirmed as being a fundamental lever to safeguard current margins and respond to tenders in regulated services, recovering productivity through particular emphasis on limiting costs, improving

internal organisation and optimising operating activities. The projects already identified will make it possible to achieve a contribution of almost 80 million Euro in 2021 compared to 2016 figures.

**Growth** has been a key aspect in Hera's history and has always been characterised by a balanced mix of measures implemented along the company's internal and external lines. The internal growth underlying the new Business Plan will be fuelled both by typical business line activities, and by the margin linked to the tenders for gas distribution in the sectors and areas in which the company already plays a significant role. As regards external growth, the Group proposes itself, as in the past, as a natural candidate for the role of aggregator in a national context for utilities which is still very fragmented. The Business Plan envisages aggregation activities with other companies of the sector always in keeping with the Group's financial sustainability.

The 2017-2021 Business Plan was drawn up in compliance with relevant guidelines and will allow the Group to reach the goal of Euro 1,135 million in 2021, rising by almost Euro 220 million compared to the 2016, with a total of Euro 573 million of average annual investments (compared to the yearly average of Euro 353 million of the last five years) two thirds of which will focus on Shared Value projects. However, our increased financial commitment will not have any impact on the ratio between net debt and EBITDA which will always remain below 3.0x (2.9x in 2021).

### **Our commitment to sustainability in the national and international networks**

Hera's commitment to sustainability took shape in 2017 by joining leading international networks.

The Hera Group is the second Italian company to complete the process for inclusion in the **CE100** programme of the Ellen MacArthur Foundation, the world's leader in circular economy, which aims to promote issues related to the circular economy, to exchange experiences, to initiate projects in partnerships and to cooperate in the field of research and development.

The Hera Group joined the Global Compact in 2004 and in July 2017 joined the **Global Compact Network Italia Foundation**, the Italian network set up in 2013 which has been joined by over 50 business and non-businesses.

Also within the Global Compact, Hera joined the **CEO Water Mandate**, the United Nations Global Compact initiative promoted to re-launch commitment by companies in the sustainable management of water resources.

Hera is also a member of Impronta Etica, an organisation that promotes corporate social responsibility and is part of the CSREurope network and CSR Manager Network Italia, the Italian network of sustainability professionals.

### **2030 UN goals for sustainable development and Hera projects**

The 2030 Agenda for sustainable development ratified at the UN summit in September 2015 by 193 countries includes 17 goals regarding sustainable development (**Sustainable Development Goals** or SDGs), regarded as the continuation of the millennium development goals, already defined in 2000 by the United Nations. The partial achievement of the latter has led to defining other more challenging and ambitious ones.

The **17 goals** of the 2030 UN Agenda (which are further divided into 139 targets) include: eradicating hunger, poverty and inequality; combating climate change; ensuring education, training, health & safety; gender equality; innovation and sustainable production and consumption.

The **Hera Group**, through its **59** targets for the future ("what we will do...") detailed in this report and organised according to the "shared value" drivers and organisational levers, **contributes to the achievement of the 10 targets of the 2030 UN Agenda.**

As reported in the table below, Hera's contribution by number of targets is predominant in 5 goals: *Decent work and economic growth, Innovation and infrastructure, Sustainable cities and communities, Responsible consumption and production and Climate change.*

### What we will do... 2030 UN Agenda targets

2030 UN Agenda target	Smart use of energy	Efficient use of resources	Innovation and contribution to development	Governance and creation of value	Quality, cost and safety of customer services	People	Suppliers	Total
4. Quality education			1			1		2
5. Gender equality						4		4
6. Clean water and sanitation		5			2			7
7. Renewable energy	8		1					9
8. Decent work and economic growth			4	3		6	5	18
9. Innovation and infrastructure	2	2	10	2				16
11. Sustainable cities and communities	4	7	13	1	3	1		29
12. Responsible consumption	2	8	2	1			5	20
13. Climate actions	7	6	2					15
14. Life below water		1						1

### The balanced scorecard of the Hera Group

The balanced scorecard approach enables us to assign “balanced” objectives to our management team, distributed over four areas: **development, quality and corporate social responsibility, organisational integration and efficiency upgrading.**

It provides a methodology pinpointing strategy which it translates into objectives and day-to-day actions. The innovation of this approach consists of considering the achievement of objectives of social and environmental sustainability as a condition for the achievement of the economic and financial objectives over the medium and long term.

#### *What is the balanced scorecard?*

The balanced scorecard is a strategic control system which is based on the connection between strategy and the day-to-day running of the company. It was devised in the early 1990s by the American academics, R. Kaplan and D. Norton. It has generated an immense following among leading corporations in the USA and is now being taken up by major European players.

The **Strategic Map** is updated every year based on the contents of the business plan: it provides a **summary of the Group's strategic objectives** and its commitments to stakeholders set forth in the sustainability report.

During the 2017 budget process, **46 priority projects** were defined to achieve the **strategic objectives** set out in the Map aimed at creating long-term value for the company and the stakeholders.

The priority projects were assigned to members of the Management Review Committee.

All of the projects planned within the 2017 balanced scorecard system were assigned to a manager and included in the bonus system for Group managers and middle managers.

Each project identified:

- the process and result indicators with goals in line with the budget of the Group and the corporate departments required for their achievement;
- the key action plan for achievement of the project objectives in terms of time and cost.

The objective projects identified were monitored on a quarterly basis by the Hera Spa Management Review Committee and in the individual budget units.

The definition of **objective projects** and the related **quarterly monitoring system** of the project elements are a significant strategic management instrument that ensures:

- integration of the several perspectives for the evaluation of corporate performance, in addition to traditional economic and financial measurements;
- integration of business plan objectives into the daily management of managers and middle managers;
- implementation of a continuous improvement process for strategic objectives and the relative projects and indicators;
- formalisation and tracking of both actions and sub-objectives required to achieve the targeted results;
- highlighting and analysis of critical situations and the definition of speedy corrective actions.

In 2017, in line with the new strategic guidelines outlined in the 2017-21 Business Plan that take into account the new strategic approach to Shared Value defined in the 2016-17 period, the **3 drivers for the creation of shared value (CSV)** explained for the first time in the 2016 Sustainability Report were introduced in the new 2018-21 Strategic Map, namely:

- Efficient use of resources;
- Smart use of energy;
- Innovation and contribution to the development of the area.

Furthermore, the strategic objective Risk analysis and management in ERM logic was included in the Learning and development perspective, with direct effects on Internal processes, in keeping with the strategic importance of the Group's commitment in this area.

The commitments to stakeholders listed in this report (“What we will do...”) are contained in the Hera balanced scorecard. This guarantees consistency among the various instruments used for managing and achieving the Group strategy (business plan, sustainability report, management reporting, bonus system).

## Sustainability KPIs

	2005	2015	2016	2017
<b>Economic Responsibility</b>				
Value added (in millions of Euro)	722.1	1,412.8	1,454.1	1,480.7
Shared value EBITDA (%) of total	-	-	33%	33%
Shared value EBITDA (millions of Euro) of total	-	-	300	329
Net total investments (in millions of €)	346.9	335.0	373.3	440.0
ROI (Operating Income/Net Capital Employed)	8.8%	8.6%	8.9%	9.2%
EBITDA per open ended contract employee (thousands of €)	65.4	105.0	109.5	113.4
Total return for shareholders since listing (%)	94.2%	171.7%	158.5%	225.0%
<b>Social Responsibility</b>				
Open-ended contract employees (average annual % of total workforce)	95.5%	96.9%	97.0%	96.8%
Training hours (average, per capita)	18.5	31.4	29.3	28.6
Workforce attending at least one training course (%)	82.2%	99.3%	98.1%	97.0%
Accident frequency index (number of accidents/hours worked x 1,000,000)	49.6	20.6	17.8	17.1
Internal climate index (score 0-100)	50	63	-	64
Index of customer satisfaction for residential customers (score 0-100)	67	70*	70*	70*
Compliance with AEEGSI and Service Charter quality standards (gas, electricity, integrated water service, district heating)	94.7%	99.6%	99.8%	99.8%
Emergency gas services: percentage of calls with intervention within 60 minutes	94.7%	97.7%	97.5%	96.2%
Average call centre response time for residential customers (seconds, with the exclusion of IVR)	70.2	38	40	34
Average branch operator waiting time (minutes)	26.9	11.9	12.3	10.6
Value of supplies from local suppliers (% of total)	62%**	68%	69%	66%
Adjudications adopting the economically most advantageous bid method (% of total)	-	24	26	25
Number environmental education programme students	33,505	78,127	96,034	99,482
<b>Environmental responsibility</b>				
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%)	25.2%	32.5%	31.3%	30.3%
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%) and cogeneration	50.8%	67.8%	68.7%	67.5%
Waste-to-energy plant emission levels vs. regulations (real concentrations/regulations: optimal value <100%)	22.4%	14.9%	14.1%	14.4%
Quality of treated water vs. regulations (real concentrations/regulations: optimal value <100%)	-	43.7%	42.1%	39.0%
Intensity index of greenhouse gas emissions (kg/MWh)	-	628	567	527
Non-invoiced water (physical and administrative losses from the domestic water system): cm/km of network/day	-	10.3	10.3	-
Separate waste collection	28.9%	55.4%	56.6%	57.7%
Kilos of separate waste collection per capita	199	356	367	378
Portion of urban waste collected for disposal via landfill (% total collected solid waste)	37,3%**	8.6%	7.6%	7.0%
Vehicles using low environmental impact fuels (methane, LPG, electric powered) (% of total)	9.2%	20.1%	21.0%	22.1%

Including AcegasApsAmga since 2013 except as expressly stated.

\*Excluding Marche Multisevizi. \*\* 2007 data

## Shared value

An EBITDA of Euro 329 million (+10% compared to 2016) generated in 2017 from activities related to the “Global Agenda” priorities

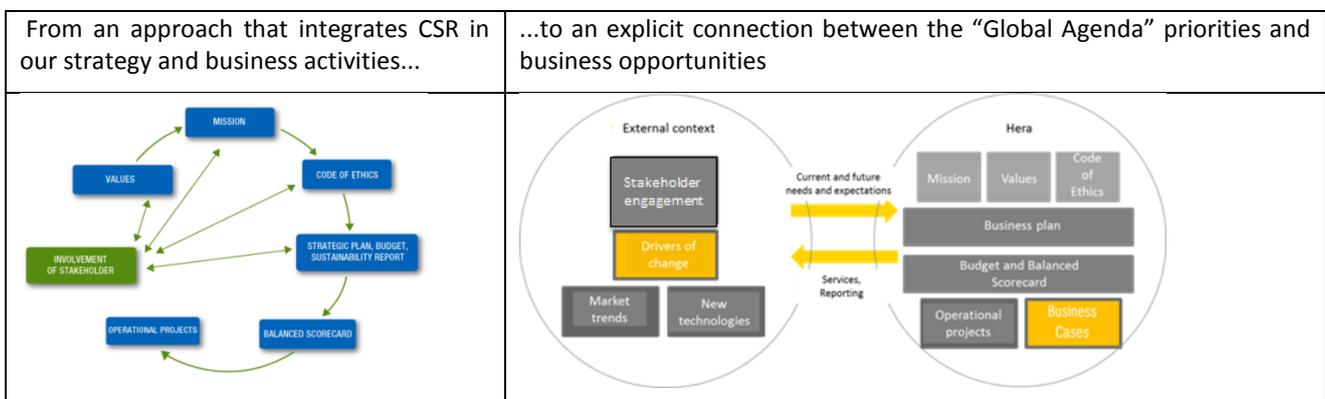
### Our approach to shared value

A process was started in 2016 to identify Hera’s approach to Creating Shared Value (CSV) inspired by Porter and Kramer’s indications in 2011 and taking into account the new EU communication on CSR of the same year. The programme made it possible to identify our own definition of CSV which will steer our approach to CSR and will further enhance our sustainability reporting with new views and perspectives, some of which already anticipated in this Report.

For Hera, the creation of **shared value** is the result of all those business activities that generate **operating margins** and meet the **global agenda drivers**, i.e. those “calls to action” for change in specific fields, set out in global, European, national and local policies.

This definition of CSV is at the basis of a new, evolved approach to social responsibility and sustainability; besides having already enhanced non-financial reporting with new views and perspectives, it is also an important source of inspiration for future strategies and new projects, in line with the sustainable development targets of the 2030 UN Agenda. For Hera, the CSV approach is a new point of reference also for the reclassification of economic results, future goals and strategic investment choices. This approach already allows us to develop projects and activities geared towards CSV. Many of these are described in this Sustainability Report, where the share of EBITDA generated by “shared-value” activities and projects is also reported for the second time.

### Hera’s approach to CSR: confirmations and new ideas



### How we identified the “calls to action”

In 2017, we continued the process we started in 2016 to analyse the “Global Agenda” and the needs for change that are outlined in it, which represent the “calls to action” for a company like Hera. Understanding and sharing this scenario is essential to further improve - today and in years to come - the way we report the sustainability results achieved. At the same time, it is also an opportunity to steer strategy and operational processes in order to address change and meet the needs and expectations of both the market and society, thus enhancing competitiveness.

The process started by analysing European, national and local policies and ended by identifying Hera’s Drivers of Change and Impact Areas, while keeping in mind its spheres of competence.

Forty-five global, European, national and local policies were analysed to define the priorities for change towards sustainability. The commitments and quantitative targets of these policies which are of key significance to Hera’s activity were analysed. Nine Impact Areas were defined by identifying the cross-

cutting thematic areas that group together several commitments and targets. Lastly, three Drivers of change were identified by grouping the various Impact Areas into strategic development lines for Hera.

The three Drivers of Change and Impact Areas were linked to the ten 2030 UN Agenda goals for sustainable development that Hera identified as priorities in relation to the businesses managed and which include the 61 “What we will do...” (objectives for the future) detailed in this Report.

**“Calls to action”: The Drivers of Change, the Impact Areas and the 2030 UN Agenda goals of interest to Hera**



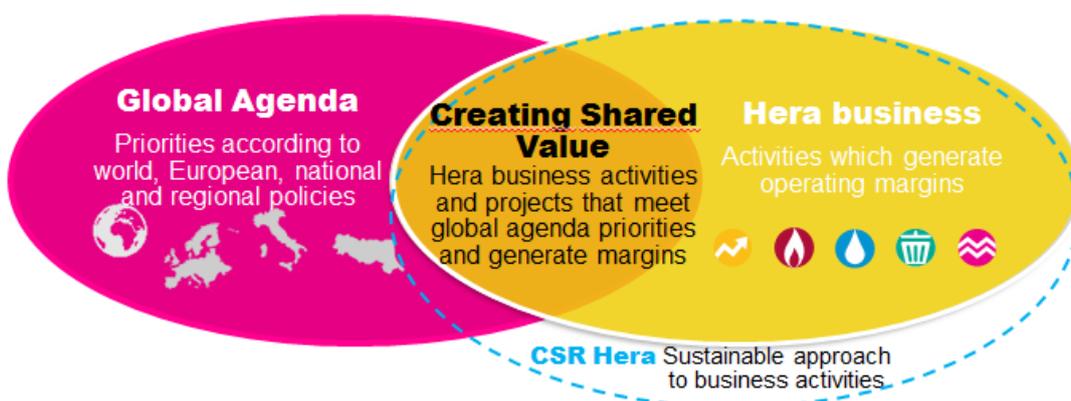
**The relationship between CSR and CSV according to Hera**

Hera’s new approach to CSR merges the prospect for the creation of shared value with the integration of sustainability (already envisaged since the Group’s establishment) into its strategies and business activities.

This results in activities and projects that:

- improve its environmental and social sustainability performances mainly related to the businesses it manages (also, but not exclusively, in relation to the law and sector regulations);
- generate operating margins that are consistent with the Global Agenda drivers.

This latter point is a major development in Hera Group’s traditional approach to CSR, which will **increase the shared value generated** by overlapping business and Global Agenda priorities.



**What shared value and prospects mean to Hera**

In their famous article of 2011, Porter and Kramer state that companies can create shared value with policies and practices that strengthen the **company's competitiveness**, while responding to the **needs of the communities** in which it operates and to **society’s challenges**. Hera’s multi-utility activities are, by nature, highly integrated with the social and economic fabric of the local community and, since benefiting from a ten-year long integration of prospective sustainability within the Group’s strategy, may already report a significant portion of shared value expressed through services, activities geared towards the local

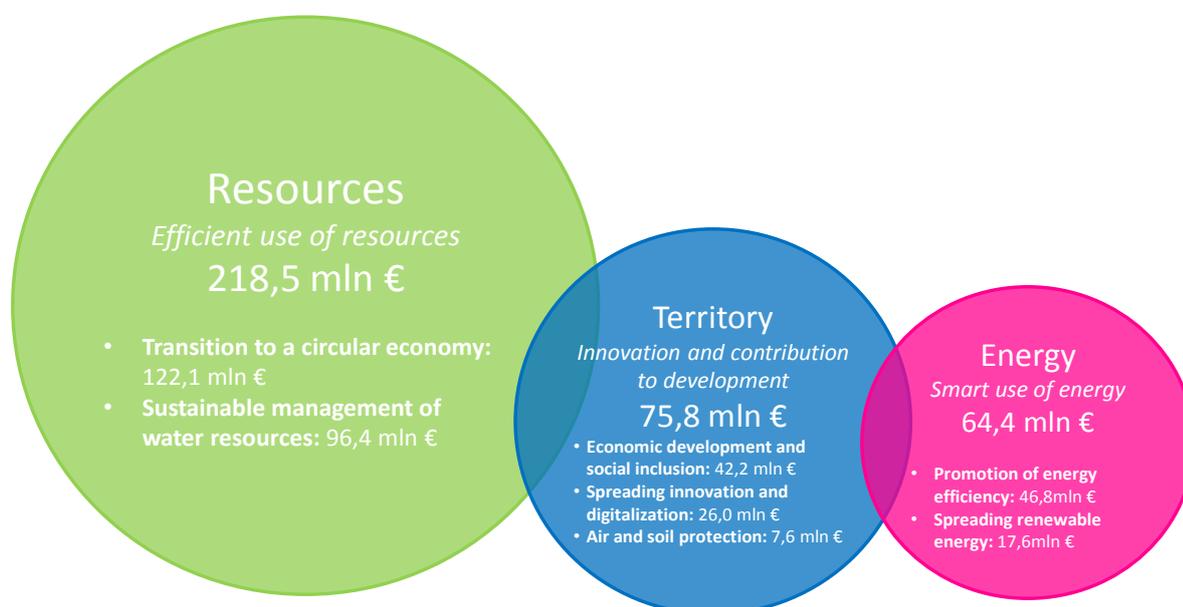
area and industrial projects. The valuation with regard to the EBITDA reported for the year is the portion of industrial income directly attributable to the Group's activities, related to the total economic value distributed to stakeholders throughout the areas, and detailed in the relevant section in this Report.

### EBITDA from “shared value”

The Hera Group continues to report “shared value” EBITDA (started for the first time with the 2016 sustainability report), i.e. the portion of EBITDA resulting from projects and activities that respond to the “calls to action” classified in the three CSV Drivers: in 2017, this value totalled Euro 328.6 million (equal to 33.4% of the total), a 9.6% increase compared to the previous year. This result is in line with the 2017-21 Business Plan, created so that approximately 40% of EBITDA of 2021 derives from business activities that respond to the priorities of the global sustainability agenda.

The roughly 10% increase in “shared value” EBITDA is recorded against a 7.4% increase in the Group's overall EBITDA (equal to Euro 984.6 million) compared to the previous year.

The prevailing contribution derives from activities and projects related to the efficient use of resources (Euro 218.5 million), followed by those related to innovation and contribution to development (approximately Euro 75.8 million). The smart use of energy accounts for Euro 64.4 million in 2017.



The total EBITDA from shared value does not correspond to the sum of EBITDA of the single drivers, due to activities that affect several components. Reduction of GHG emissions: sum of Spreading renewable energy and Promotion of energy efficiency. Unlike 2016, in the calculation of the 2017 MOL, district heating was assigned to the impact area Air and soil protection.

As pointed out in the diagram, around 66% of the “shared value” EBITDA generated in 2017 is mainly the result of activities and projects that meet the “calls to action” of the 2030 UN Global Agenda for an “**efficient use of resources**”. As regards “Impact Area”, the key role played by the Group in creating value with activities related to the **transition to a circular economy** (+11% compared to 2016) and to the **sustainable management of water resources** (+15% compared to 2016) emerges.

Around 23% of “shared value” EBITDA was instead generated from activities belonging to the Global Agenda areas that lead towards a “**smart use of energy**”. 75% of this share of EBITDA comes from initiatives aimed at the **promotion of energy efficiency**, through the development of commercial offers to Group customers and the reduction of internal energy consumption, with particular attention to water

services, public lighting and district heating. The residual percentage of EBITDA for the smart use of energy is connected to the **spreading of renewable energy** achieved both with commercial activities and through the production of energy from renewable sources.

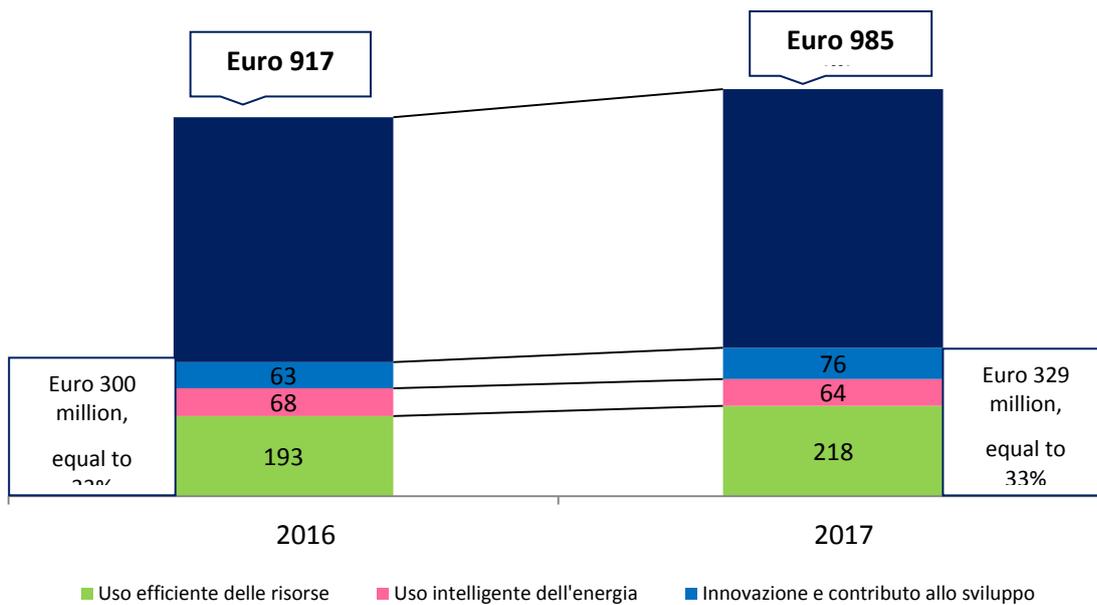
Lastly, the Hera Group generates about 20% of “shared value” EBITDA with reference to **innovation, digitalisation and its contribution to an inclusive and environmentally friendly development**. With regard to the “**spreading of innovation and digitalisation**”, shared value was achieved also through telecommunication services, via the Acantho company, and through projects for the digitalisation of operational processes. “**Economic development and social inclusion**” was especially achieved through generated employment and the outsourcing of environmental services to social cooperatives. This allows disadvantaged individuals to be employed and also leads to economic benefits for the Public Administration (lower welfare costs). Lastly, in terms of “**air and soil protection**”, the purchase of vehicles with a lower environmental impact and the district heating service were privileged.

**“Shared value” EBITDA growth in 2017: an increase of Euro 28.6 million (+9.6%) compared to 2016.**

CSV Drivers	Impact Area	2017 main results
<b>Smart use of energy:</b> <b>Euro -3.5 mln</b>	Promotion of energy efficiency: + Euro 8.3 mln	<ul style="list-style-type: none"> <li>• Further development of gas and electricity offers for customers with energy efficiency services. +16% in 2017 compared to 7% in 2016.</li> <li>• Gradual increase in LED light points managed by the public lighting system: 14% in 2017 (7% in 2016)</li> <li>• Saving from energy efficiency measures: over 8,300 toe saved at the end of 2017</li> <li>• Increase in “Nature Package” customers which guarantees the renewable provenance of the electricity purchased: +9% in 2017 (7.4% in 2016)</li> <li>• Reduction in electricity sold which is produced from renewable sources (national mix): 19% in 2017 (28% in 2016)</li> </ul>
	Spreading renewable energy: Euro -11.9 mln	
<b>Efficient use of resources:</b> <b>+ Euro 25.5 mln</b>	Transition towards a circular economy: + Euro 12.1 mln	<ul style="list-style-type: none"> <li>• Further reduction in the use of landfills for municipal waste: 7% municipal waste collected and disposed of in landfills (7.6% in 2016)</li> <li>• Further increase in the rate of packaging recycling: 68% in 2016 (64% in 2015)</li> <li>• Aliplast acquisition (103 thousand tonnes of recycled plastic produced)</li> <li>• Increase in industrial waste recovered by HASI (from 25% to 31%) and by Waste Recycling (from 17% to 28%)</li> </ul>
	Sustainable management of water resources: + Euro 13.4 mln	
<b>Innovation and contribution to the development of the area:</b> <b>+ Euro 13.0 mln</b>	Spreading innovation and digitalisation: + Euro 8 mln	<ul style="list-style-type: none"> <li>• Innovation and digitalisation: investments in Utility 4.0 (business intelligence, data analytics, smart metering, etc.) in order to make operating processes more efficient and optimise management (remote reading for 22% of meters at the end of 2017 compared to 10% in 2016)</li> <li>• Innovation and digitalisation: Acantho business development (telecommunications and connectivity)</li> <li>• Social inclusion: 6% of customers with at least one instalment (stable compared to 2016)</li> <li>• Social inclusion: 807 disadvantaged workers hired (+8% compared to 2016)</li> <li>• Reduction of district heating margin only partly offset by the increase in the portion of energy from energy-to-waste plants and from cogeneration (60% in 2017; 54% in 2016)</li> </ul>
	Economic development and social inclusion: + Euro 7.2 mln	
	Air and soil protection: - Euro 1.8 mln	

The total deviations of shared value EBITDA do not correspond to the sum of the single deviations in the single drivers and in the single impact areas, due to activities that affect several components. Unlike 2016, in the calculation of the 2017 MOL, district heating was assigned to the impact area Air and soil protection.

## Shared value EBITDA compared to total EBITDA



### “Shared value” EBITDA growth 2017-21

The **2017-2021 Group Business Plan** targets a “shared value” EBITDA which at 2021 shows a 50% increase compared to 2016, reaching Euro 450 million (around 40% of the Group's overall EBITDA).

The **approx. 150 million increase during the time interval of the plan compared to 2016**, equal to a 2/3 increase in the Group's 2021 overall margins, derives mainly from the development of activities in the CSV drivers: "smart use of energy" (+ Euro 80 million), "efficient use of resources" (+ Euro 50 million) and "innovation and contribution to development of the area" (+ Euro 20 million).

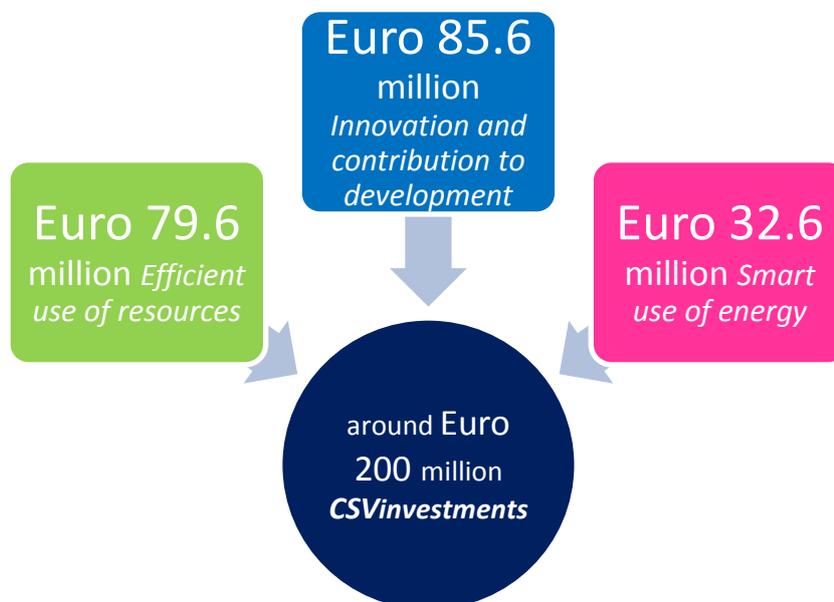
CSV Drivers	Impact Area	Main actions and targets
<b>Smart use of energy: + Euro 75 mln</b>	Promotion of energy efficiency: + Euro 50 mln	<ul style="list-style-type: none"> <li>Further development of offers for customers with energy efficiency services (customer joining this offer: around 40% in 2021)</li> <li>Further development of energy efficiency business (industrial cogeneration, heat management etc.) for Public Administrations, companies and condominiums</li> <li>Measures to reduce internal energy consumption (ISO 50001 action plan: 2020 consumption: -5% compared to 2013), company fleet renewal (vehicles with lower environmental impact: 29%) and gradual increase in LED light points (16% in 2021)</li> <li>Increase in the production of renewable electricity from biogas / anaerobic biodigestion of separated organic waste (+23% on 2021 compared to 2016)</li> <li>Increase in the share of renewable electricity sold to end customers (35% in 2021) and “Nature Package” customers which guarantees the renewable provenance of the electricity purchased (17% in 2021)</li> </ul>
	Spreading renewable energy: + Euro 25 mln	
<b>Efficient use of resources: + Euro 50 mln</b>	Transition towards a circular economy: + Euro 20 mln	<ul style="list-style-type: none"> <li>Gradual adjustment of urban agglomerations in the area served in keeping with EU directives and complete resolution of the EU infringements in the Triveneto and Marche regions to ensure full sustainability in the sewerage and purification area and as a contribution to achieve “good” aquatic ecosystems within 2025. (ref.: Bologna Charter)</li> </ul>
	Sustainable management of water resources: + Euro 30 mln	

CSV Drivers	Impact Area	Main actions and targets
		(100% of citizens residing in urban agglomerations > 2000 equivalent inhabitants adjusted to 2021)
		<ul style="list-style-type: none"> <li>• Further reduction in the use of landfills for municipal waste: &lt;4% in 2021</li> <li>• Further increase in overall packaging rate (60% in 2021) and packaging recycling rate (70% in 2021)</li> <li>• Increase in the recovery of industrial waste</li> <li>• Aliplast business development (plastic recycling)</li> </ul>
<b>Innovation and contribution to the development of the area: + Euro 25 mln</b>	Spreading innovation and digitalisation	<ul style="list-style-type: none"> <li>• Innovation and digitalisation: investments in Utility 4.0 (business intelligence, data analytics, smart metering, etc.) in order to make operating processes more efficient and optimise management and remote reading for 57% of meters in 2021</li> </ul>
	Economic development and social inclusion	<ul style="list-style-type: none"> <li>• Innovation and digitalisation: Acantho business development (telecommunications and connectivity)</li> </ul>
	Development of occupation and new expertise	<ul style="list-style-type: none"> <li>• Innovation and digitalisation: further development of customer-related digitalisation (24% of customers using the online services and 31% of customers with online bills in 2021)</li> </ul>
	Air and soil protection	<ul style="list-style-type: none"> <li>• Increase in the use of thermal energy from cogeneration and waste to energy for city district heating (70% in 2021 geothermal energy included)</li> </ul>

### “Shared value” investments

In 2017, the Hera Group invested around Euro 200 million for the development of shared value, which represent **41% of the total investments** made by the Hera Group.

The graph below shows these investments divided by impact driver:



Specifically, as regards the driver “**Smart use of energy**”, the investments regard:

- the anaerobic digestion and composting plants and the Sant'Agata Bolognese biomethane plants (around Euro 13 million - “Renewable energy sources” impact area);

- updating of energy systems, dissemination of innovative solutions and monitoring of existing projects through Hera Luce, Hera Servizi Energie (now AcegasApsAmga Servizi Energetici Spa) and Sinergie (around Euro 18.6 million - “Promotion of energy efficiency” impact area);
- purchase of low environmental impact vehicles (approx. Euro 1 million - “Reduction of greenhouse gas emissions” impact area).

For the “**Efficient use of resources**” driver, over Euro 52 million were invested for activities that guarantee the highest water resource quality standards, both in urban and rural areas (“Sustainable management of water resources” impact area) and around Euro 27.5 million for the development of separate waste collection and for waste recovery and recycling, especially through Aliplast and Waste Recycling (“Transition towards a circular economy” impact area).

Lastly, as part of “Innovation and contribution to development”, investments were mainly aimed at spreading innovative technologies related to the development of smart cities, circular economy, Utility 4.0 and customer experience (approx. Euro 78 million - “Dissemination of innovation and digitalisation” impact area) and to the district heating service (over Euro 10 million - “Air and soil protection” impact area).

## Shared value

### Smart use of energy

#### The objectives and the results

What we said we would do	What we have done	Scope		
<ul style="list-style-type: none"> <li>Continue to promote new gas, electricity and district heating solutions with value added and energy efficiency services.</li> </ul>	<ul style="list-style-type: none"> <li>In 2017 the offers Welcome Hera, Hera ContaWatt, Hera Led and Led Business (over 6,000 light bulb kits purchased by customers in 2017), Energy Management Portal were promoted which help customers check and reduce their consumption. 15.9% of customers joined offers providing energy efficiency services.</li> </ul>			
<ul style="list-style-type: none"> <li>Continue to promote solutions for energy efficiency and individual heat metering in condominiums.</li> </ul>	<ul style="list-style-type: none"> <li>At the end of 2017, 468 condominiums had individual heat metering systems (+22% compared to 2016). At the end of the year, 88 condominiums are using the Servizio Energia service and the savings achieved by its integrated measures are about 27% with respect to total gas consumption. Furthermore, Amga Calore Impianti replaced 14 old thermoelectric power stations with high efficiency stations in 2017.</li> </ul>	ER	T	
<ul style="list-style-type: none"> <li>ISO 50001 energy improvement plan: reduce energy consumption by 3% in 2017 (compared to 2013) and by 5% by 2020 (compared to 2013)</li> </ul>	<ul style="list-style-type: none"> <li>Consumption down 3.6% compared to 2013, thanks to the measures completed in 2017 and down by 4.6% with the further measures already planned.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Public lighting: implement energy saving measures and replace lighting fixtures with LED lamps for an annual savings of approximately of 2,400 toe.</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of energy saving measures and replacement of lighting fixtures with LED lamps for an annual saving of 1,400 toe and further measures are underway for 1,100 toe.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Electricity consumption: 100% from renewable sources from 2017 for the business of Hera SpA in Emilia-Romagna (144,000 t/year CO<sub>2</sub> avoided, equal to 10% of the Group's total emissions). Extend to AcegasApsAmga and Marche Multiservizi by 2018</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, 100% of electricity consumption for activities carried out by Hera SpA in Emilia Romagna was from renewable energy: 146,000 tonnes of CO<sub>2</sub> avoided, equal to 10% of the Group's total emissions. Extend to AcegasApsAmga and Marche Multiservizi in the first months of 2018.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Start construction of a biodigestion plant to produce biomethane from organic waste, in Bologna.</li> </ul>	<ul style="list-style-type: none"> <li>The construction site for the plant was started in April 2017.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Reduce by 19% by 2020 the carbon footprint of energy production compared to 2015 (kg CO<sub>2</sub>/MWh)</li> </ul>	<ul style="list-style-type: none"> <li>The carbon footprint of energy production was reduced by 16% in 2017.</li> </ul>	ER	T	

What we will do	Scope*		
<ul style="list-style-type: none"> <li>ISO 50001 energy improvement plan related to Hera Spa, AAA and MMS: reduce energy consumption by over 4% in 2018 and by 5% within 2020 (compared to 2013).</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Public lighting: implement energy saving measures for 1,300 toe in 2018 including the replacement of lighting fixtures with LED lamps (16% in 2021).</li> </ul>	ER	T	M

What we will do	Scope*			
<ul style="list-style-type: none"> <li>Continue to promote new gas, electricity and district heating solutions with energy efficiency services. Customers with these offers reaching 20% of the total amount in 2018 (+30% compared to 2017) and 35% within 2021.</li> </ul>				
<ul style="list-style-type: none"> <li>Heat management contract for properties in the Municipality of Modena: thermal energy consumption -30% in 2019 compared to historical consumption of the last 10 years.</li> </ul>				
<ul style="list-style-type: none"> <li>Continue to promote energy saving solutions for the public administration and industrial customers. Launch the offer «solar thermal system and thermal insulation» for condominiums.</li> </ul>	ER	T		
<ul style="list-style-type: none"> <li>Start the production of biomethane from organic waste at the Bologna biodigestion plant and design a further plant of energy recovery from methane decompression.</li> </ul>	ER			
<ul style="list-style-type: none"> <li>Start a new energy recovery plant from the decompression of methane, through the experimental installation of a medium-small sized turbo expander (330 electric kW) at a medium-sized R&amp;M station, with an estimated production of 1,600 MWh per year (annual consumption for about 600 families).</li> </ul>	ER			
<ul style="list-style-type: none"> <li>Reduce by 22% by 2021 the carbon footprint of energy production compared to 2015 (kg CO2/MWh)</li> </ul>	ER	T	M	

\* Geographic scope of the ER improvement objectives: Emilia-Romagna T: Triveneto M: Marche.

## Promotion of energy efficiency

### Scenario and policies

#### Why it is important

World energy consumption is steadily increasing with significant effects on greenhouse gas emissions and water consumption. Europe is the largest importer of energy in the world, in a context where fossil fuel prices (oil and natural gas) are volatile and rising. Setting up energy efficiency measures allows countries to increase their competitiveness and leads to growth in employment, as well as producing environmental benefits. Despite having achieved excellent energy efficiency results, Italy has a significant amount of old and inefficient residential and public buildings with high operation and maintenance costs.

**30%**

increase in global energy demand within 2040 based on the current scenario

**65%**

residential buildings in Italy over 40 years of age. They account for 28% of consumption

**4 billion**

tonnes of CO2 equivalent saved in Europe between 2000 and 2016 as a result of energy efficiency measures

**270 thousand**

direct jobs created on a yearly basis in Italy thanks to building restoration and energy redevelopment

**10%**

global water consumption due to electricity production

**70%**

energy import rate in Europe in 2030

#### Europe: energy efficiency goals and policies

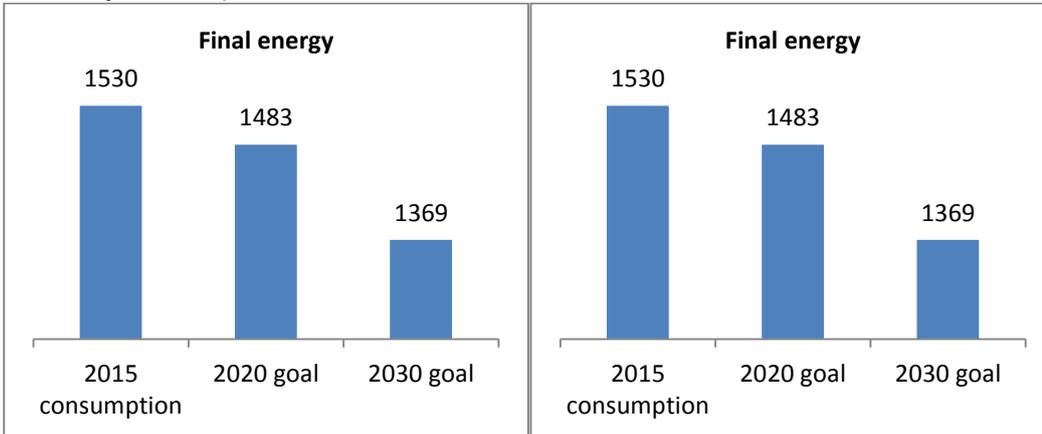
“Clean energy for all Europeans”, which was presented by the European Commission in 2016, addressed new measures to reduce energy consumption, such as increasing the energy consumption reduction target to 30%, extending the mandatory annual saving scheme and developing a roadmap for the renovation of buildings (which will be valid until 2050).

European targets for reducing energy compared to projections in the absence of new policies	20% on the basis of the scenario estimated in 2012 as at 2020	30% “Clean energy for all” 2016 as at 2030
---	---	---

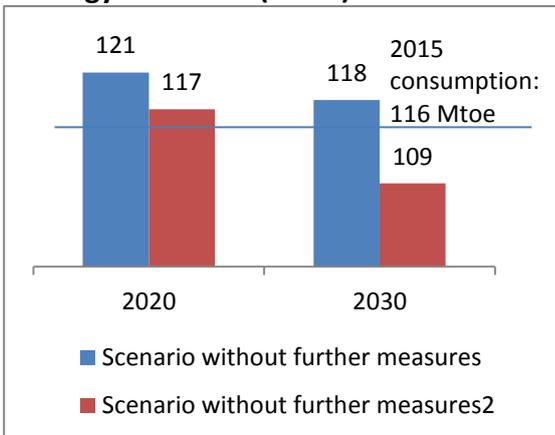
### Italy looks towards 2030

In 2017, Italy updated the National Energy Strategy, welcoming the proposal of the highly challenging target to reduce consumption by 30% in 2030. The goal is to promote energy saving measures in the most critical sectors (civil and transport), in order to reduce CO2 emissions and energy dependence, while ensuring security of supply.

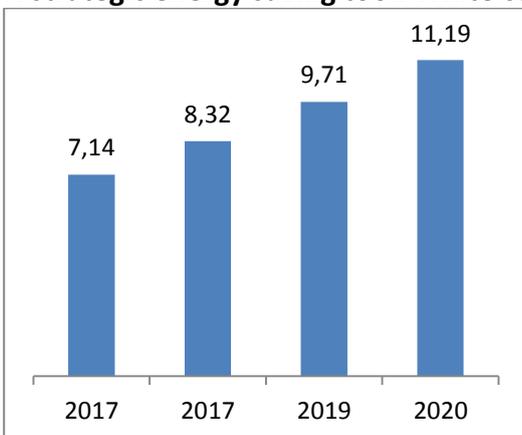
### Europe is on the road to achieving the 2020 and 2030 goals (figures in Mtoe, millions of tonnes of oil equivalent)



### Expected final energy consumption with and without application of the 2017 National Energy Strategy measures (Mtoe)



### A strategic energy saving tool: White certificates (yearly national saving targets in Mtoe)



## Primary energy consumption of the Hera Group

Hera's energy consumption reflects the multi-business nature of the Group.

The balanced portfolio of activities creates synergies that increase productivity in multiple sectors while limiting energy consumption. Hera manages cogeneration plants for **district heating** which produce thermal energy and electricity to sell to its clients, and **cogeneration plants**, mainly to satisfy internal consumption requirements. It also manages **waste-to-energy plants** that dispose of waste with subsequent energy recovery, **turboexpanders** that take advantage of pressure differentials in the natural gas distribution stations in the local managed networks, and the **recovery of low enthalpy geothermic heat** at the district heating plant in Ferrara. Furthermore, a part of the electricity produced by the Group's photovoltaic plants is used for self-consumption. Through a continuous series of measures, Hera pursues a policy aimed at **increasing the energy efficiency** in all of its activities.

### Primary energy consumption by type

Toe	2015	2016	2017
Energy consumption for production (natural gas, geothermal, biogas, others)	146,574	139,068	152,973
Waste-to-energy treatment	336,996	336,590	326,743
<i>Total energy consumed in electricity or thermal energy production plants</i>	<i>483,570</i>	<i>475,658</i>	<i>479,716</i>
Electricity excluding public lighting	89,520	86,462	105,743
Electricity for public lighting	26,221	32,336	31,255
Natural gas and other energy vectors for heating of premises	2,836	2,860	2,962
Fuel for vehicles	9,875	9,971	9,843
<i>Total energy consumed for uses other than the production of electricity or thermal energy</i>	<i>128,452</i>	<i>131,629</i>	<i>149,802</i>
<b>Total</b>	<b>612,022</b>	<b>607,286</b>	<b>629,518</b>

The data refer to energy consumption by Hera Spa, Acantho, AcegasApsAmga, Aliplast, Aresgas Group, Fea, Hera Comm, Herambiente, Hera Luce, Hera Servizi Energia (now AcegasApsAmga Servizi Energetici Spa), Hera Trading, HeraTech, Hestambiente, Inrete Distribuzione Energia, Marche Multiservizi, Marche Multiservizi Falconara, Medea, Sinergie, Uniflotte and Waste Recycling.

In 2017, primary energy consumption rose compared to the levels of the previous year (+3.6 %) due to the expansion of the company scope. Specifically, the entry of Aliplast led to an increase in overall electricity consumption, while the rise in consumption of methane and other fuels is linked to the entry into Hera's scope of activities of several EE production plants from landfills, previously owned by third parties (consumption of biogas from waste) and the entry of Aresgas into the company scope. The organisation's internal energy consumption, calculated according to the reporting standard used (GRI Sustainability Reporting Standards 2016) were estimated at 18,849 thousand GJ. They comprise the consumption of fuel from renewable sources (8,308 thousand GJ for biogas and waste, 51% renewable share) and non-renewable sources (13,235 thousand GJ for methane, diesel, LPG, waste, 49% non-renewable share and petrol), electricity consumption (2,661 thousand GJ), the production of renewable electricity, photovoltaic energy (7 thousand GJ) from which the electricity produced and introduced into the grid is deducted (4,028 thousand GJ) and the thermal energy produced (1,334 thousand GJ). Primary energy consumption is calculated based on data gathered mainly from measurements and on the basis of calculation and conversion methods defined for the application of the regulatory provisions relating to Italian Law 10/91 (MISE Circular of 18 December 2014). Energy consumption does not include: Amga Calore & Impianti Srl, Amga Energia & Servizi Srl, ASA Scpa, EnergiaBaseTrieste Srl, Feronia Srl, Gran Sasso Energie Srl, Hera Comm Marche Srl, Herambiente Servizi Industriali Srl, Sviluppo Ambiente Toscana Srl, and Tri-Generazione Srl, whose consumption is estimated at 0.5% of total energy consumption.

The Group's energy performance can be represented by a number of indicators that express the development and prospective targets and give a picture of the company's savings strategies. A comparison of energy consumption with certain production and operating indicators can provide consumption intensity indices that reflect the improvements achieved by efficiency measures and by corporate energy management.

### Intensity of primary energy consumption

	2015	2016	2017
Treatment: primary energy (toe)/volumes treated (millions of m3)	102.8	103.7	109.8
Drinking water treatment: primary energy (toe)/water fed into the water network (millions of m3)	83.8	81.0	86.4
District heating: primary energy consumption (toe)/thermal energy fed into the network (MWh)	182.8	178.6	166.4
Waste-to-energy plants: Primary energy (toe)/volumes treated (thousands of t)	25.5	26.7	27.0
Offices: primary energy (kWh)/office area (m2)	82.0	83.5	83.2
Heating at offices: primary energy (toe)/volume heated (days*m3/1,000)		1.20	1.12
Vehicles: primary energy (toe)/distance covered by the vehicles (millions of km)	157.0	161.7	157.4
Public lighting: primary energy (toe)/thousands of light points	80.1	76.5	69.2

The data refer to energy consumption by Hera Spa, AcegasApsAmga, Fea, Hera Luce, Herambiente, Marche Multiservizi, Uniflotte. Data refer to consumption of electricity, natural gas, diesel, petrol and LPG fuel and waste.

The purification energy efficiency index is rising as a result of the smaller volumes treated, due to energy consumption which is basically stable given the nature of the plants. The energy consumption of potable water treatment is increasing in a manner more than proportional to the volumes treated, leading to a deteriorating efficiency index. This consumption does not only depend on the volumes treated but also on other factors, such as the 2017 drought which made it necessary to use less energy-efficient sources. In the Emilia-Romagna area, energy consumption for the district heating service is falling while the thermal energy fed into the network is rising, with positive effects on the efficiency index. The figure is attributable firstly to the effects of the measures implemented in the waste to energy plants of Ferrara, which led to the increase of available thermal energy from waste combustion, which determined lower methane use at supplementary plants. The positive result is also the result of the network capacity optimisation measures started in 2016. The efficiency index for vehicles is again in line with 2015 values, after a brief peak in 2016, as commented in the section on Hera vehicles in Chapter 4, Air and soil protection. The public lighting index has improved, as a result of the energy efficiency measures described in the respective paragraph.

Natural gas is used by the waste-to-energy plants during start-up and shut-down and to support combustion if the calorific value of the waste being treated is low: the overall consumption of 2017, excluding Hestambiente and the Enomondo plant, was over 8 million m3. Compared with 2016, there was an increase in methane consumption by over 860,000 cubic metres against a 2% reduction in waste treated, leading to the worsening of the energy efficiency index. This increase is mainly due to an increase in methane consumption at the Ravenna, Forlì, Bologna and Ferrara plants, in part compensated by the decrease of consumption in the Ravenna incinerator and in the Modena waste-to-energy plant.

### Energy efficiency in the Hera Group

The Group's focus on energy efficiency is reflected by the **ISO 50001** certification for energy management systems for seven companies of the Group: Hera Spa, AcegasApsAmga, Marche Multiservizi, Hera Servizi

Energia (now AcegasApsAmga Servizi Energetici Spa), Sinergie and Hera Luce. In addition, Herambiente has achieved ISO 50001 certification for some of its plants.

The energy improvement plans of Hera Spa, AcegasApsAmga and Marche Multiservizi drawn up since 2014 as part of their energy management systems, envisaged achieving the aim to reduce energy consumption by 3% (compared to 2013 consumption) within 2017. Based on the positive results obtained, corresponding to a 3.6% reduction at the end of 2017, this target was increased to 5% by 2020.

The objective is calculated as the average of the objectives that Hera Spa, AcegasApsAmga and Marche Multiservizi have defined as part of their certification schemes. In particular, the objectives of Hera Spa and Marche Multiservizi are calculated using their 2013 consumption as baseline while AcegasApsAmga considers the average of 2013-2014 consumption.

Significant energy saving has presently been achieved in the water cycle, both as regards purification and potable water treatment. Important upgrading of efficiency has also been reached as regards district heating, where the measures mainly concern the optimisation of sources and effective utilisation of the most virtuous systems.

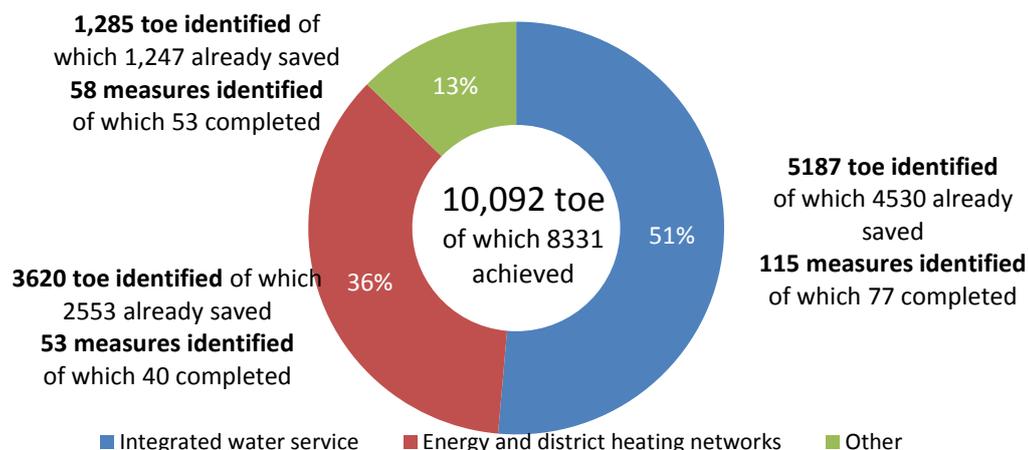
#### The energy improvement plans of Hera AcegasApsAmga and Marche Multiservizi (years 2014-2017)

Type of measure	Number of measures (implemented or to be implemented)	Savings per year due to measures implemented or to be implemented (toe)	Measures implemented as of 31 December 2017	Savings achieved at 31 December 2017 (toe)	Company
<b>Integrated water service</b>	115	5,187	77	4,530	H-A-M
<b>District heating</b>	42	2,876	35	1,972	H
<b>Energy networks</b>	11	744	5	581	H-A-M
<b>Vehicles and waste management services</b>	10	522	5	502	H-A-M
<b>Offices</b>	37	233	36	215	H-A-M
<b>Public lighting system</b>	11	530	12	530	A-M
<b>Total</b>	<b>226</b>	<b>10,092</b>	<b>170</b>	<b>8,331</b>	
	<i>4.6% of 2013 consumption (87% of the reduction target of 5% by 2020)</i>		<i>3.6% of 2013 consumption (120% of the reduction target of 3% by 2017)</i>		

The data refer to Hera Spa, AcegasApsAmga and Marche Multiservizi.

The 170 measures implemented by the end of 2017 saved over 8 thousand toe, equal to 3.6% of 2013 consumption, widely exceeding the target set for 2017. The 226 measures identified and that as at 31 December 2017 are included in the improvement plans of Hera Spa, AcegasApsAmga and Marche Multiservizi will reduce energy consumption by over 10 thousand toe, equal to 87% of the target set for 2020.

## Energy improvement plans of Hera Spa, AcegasApsAmga and Marche Multiservizi for 2014-2020: energy efficiency measures implemented and planned and corresponding savings



The data refer to Hera Spa, AcegasApsAmga and Marche Multiservizi.

The measures identified in the action plan are mainly focused on the water cycle where measures are planned amounting to 51% of energy saving.

### The energy efficiency measures of Herambiente, Hera Servizi Energia and Hera Luce

Type of measure	Number of measures implemented, in progress or planned	Expected annual savings (toe)	Of which measures implemented as of 31 December 2017	Of which annual savings achieved (toe)	Area
Work on waste-to-energy plants and landfills	19	877	6	153	BO,FI,RA,RN
Measures on condominiums and other buildings	12	619	2	293	FC,MO
Efficiency upgrading of public lighting systems;	35	4,806	18	1,368	BG,BO,BS,CR,FC,FR,MI,MO,PN,RA,RM,TE,TO,UD,VA,VB,VE
<b>Total</b>	<b>66</b>	<b>6,302</b>	<b>26</b>	<b>1,814</b>	

In addition to the initiatives of the Energy Improvement Plan, we must also consider 66 more energy efficiency measures implemented, in progress or planned (26 of which have already been completed) by Herambiente, Hera Servizi Energia and Hera Luce on waste disposal plants, condominiums or other buildings, and public lighting. These measures will save 6,302 annual toe (1,814 of which already achieved).

The mechanism of white certificates was created in Italy in 2005 as an incentive tool for energy efficiency and is based on Energy Efficiency Certificates to which an economic value is connected. These certificates are obtained as a result of measures that guarantee certified and measurable energy savings. The system envisages saving requirements for gas and electricity distributors, and assigns goals to be achieved each year. Italian Ministerial Decree of 11 January 2017 established national requirements for the 2017-2020 period and defined the criteria and procedures for implementing energy efficiency measures in the end uses eligible for the incentive. The requirements of the White Certificates to be cancelled are decreasing due to the above Ministerial Decree which, in defining the energy efficiency goals for the 2017-2020 period, deeply changed the system, removing among other things the "durability coefficient" (tau). The new practices, therefore, will generate fewer certificates, for a longer period. This led to a reshaping of the goals which were reduced starting from 2017.

## White certificate objectives

• Toe	2015	2016	2017
Gas distribution	372,795	447,630	313,670
Electricity distribution	54,774	69,557	32,183
<b>Total</b>	<b>427,569</b>	<b>517,187</b>	<b>345,853</b>

To contribute to the aforementioned obligations, the activities to procure White Certificates through energy efficiency initiatives at Group or partner company plants continued throughout 2017.

In 2017, Hera S.p.A. presented the Energy Services Manager with 6 energy efficiency metered baseline projects, as well as 3 activities with analytical or standard savings assessment sheets. All of these measures were developed in areas served by the Group.

The measures for increasing energy efficiency using White Certificates and involving Hera Group's plants include efficiency improvements for treatment plants, the implementation of innovative solutions for public lighting and decompression of natural gas. The projects developed in collaboration with companies belonging to the food sector are also particularly interesting. Many energy efficiency initiatives are also carried out with client companies/partners, to whom the Group offers its know-how: seven new agreements were signed with trade associations and local companies in 2017.

Hera's energy efficiency promotion activities continue both inside and outside the Group, on the one hand, by implementing and improving the ISO 50001 certified Energy Management System and, on the other, by taking part in events and conferences addressing the industrial sector.

To confirm the Group's commitment in this area, the report published in 2015 "Value for energy", entirely dedicated to energy efficiency and extended in 2016 to AcegasApsAmga and Marche Multiservizi, was submitted for the first time in 2017 to Dnv-GI for third-party auditing.

## Energy efficiency in public lighting

Three Hera Group companies - Hera Luce, AcegasApsAmga and Marche Multiservizi - manage around **519 thousand light points**, guaranteeing the proper operation of the public lighting service in **163 municipalities** in nine Regions: Emilia-Romagna, Umbria, Lombardy, Marche, Lazio, Tuscany, Piedmont, Veneto, Friuli Venezia Giulia and Abruzzo. It also manages traffic light installations in some areas for a total of **over 11,600 traffic lights**. Considering Hera Luce only, the number of light points managed in 2017 rose to 283 thousand (+1.6% compared to 2016).

Energy saving light bulbs (i.e. not mercury-vapour lamps which, according to the energy qualification system developed by Hera Luce on the basis of the Minimum Environmental Criteria, belong to class G) are used at 71% of the light points served, while LED lamps are used at 14%, doubling compared to 2016. Consumption optimization systems (reduction of brightness, partial shutdown, etc.) are used at 51% of the light points operated by Hera Luce.

During 2017, significant effort was made with regard to energy retrofitting and replacement with LED lamps, clearly visible in the growth in percentage terms, which also involved the already efficient sodium light points and explains the percentage reduction of low consumption lamps.

### Served light points and traffic lights

no.	2015*	2016	2017
<b>No. of municipalities served</b>	<b>152</b>	<b>153</b>	<b>163</b>
<b>Light points</b>	<b>435,662</b>	<b>514,901</b>	<b>518,659</b>
of which energy saving (%)	84%	78%	71%
of which LED	5%	7%	14%
of which with management systems for optimising consumption (reduction of brightness, partial switching off etc.) (%)	54%	54%	51%
<b>Traffic lights</b>	<b>9,554</b>	<b>10,371</b>	<b>11,634</b>
of which LED (%)	77%	71%	65%

\*Excluding Marche Multisevizi.

In 2017, the public lighting refurbishment works in the municipalities we serve, replacing incandescent lamps with LED lamps, determined a saving of about 1,300 toe on a yearly basis; energy saving measures are expected for 2018 for further 1,300 toe. In 2014, the Citylight system started operation. The system collects fault reports and data regarding Hera Luce Municipalities; at present, around 70% of the light points managed are visible in the network. The new tools made available for checking consumption (Citylight Energy Management Module) have been approved and are used on a daily basis. The platform is constantly evolving under the guidance of personnel appropriately trained on energy efficiency issues.

### Main energy saving measures implemented and planned by Hera Luce in 2017

Province	Number of municipalities	In progress (as at 31/12/2017)	Completed (as at 31/12/2017)	Planned (as at 31/12/2017)	Environmental benefits (energy savings in toe)	Of which achieved (as at 31/12/2017)
BG	5		4	1	203	175
BO	1		1		48	48
BS	2		2		111	111
CR	1	1			71	
FC	2		1	1	678	316
FR	1	1			290	
MI	1	1			389	
MO	4		4		236	236
PN	4	2	1	1	437	104
RA	1		1		2	2
RM	2		1	1	377	141
TE	6	1	1	4	1431	34
TO	1		1		139	139
UD	1			1	94	
VA	1		1		62	62
VB	1	1			38	
VE	1			1	200	
<b>Total</b>	<b>35</b>	<b>7</b>	<b>18</b>	<b>10</b>	<b>4,806</b>	<b>1,368</b>

Public lighting replacement activities in Modena were completed, with the aim to achieve cost savings without reducing the time public lighting is provided, to improve environmental performance and reduce emissions. In 2017, energy efficiency measures were carried out on the Modena 6-7-8-9 Lots as part of the efficiency project called "Modena Pensa LED", for a total of over 6,000 light points and estimated savings of over 1.5 million kWh, equal to about 330 toe.

The M'illumino di LED initiative was planned: a project to reduce Hera Group's energy consumption through energy efficiency measures for the facilities provided with outdoor lighting. The facilities of Bologna and Ravenna will be the first to be involved in the project.

Hera Luce continues the development activities related to various partnerships launched in previous years connected with:

- update of the minimum environmental criteria for public lighting (MEC PL) and definition of the new MEC Lighting Services, as member of the working group created by the Ministry for the Environment and for Protection of the Land and Sea;
- developing a lighting device performance monitoring system in line with the MEC criteria, together with the Ministry of the Environment and the Protection of the Sea;
- the development of models designed to provide local authorities with tools that enable them to understand the process of analysing and assessing energy efficiency activities, obtain information on the activities to undertake for a retrofitting programme, and attain an initial estimate of the costs of the actions and the benefits that can be obtained;
- analysis of new lighting technologies assessing costs/benefits and future development possibilities in association with various universities;
- the creation of projects designed to evolve public lighting towards the development of Smart Cities using public lighting infrastructure;
- development of a project regarding circular economy, with study of a practical case applied to a public lighting plant;

### **Energy efficiency services for the Public Administration, condominiums and companies**

Through its subsidiaries Hera Servizi Energia and AcegasApsAmga Servizi Energia, the Hera Group also operates actively in the energy efficiency sector providing a broad range of services. The company mainly targets apartment buildings, large industrial customers and public administration.

Hera Servizi Energia (HSE) offers condominiums with central heating, a temperature control and heat metering system that transparently and unequivocally identifies the consumption of each individual user. To respond to the needs of energy efficiency and to faithfully report real consumption, these systems must be designed with care and made suitable to existing systems which have generally been designed several years ago and are lacking of any supporting documentation.

As of the end of 2017, 401 condominiums had installed and regularly used our control system, thanks to the professionalism and experience of Hera Servizi Energia (+19% compared to 2016). The savings expected with this system are about 17% with respect to the energy for heating, and about 13% with respect to total gas consumption (used for heating and for domestic hot water).

In parallel to its individual heat metering business, Hera Servizi Energia is active in the field of replacement of old central heating boilers with high efficiency models, that combined with the temperature control systems, significantly reduce gas consumption for condominiums. These condominiums can also have complete heat management under the "Servizio Energia" contract arrangement. At the end of the year, 88 condominiums were using the Servizio Energia service and the savings estimated by its integrated measures are about 27% with respect to total gas consumption

In Friuli Venezia Giulia, the energy services company Amga Calore e Impianti (on 1 January 2018 it merged into AcegasApsAmga Servizi Energia ASE), which operates in the same sector as Hera Servizi Energia in the area of Udine and its province, had 67 condominiums that had installed and regularly used our control system as of the end of the year. The savings estimated by using this control system are about 16% with respect to total gas consumption.

Furthermore, during 2017, Amga Calore Impianti replaced 14 old thermoelectric power stations, 5 of which using diesel and 1 using low-sulphur fuel oil, with high efficiency boilers. The savings obtained using this production and control system are about 20% with respect to total gas consumption.

In the industrial cogeneration sector, Hera offers multi-year energy supply contracts through the development and management of electricity and thermal energy production plants dedicated to meeting all the energy needs of top customers. The main product sectors in which the energy service is particularly effective are plastics, food, pharmaceuticals, ceramics and large-scale services such as museums, shopping centres, spas and condominiums.

With cogeneration and tri-generation (production of electricity and thermal energy at the same plant plus cooling services) primary energy is saved with respect to traditional consumption, emissions are reduced, energy efficiency is increased and supply costs are reduced.

HSE and ASE offer a full range of all energy carriers, making it inexpensive and easy for the customers to manage. HSE and ASE identify, in terms of the customer's energy requirements, the characteristics of the technology plant, manage the preparation of all authorisation documents, operate and manage the plant.

At the end of 2017, 14 cogeneration plants run by HSE were operational, 3 of which are trigeneration plants.

The environmental benefits achieved in 2017 by these plants include 14,418 tonnes lower CO2 emissions and primary energy savings of approx. 6,162 toe.

### Energy saving commercial offers

In 2017, the commitment to environmental sustainability and energy efficiency grew further, confirmed also by the launch of commercial offers with added-value services that allow consumption monitoring and reduction for Hera Comm household and business customers:

- launch of the "Welcome Hera" offer, providing access to Hera Comm's free market and to all innovative solutions to get to know about consumption and consumption savings; Welcome Hera joins Nuova Idea Hera (over 150,000 customers joined the electricity service and about 136,000 customers joined the gas service in 2017 alone), Prezzo Netto and Giorno Hera.
- expansion of our portfolio of innovative solutions available to customers for containing and monitoring their consumption, such as "Hera ContaWatt" and the "Energy Management Portal"; these digital solutions use simple and user-friendly interfaces to allow real-time monitoring, even remotely.

The trend of subscriptions to the consumption analysis report doubled in 2017: a tangible sign that customers appreciate initiatives that can reduce environmental impact and increase energy consumption efficiency and related expenses. The support of smart energy efficiency tools strongly helped us to spread the new offers launched in 2017 which, in addition to Nuova Idea Hera mentioned above, include the Hera Thermo offer (which allows customers to use a smart thermostat to check their consumption, programme their boiler even remotely and view a consumption report) and Hera Caldo Smart (HSE's energy efficiency offer for condominiums).

<b>Contracts at the end of the year</b>	<b>2016</b>	<b>2017</b>
Contracts at the end of the year with energy efficiency services	58,237	161,947
<b>% Contracts at the end of the year with energy efficiency services out of total EE contracts</b>	<b>7.7%</b>	<b>18.7%</b>
Contracts at the end of the year with energy efficiency services	73,032	162,507
<b>% Contracts at the end of the year with energy efficiency services out of total gas contracts</b>	<b>6.3%</b>	<b>13.8%</b>
<b>% electricity and gas contracts with energy efficiency services.</b>	<b>6.8%</b>	<b>15.9%</b>

## Spreading renewable energy

### Scenario and policies

#### Why it is important

Fossil fuels are the most used sources for energy production and are also used for transport. They are responsible for 78% of greenhouse gas emissions, as well as being the major cause of air pollution. Despite the increasingly competitive costs for energy production from fossil fuels, renewable energy is spreading in a number of sectors with very satisfying results. The benefits are not only related to environmental impact but also to human health, economy and access to energy. Investing in research on technologies is key to supporting the diffusion of renewables, such as storage systems and smart grids.

**82%**

of global electricity generation comes from non-renewable sources

**33%**

of SO<sub>2</sub> (sulphur oxide) emissions are related to energy production

**2,300 billion**

dollars invested in fuel fossil projects, which are not in line with international goals

**2025**

year in which photovoltaic and wind energy will be cheaper than coal in Italy

**10%**

reduction of greenhouse gas emissions achieved in 2015 in Europe as a result of renewable energy

**3 million**

premature deaths/year due to the combustion of hydrocarbons

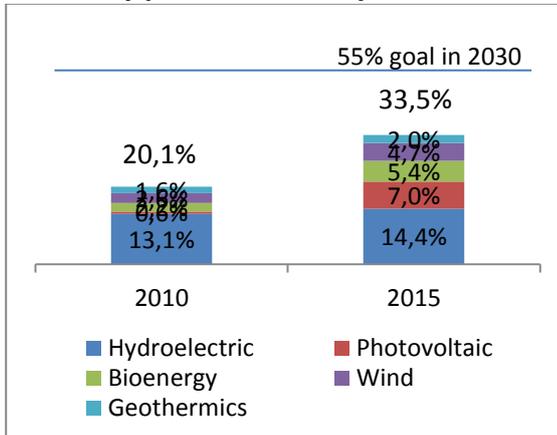
#### The new route of renewables in Italy and in Europe

In 2015, Europe was close to the 2020 goals and in Italy the situation was positive. The diffusion of renewables for the production of energy has indeed increased since 2010, especially in the electricity sector which, in 2015, was equal to a third of total production in Italy. Thermal renewables, including heat pumps and biomass representing almost all renewables for heating and cooling, were already in line with the 2020 goals. In the transport sector, in 2015, renewables recorded the highest share since 2010 in final consumption at European level. However, the 2020 goal for the transport sector, equal to 10% of total renewables, has not yet been achieved.

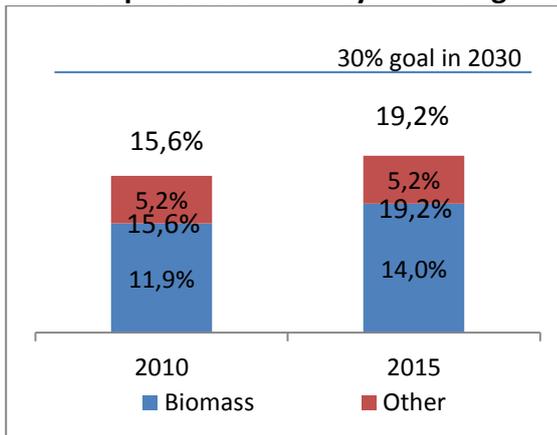
**Production of electricity and thermal energy: Europe close to the 2020 goal, whereas Italy has already reached it**

	2015	2020	2030	2050
Europe	16.7%	20%	27%	75%
Italy	17.5%	17%	27%	75%

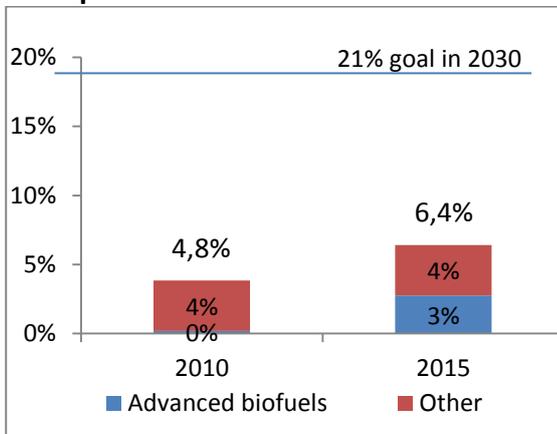
**Electricity produced in Italy: renewables take great steps forwards**



**Thermal production in Italy: investing in efficient and lower-emission systems**



**Transport sector: we need to invest more in renewables**



## Electricity and thermal energy production plants from renewable sources

Herambiente produces heat and power from **the combustion of waste** (considered a 51% biodegradable source), through ten waste-to-energy plants with a total installed electrical capacity of over 120 MW. Three of these waste-to-energy plants, moreover, recover thermal energy to supply **district heating** networks. The Ferrara district heating network, in addition to recovering heat from the waste-to-energy plant, also uses **geothermal** energy drawn from the wells in Casaglia which is, in fact, its main source.

Herambiente owns the **biodigesters** at Cà Baldacci (Rimini), Voltana di Lugo (Ravenna) and Cesena, each with a capacity of 1 MW. In addition, the biogas exploitation plants at 9 landfills are still active, as is the biomass plant managed in Faenza by Enomondo, 50% ownership of which is held by Herambiente.

The plants for recovering energy from **treatment sludge** (biogas) in Bologna, Cesena, Forlì and Savignano sul Rubicone (Forlì-Cesena) are also part of the integrated water system.

HeraSpa also operates four **turboexpanders**, located in Bologna, Forlì, Ravenna and Ferrara, which generate electricity by exploiting the gas pressure differentials in the distribution network.

Heraspa has a 10% equity investment in Aloe, the owner of 8 **photovoltaic solar facilities** in the provinces of Bologna, Ferrara, Ravenna, Brescia and Macerata, for a total capacity of 7.2 MW, and holds a 33% stake in Ghirlandina Solare, owner of a 1 MW solar photovoltaic plant in Marzaglia (Modena), on land belonging to the Modena municipality. The solar photovoltaic systems installed in Heraspa's offices and facilities of Bologna, Ferrara, Imola, Faenza, Cesena and Ravenna add a total of 150 kW besides those installed at the Herambiente plants of Mordano (BO), Voltana (RA), Coriano (RN), Pozzilli (IS), and Rimini add a further 1.7 MW. AcegasApsAmga operates three photovoltaic solar facilities with a total output exceeding 100 kW, a turboexpander that generates 2 MW, a natural gas cogenerator with a nominal electricity output of 500 kW and two biogas cogenerators installed at major treatment plants, that generate about 500 kW.

Lastly, of note is the new plant in S. Agata Bolognese for the production of energy from waste. The construction site was started in 2017. We expect to start the production of biomethane from the organic portion of separate waste collection by the end of 2018 (we estimate around 7.5 million m<sup>3</sup> of methane gas/year).

In addition to the above renewable energy production plants, Hera also runs plants that generate low environmental impact energy (with nominal fuel utilization factors over 80%); among these, the 85 MW cogeneration plant at Imola stands out, as well as other smaller cogeneration and tri-generation electricity plants, for an additional total installed capacity of 27 MW.

MW	2017	%
Renewable electric power	93	31%
Renewable electric power + cogeneration + turboexpanders	237	79%
<b>Total electric power</b>	<b>299</b>	<b>100%</b>
Renewable thermal power	85	9%
Renewable thermal power + cogeneration and turboexpanders	206	22%
<b>Total thermal power</b>	<b>919</b>	<b>100%</b>

## The production of electricity and thermal energy

The following table outlines the **net electricity production** of the Group's plants. The energy net of consumption required by production (auxiliary consumption) may not match that fed into the grid since a part of it may be used in other production processes.

## Net electricity generated

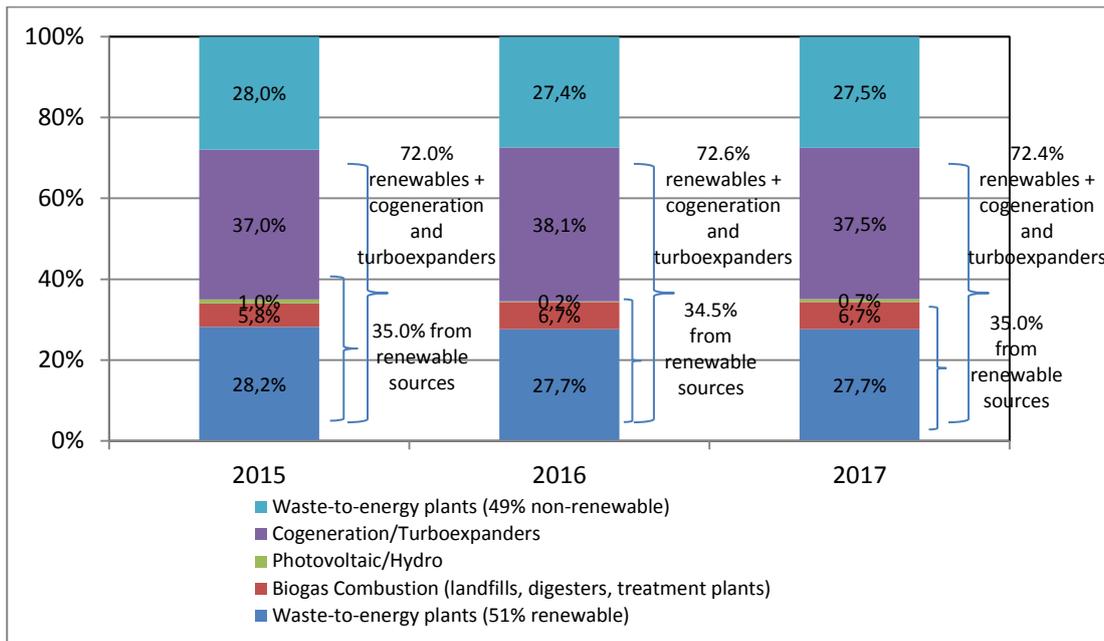
MWh	2015	2016	2017
Waste-to-energy plants (51% renewable)	401,565	382,420	367,638
Combustion of landfill biogas	33,075	32,807	50,527
Combustion of landfill biogas in third-party plants	22,281	32,728	12,280
Combustion of digester biogas	20,932	21,735	19,966
Combustion of treatment plant biogas	6,366	5,355	6,036
Solar photovoltaic energy	12,179	1,827	1,971
Hydroelectricity	1,523	706	0
<i>Total renewable sources</i>	<i>497,920</i>	<i>477,578</i>	<i>458,419</i>
Cogeneration	364,584	348,261	362,337
Cogeneration operated as a service	152,449	169,589	128,194
Turboexpanders	9,315	8,703	7,918
<i>Total cogeneration and turboexpansion</i>	<i>526,348</i>	<i>526,552</i>	<i>498,449</i>
Waste-to-energy plants (49% non-renewable)	397,788	378,715	365,283
<i>Total traditional sources</i>	<i>397,788</i>	<i>378,715</i>	<i>365,283</i>
<b>Total</b>	<b>1,422,056</b>	<b>1,382,845</b>	<b>1,322,151</b>

The production of **electricity from renewable sources** is equal to 458 Gwh (-4% compared to 2016) as a result of: (i) a decrease in waste-to-energy plants as a consequence of the lower amount of waste treated and of the greater thermal energy produced for district heating systems; (ii) a reduction in the production of biogas from digesters, mainly attributable to the composting plant in Cà Baldacci (RN); (ii) a physiological reduction in the production of biogas from decommissioned landfills.

The production of electricity from cogeneration in service dropped (-41,395 MWh) due to the exit from the company perimeter of 4 plants due to the end of the contract period, whereas the amount of energy produced by cogeneration plants increased (+14,076 MWh), particularly in the Imola plants and in the Bologna Barca plant (as a consequence of the works to upgrade it). Hydroelectric production is equal to zero in 2017, due to the sale of the Cavaticcio hydroelectric plant in Bologna.

Overall net electricity produced by the Group plants, therefore, fell by 4.4%, showing a virtually unchanged mix of renewable and non-renewable sources.

## Net electricity generated



Electricity produced from renewable sources is equal to 35% of total electricity in 2017, showing a stable situation compared with previous years. 37.5% derives from cogeneration and turbo-expansion, high energy efficiency systems. Together, the two categories represent 72.4% of electricity produced. The remaining production has a high level of environmental sustainability, as it is energy recovered from waste-to-energy transformation for the share exceeding 51%.

Incentives to generate electricity through green certificates are awarded to plants fuelled by renewable sources which started operating by 31 December 2012 and to cogeneration plants combined with district heating networks which started operating by 31 December 2009. In both cases the amount of incentive energy is not exactly equal to the electricity produced. In the first case, for plants that started operations after 2007, multiplication coefficients were introduced that take into account the technology of the plant: for example, if landfill biogas is used, the recognition awarded is calculated by multiplying the energy generated by 0.8. In the case of non-agricultural biomass with a short supply chain, the energy is multiplied by 1.3. In the second case, the incentive is proportional to the sale of cogenerated useful heat to district heating network users. Starting from 2016, any remaining right to the issue of green certificates has been converted into an incentive for the electricity produced, as required by Ministerial Decree of 6 July 2012.

For waste-derived electricity, the energy recognised for earning incentives, and to which the above-mentioned multiplication coefficients apply, is limited to the biodegradable portion, as it is considered as a renewable source by European and Italian regulations. Italian Ministerial Decree of 6 July 2012 defines the criteria for evaluating this portion on a flat rate basis, indicated as being equal to 51% in the case of waste-to-energy plants using urban waste downstream from separate waste collection. In calculating the share of energy produced from renewable sources a figure of 51% was considered for both electricity and thermal energy produced from waste-to-energy plants, applying the flat-rate criteria. This percentage was hypothetically applied to all waste disposed of in waste-to-energy plants (urban and special) and for all three years considered, in order to have consistent terms of comparison defined in accordance with the regulations in force. The one exception is the waste-to-energy plant for special waste in Ravenna, whose production, with a coefficient of biodegradability of nearly zero for treated special waste, is considered non-renewable, because it originates from industrial processes.

For cogeneration plants, Italian Ministerial Decree of 4 August 2011, implementing Italian Leg. Decree 20/2007, establishes the methods for calculating cogeneration production and the performance level the cogeneration process needs in order to qualify as high-performance cogeneration. The subsequent decree of the Ministry of Economic Development of 5 September 2011 determines a new support regime for cogeneration: this incentive is based on white certificates and is recognised by the Energy Services Manager, following recognition of the qualification of cogeneration, according to the actual primary energy savings.

The total installed electricity capacity of the Group's plants in 2017 is 299 MW, while their thermal capacity is 919 MW.

The Hera Group has equity investments in SET, Calenia Energia and Tamarete Energia, who operate three power stations respectively in Teverola (Caserta), Sparanise (Caserta) and Ortona (Chieti); these three combined-cycle plants (CCGT) provide excellent performance levels and better environmental compatibility than traditional oil- and coal-fuelled power stations. The electricity produced in 2017 by the above-mentioned companies in which the Group holds investments and which are operated by Hera was 1,078 GWh (+17% compared to 2016). In 2017, the carbon dioxide emissions from the three plants that amounted to 399 g/kWh (Teverola), 394 g/kWh (Sparanise) and 457 g/kWh (Tamarete) were in line with 2016 values; the nitric oxide released was 113 g/MWh (Teverola), 75 g/MWh (Sparanise) and 150 g/MWh (Tamarete), respectively, dropping compared to 2016. Enomondo (50% owned) which operates a biomass plant produced 70 GWh of electricity and 109 GWh of thermal energy (recording a rise in electricity and a fall in thermal energy) in 2017.

#### Thermal energy produced

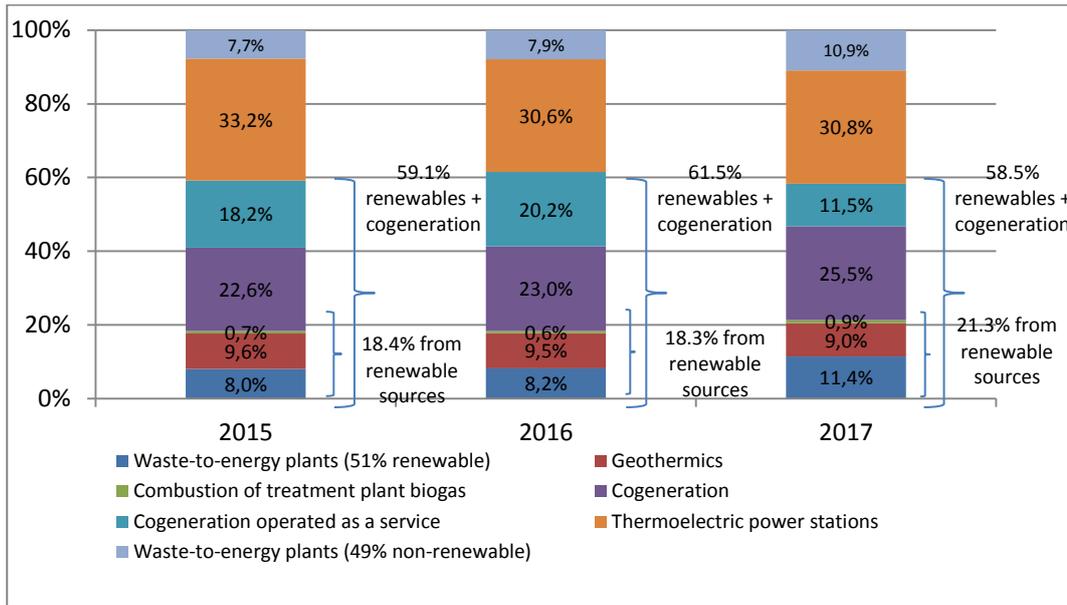
MWh	2015	2016	2017
Waste-to-energy plants (51% renewable)	61,054	62,463	79,783
Geothermal energy	73,253	71,733	63,535
Combustion of treatment plant biogas	5,593	4,294	5,985
<i>Total renewable sources</i>	139,900	138,490	149,304
Cogeneration	172,201	174,272	179,250
Cogeneration operated as a service	138,508	153,222	80,873
<i>Total cogeneration</i>	310,709	327,494	260,123
Thermoelectric power stations	252,584	231,607	216,055
Waste-to-energy plants (49% non-renewable)	58,660	60,013	76,655
<i>Total traditional sources</i>	311,244	291,620	292,710
<b>Total</b>	<b>761,853</b>	<b>757,604</b>	<b>702,136</b>

The **thermal energy produced from renewable sources** increased by 7.8% in 2017 as a result of: (i) the higher energy produced by waste to energy plants, especially in Ferrara (+58% from 2015) as a result of the improvement works carried out (with consequent improvement of the environmental profile, as described in the chapter Air and soil protection) ; (ii) the increase in the production of thermal energy from cogeneration of the biogas produced in the Group's treatment plants.

The share of energy produced decreased: (i) from cogeneration in service (-73,246 MWh), due to the exit of 4 plants from the company scope by the end of the contract period; (ii) from thermoelectric power stations (-15,552 MWh).

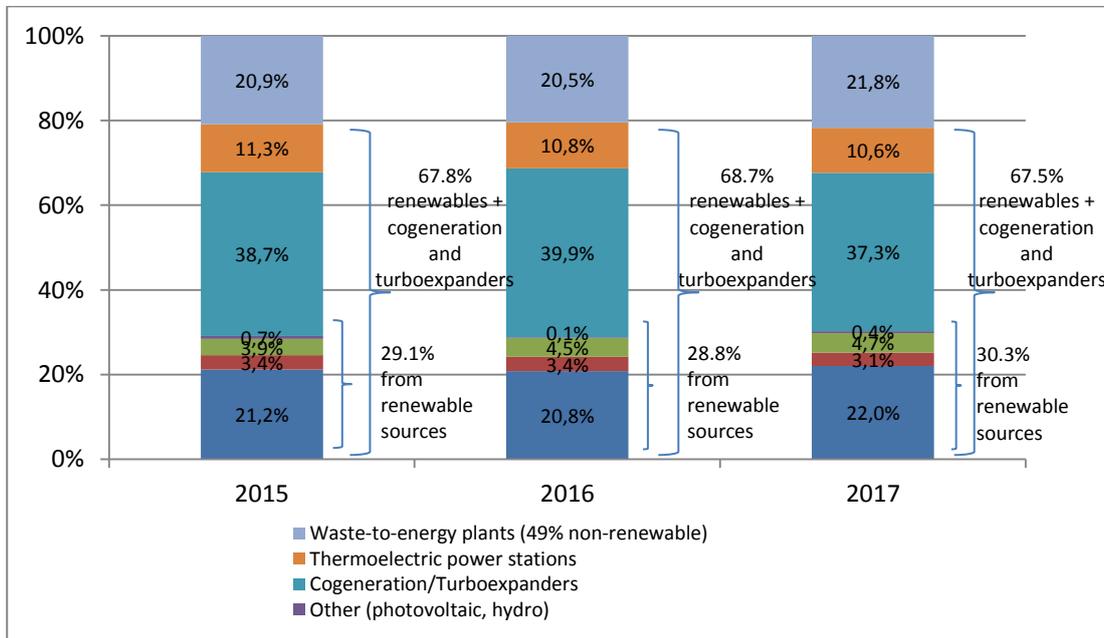
Overall net thermal energy produced by the Group plants, therefore, fell by 7.3% with a change in the mix in favour of energy from renewable sources, due to the above.

### Thermal energy produced



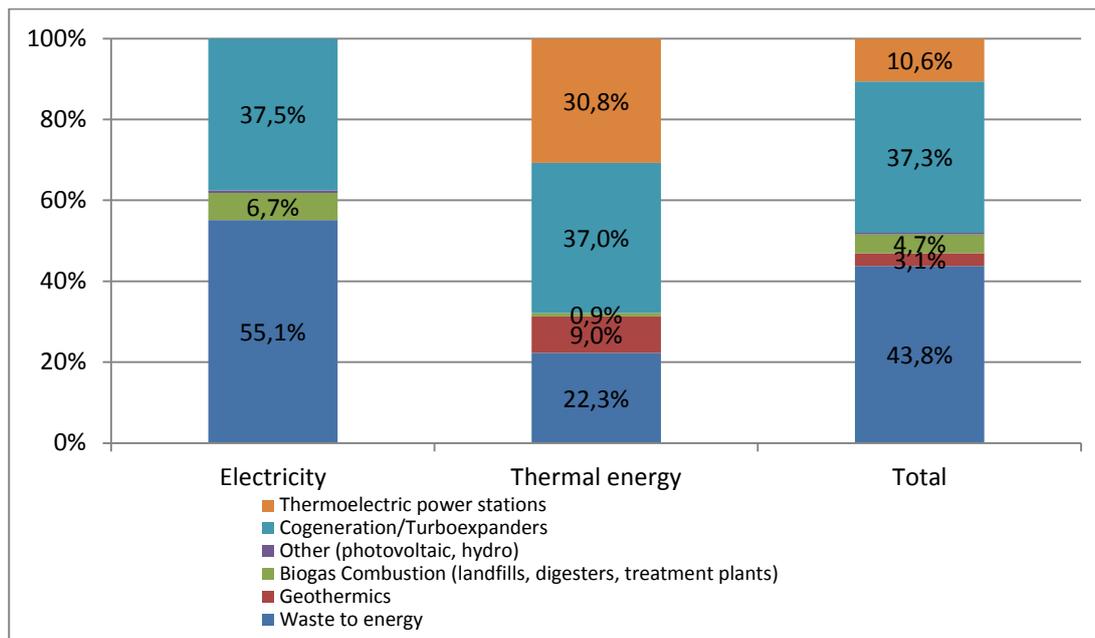
Thermal energy produced from renewable sources is equal to 21.3% of total thermal energy in 2017, rising compared with previous years. 37% derives from cogeneration, a high energy efficiency system. Together, the two categories represent 58.5% of electricity produced. 10.9% is energy recovered from waste-to-energy transformation for the share exceeding 51%.

### Total energy produced



The **total energy produced from renewable sources in 2017** came to 30.3%, higher than 2016 with regard to thermal energy as reported above. The share of energy produced from cogeneration and turboexpanders is equal to 37.5%. Together, the two categories represent 67.5% of total energy produced by the Group.

## Total energy produced



In coming years, there will be a further improvement in the Group's energy production sustainability profile, mainly due to:

- The start of construction in 2018 of an already mentioned plant to produce biomethane from organic waste, in Bologna;
- 8% increase within 2021 in the use of geothermal energy for the district heating system in Ferrara;
- increase by 23% by 2021 the carbon footprint of electricity production from landfill biogas (new plants);

Below is an outline of the environmental performance of the district heating projects financed or refinanced through the Green Bond issued in July 2014.

### The performance of the projects financed with Green Bonds

	Thermal energy produced (MWh)	Primary energy saved (toe)	Percentage of renewable and similar sources used
<b>Bologna Area</b>	167,919	7,150	52%
<b>Ferrara Area</b>	141,224	13,167	88%
<b>Forlì Area</b>	57,893	1,477	49%
<b>Imola-Faenza Area</b>	102,889	14,955	95%
<b>Modena Area</b>	26,479	850	40%

### Renewable energy commercial offers

Environmental sustainability is one of the pillars on which Hera Comm bases its commercial activity; the planning of new offers and solutions also revolve around this value. Customers that sign up for “Pacchetto Natura” support electricity production from renewable sources without incurring in additional costs, contribute to reduce paper consumption by using online billing, and are on the road less since they use direct debit to pay bills.

The number of customers that joined “Pacchetto Natura” increased by 35% from 2016 to 2017, showing their appreciation and greater attention towards options with low environmental impact.

Contracts at the end of the year with the “Pacchetto Natura” option (electricity) (No.)	2016	2017
<b>Contracts at the end of the year with the “Pacchetto Natura” option (electricity)</b>	55,761	75,277
% Contracts at the end of the year with the “Pacchetto Natura” option (EE) divided by total contracts (EE)	<b>7.4%</b>	<b>8.7%</b>

## Reduction of greenhouse gas emissions

### Scenario and policies

#### Why it is important

The increase in global average temperature leads to consequences such as the gradual rise in sea levels, the retreat of glaciers and snow cover, and extreme weather events (floods and droughts), with increasing frequency and intensity. The effects go well beyond what the eye can see, reaching issues relating to genes, individual species and entire ecosystems that regulate life on the planet. This affects our environmental conditions with consequences for entire economic sectors and with significant social repercussions including health and migration. If action is not taken, by the end of the century, global warming could exceed the 2°C threshold set as a target by Cop21 and referred to by the UN in the 2030 Agenda.

**+4°C**

the increase in temperature by the end of the century if decisive action is not taken to reduce global emissions

**1.6 milion**

deaths following climate disasters at International level between 1990 and 2013

**5.5 million**

people affected by flooding in Europe between 1980 and 2013

**38%**

of victims of natural catastrophes related to climate change in Europe are Italian

**82%**

of ecological processes that regulate life on the planet are affected by climate change

**€ 90 billion**

of costs for the company, related to floods in Europe

#### An ambitious goal for 2030

The international agreement reached in Paris in 2015 (Cop21) commits European states to continue their efforts to limit the increase in temperature to just 1.5°C and in any case to keep below 2°C at global level. Europe has already achieved its goal of reducing greenhouse gas emissions by 2020, with the industry and energy sectors contributing most. A 40% reduction target by 2030 has been confirmed. Italy is also well on track and the National Energy Strategy (2017) has brought the goal of reducing emissions in the non-ETS (Emission Trading Scheme) sectors to 33% by 2030.

Nonetheless, greater efforts are needed: according to the 2030 projections by the European Environment Agency (EEA), the 40% reduction target will not be reached by simply applying the measures currently envisaged.

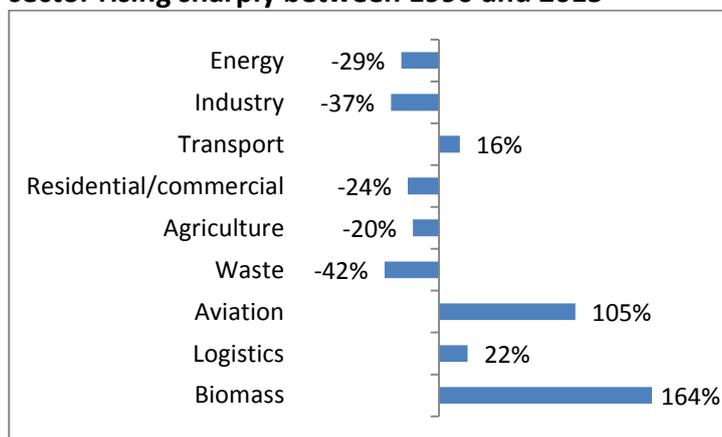
### Italy is lagging behind Europe, but close to the 2020 goal

	2015	2020	2030	2050
Europe	-23%	-20%	-40%	-85-90%
Italy	-19%	-21%	-40%	-85-90%

### The transport sector requires an even stronger effort

The transport sector alone accounts for almost a quarter of emissions at European level and more than half at Italian level. Eurostat and Istat data for 2015 show a significant increase in emissions compared to 1990 levels (+16% in Europe), due to a strong increase in the use of diesel. In 2016, the use of bicycles dropped at national level (-0.2%) and the use of public transport grew moderately (+0.7%) compared to 2012. The objectives of the Pon Città Metropolitane (2013) on the use of these means of transport – critical issues from a national viewpoint - seem to be even more challenging today.

### The sectors showing worse results: CO2 emissions from biomass and in the transport/aviation sector rising sharply between 1990 and 2015



## The commitment to reduce our greenhouse gas emissions

Fossil fuels contribute to climate change and reducing their use is therefore essential to limit the increase of the main and most common greenhouse gas: carbon dioxide.

The Group's commitment originates in the transparency and accountability of its actions and its commitment to fight climate change and continues throughout the many projects it has initiated to promote energy production from renewable sources, to reduce energy consumption and to provide its customers with opportunities to reduce their greenhouse gas emissions.

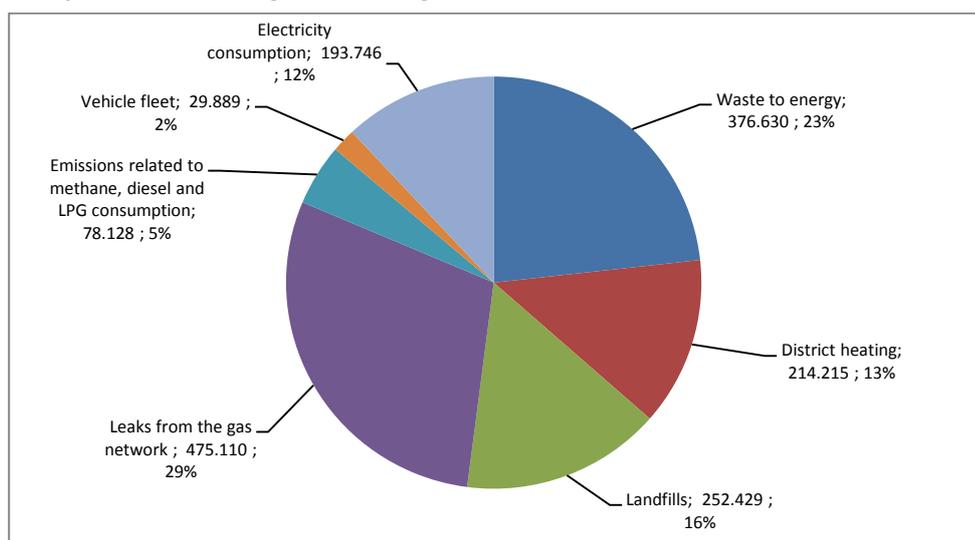
Since 2006, in fact, the Hera Group has been a member of the Carbon Disclosure Project (CDP), an independent not-for-profit organization that offers businesses and countries a way to measure, track, manage and share information about climate change and on the sustainable use of water resources on a global scale. Compliance with the CDP requires measuring and reporting all its performance and the initiatives it takes to reduce greenhouse gas emissions. In 2017, Hera achieved an A- level on an A-D scale, improving its previous year's results.

The Group's greenhouse gas emissions are mainly due to its plants (waste-to-energy and district heating plants), and to leaks from the gas network and from landfills.

### Total greenhouse gas emissions

	2015	2016	2017
Direct emissions (scope 1) (t CO <sub>2</sub> )	1,533,410	1,396,716	1,426,401
Indirect emissions from consumption of electricity (scope 2 market based) (t CO <sub>2</sub> )	268,909	295,393	193,746
<b>Total of scopes 1 and 2 (t CO<sub>2</sub>)</b>	<b>1,802,318</b>	<b>1,692,110</b>	<b>1,620,147</b>
<b>Carbon intensity index (t CO<sub>2</sub> emitted scope 1 and 2/EBITDA Euro mln)</b>	<b>2,038</b>	<b>1,845</b>	<b>1,645</b>
Indirect emissions from consumption of electricity (scope 2 market based) (t CO <sub>2</sub> )	205,430	210,855	245,542

### Composition of total greenhouse gas emissions



The following coefficients were used to estimate Scope 1 emissions: the DEFRA 2017 coefficients (expressed in CO<sub>2</sub>eq) for motor vehicle fuels (diesel, petrol, natural gas, LPG) and for emissions associated with diesel and LPG for other uses; the coefficient of the Ministry for the Environment (expressed in CO<sub>2</sub>) for methane gas. It should be noted that the emissions associated with diesel and LPG for other uses and methane gas for uses other than district heating and waste-to-energy plants were considered starting from 2017. Greenhouse gas emissions from landfills were estimated

considering the methane contained in the biogas given off by the landfill matter, plus carbon dioxide from the combustion of tapped biogas, from which the portion of biodegradable substances was removed; for waste-to-energy plants, the estimate was carried out by considering the carbon dioxide during combustion of the non-biodegradable portion of waste and of the other fuels used in the plant; the gas network losses were estimated and considered completely dispersed in the atmosphere - the GWP considered is 25 for methane and 298 for N<sub>2</sub>O, (4th Assessment Report IPCC). On the other hand, the NIR 2017 coefficients of ISPRA for the location-based method and the 2016 AIB European Residual Mix for the market-based method (expressed in CO<sub>2</sub>) were used to estimate electricity consumption emissions (Scope 2). The indicator does not include the Ravenna waste disposal plant for special waste and the Trieste trigeneration plant, whose emissions can be estimated at 3.5% of the total.

In 2017, the Hera Group released 1.6 million tonnes of carbon dioxide (-4% compared to 2016). Direct emissions (scope 1) amounted to 1.4 million tonnes, down 3.5% compared to 2016 at the same perimeter mainly due to (i) a reduction in greenhouse gas emissions from waste-to-energy plants (-9.3%) due to a reduction in the organic fraction of treated waste as a result of the increase in separate waste collection; (ii) a reduction in emissions from landfills (-6.5%), which was affected by lower landfill use and, to a greater extent in 2017, the upgrade of the biogas recovery system at the Il Pago (FI) landfill, resulting in lower methane emissions (-18,417 tonnes of greenhouse gases).

Emissions indirectly caused by electricity consumption (scope 2) amounted to 194,000 tonnes, a sharp decrease compared to 2016 (-34%), as a result of Hera Spa's decision to purchase electricity from renewable sources (43% of the Group's total consumption). This has allowed the Group to save about 146,000 tonnes of CO<sub>2</sub>, 10% of the Group's total compensating for the increase in electricity consumption following the entry of Aliplast into the corporate scope, as indicated in the paragraph "Promotion of energy efficiency".

As part of the ISO 50001 management system, 226 energy consumption reduction measures have been defined by Hera Spa, AcegasApsAmga and Marche Multiservizi, some of which have been implemented and some of which will be implemented by 2020, and which achieve an overall savings of over 10,092 toe/year (in line with the 2020 target of reducing consumption by 5% compared to 2013) and over 19,000 tonnes of CO<sub>2</sub> per year. In addition, 66 other energy efficiency improvement measures have been implemented, are in progress or are planned by Herambiente, Hera Servizi Energia and Hera Luce, for a total of 6,302 toe/year of overall savings, reaching approximately 12,000 tonnes of CO<sub>2</sub> per year.

The ratio between carbon dioxide emissions and the Group's gross operating margin shows a decrease compared to 2016 (-19%) mainly due to the reasons described above. The revenue ratio also shows a significant reduction in 2017, decreasing from 379 to 288 t of CO<sub>2</sub> per million Euro.

### The Carbon Footprint of Energy Production

	2015	2016	2017
Waste-to-energy plants (t)	438,874	415,350	376,630
District heating (t)	224,868	212,035	214,215
Landfills (t)	361,807	269,965	252,429
<b>Total (t)</b>	<b>1,025,549</b>	<b>897,351</b>	<b>843,274</b>
Electricity and thermal energy produced by plants (MWh)	1,633,868	1,583,247	1,599,165
<b>Carbon footprint for energy production (kg/MWh)</b>	<b>628</b>	<b>567</b>	<b>527</b>

DEFRA coefficients were used to estimate vehicle emissions, and the Ispra coefficients were used to estimate electricity consumption emissions.

Considering the emissions produced by the electricity and thermal energy plants shown in the table, the carbon footprint of our energy production in 2017 was 527 kg/MWh, 7.0% lower than it was in 2016, due to the lower emissions of waste-to-energy plants and landfills, as described above. The measures carried out and planned by the Hera Group will enable us to further reduce the carbon footprint of our energy

production in the years to come. By 2021, we expect to decrease the carbon footprint of our energy production by 22% (484 kg of CO<sub>2</sub>/MWh) compared to 2015 by building two new landfill biogas power plants, a plant to produce bio-methane from organic waste and by further decreasing the use of landfills to treat municipal waste.

The EU-ETS (European Union Emission Trading System) sets a cap on the total level of emissions allowed to all participants in the scheme, but it also allows them to trade emission quotas on the market according to their needs and within the set limits. The Hera Group has 9 plants that are authorized to emit greenhouse gases on the basis of Emissions Trading regulations, for a total installed furnace power of 520 MW. The carbon dioxide emissions recorded in 2017 at these plants amounted to approximately 178,000 tonnes, up 6% compared to 168,000 in 2016, due to weather differences and greater use of the Casalegno Imola plant. For all the plants concerned, the maximum emissions limit set for 2017 is 42,457 tonnes, in line with the previous year thanks to the new rights acquired by the Cogen Barca plant, thanks to the new plant layout, which partly offset the planned drop envisaged by the regulatory system. The free quota allocation amounted to 24,070 tonnes.

In 2017, emissions classified as scope 3 were calculated for the first time, i.e. indirect greenhouse gas emissions that occur as a result of the company's activities, but from sources that are not owned or directly controlled by the organization. This category may include both activities upstream and downstream of the business perimeter, such as the extraction and production of purchased raw materials or emissions related to the use-phase of products sold. The total emissions of the categories considered in the calculation amounted to more than 19 million tonnes, a value ten times higher than that of the Group's total direct and indirect emissions (scopes 1 and 2). The highest values are related to the sale of electricity and gas (16.5 million tonnes) and to the production of electricity by associated companies (1.6 million tonnes).

#### **Greenhouse gas emissions avoided (thousands of tonnes)**

	<b>2016</b>	<b>2017</b>
Energy production from renewable sources	243.5	240.8
White certificates	763.4	496.2
Internal energy efficiency measures	12.1	19.3
District heating	129.2	125.7
Separate waste collection	205.3	209.4
Electricity from renewable sources sold	1,234.0	867.7
<b>Total</b>	<b>2,587.4</b>	<b>1,959.1</b>

Considering the emissions avoided by the production of energy from renewable sources, energy saving initiatives, district heating, separate waste collection and the sale of electricity produced from renewable sources to customers, total greenhouse gas emissions avoided in 2017 amounted to 2.0 million tonnes. This amount includes 144,000 tonnes of emissions avoided thanks to Hera Spa's purchase of entirely renewable energy, starting in 2017. Comparing this value to the number of inhabitants served by the Group, 446 kg of greenhouse gases per person were avoided by Hera's activities. The decrease in greenhouse gas emissions avoided by the sale of electricity from renewable sources is almost entirely due to the change in the composition value of the national complementary energy mix (GSE data) which in 2015 had a 27% share of renewables while in 2016 this value fell to 16%.

#### **The commitment to reduce our customers' carbon footprint**

We implemented many activities to help our customers reduce their emissions by using better tools to control their consumption or by implementing energy saving measures.

In 2017, we launched two innovative commercial offers and tools for our customers: Welcome Hera, Hera ContaWatt, Hera Led and Led Business. In addition, the energy management portal was launched for

companies with electricity consumption of over 50 MWh and 10,000 SCM. All offers and tools are described in the case studies at the end of this chapter.

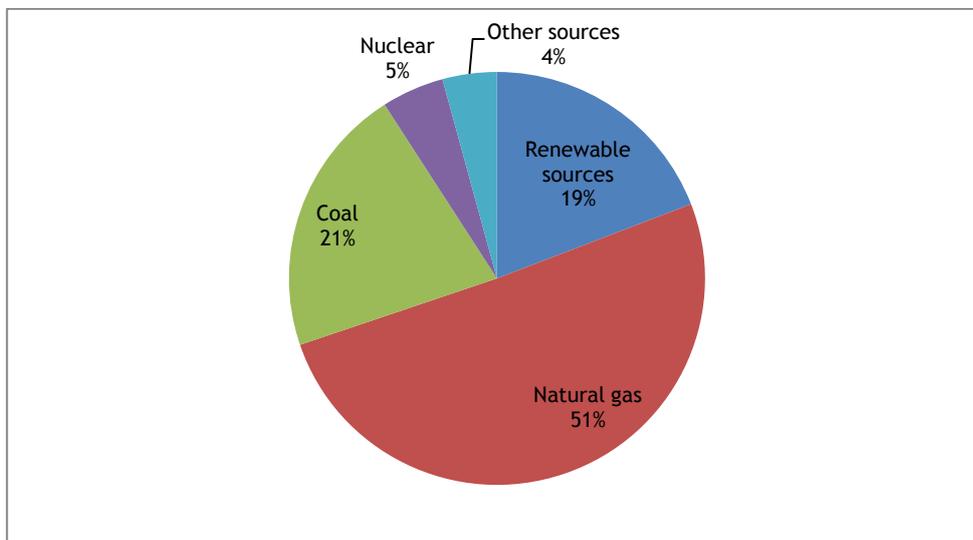
The Hera Group also, via its subsidiaries Hera Servizi Energia and Amga Calore Impianti works actively in energy efficiency improvement services, mainly addressing condominiums (who are offered a system that provides individual metering of the heat and energy service), to large industrial customers (for which it operates as an ESCO) and the public administration (heat management with renovation of thermal plants and buildings).

In particular, in the industrial cogeneration sector, Hera offers multi-year energy supply contracts through the development and management of electricity and thermal energy production plants dedicated to meeting all the energy needs of top customers (14 plants operated and over 14,000 tonnes of CO<sub>2</sub> avoided in 2017).

In collaboration with external partners, the Hera team provides its own know-how to support energy diagnosis and implementation of measures. As reported in the third edition of our "Value to energy" report on energy efficiency, Hera has supported the creation of 447 projects (from 2007 to 2018) of which 130 at companies in the area it serves, that saved 52,509 toe, 740,000 toe equal to the annual electricity consumption of about 519,000 households and 1.7 million tonnes of CO<sub>2</sub> avoided.

In 2016, 19% of the electricity sold by Hera Comm on the free market came from renewable sources, a significant reduction due to lower production due to different seasonal factors of electricity from hydroelectric sources, and for the remainder, mainly from natural gas and coal. In addition, more than 75,000 customers (8.7% of the total) have signed up for a free market offer called "Pacchetto natura" [Nature Package] which guarantees that the electricity consumed comes from renewable sources.

### Composition of the electricity sold by Hera Comm (2016)



### Case study

#### Promotion of energy efficiency

*“Welcome to Hera”: we offer you the initial consumption of electricity and gas*

Welcome Hera is the electricity and gas offer launched in autumn 2017 that keeps the price of the energy component and the wholesale gas marketing fee fixed for 12 months. The offer also includes an initial bonus of 200 kWh of energy component at no cost and 100 SCM of gas marketing fee at no cost. Thanks to this offer, it is also possible to activate the Hera Fast Check Up services free of charge, which provide personalized advice for an increasingly efficient use of energy, and a consumption analysis, which monitors

consumption over time in relation to weather, and compared to similar households, as well as access to the My Hera app.

*"Hera ContaWatt": keep your electricity consumption under control*

Hera ContaWatt is an innovative solution that helps residential and business customers monitor their electricity consumption: the easy-to-install device connects to the electricity meter via a sensor and makes it possible, using a dedicated app, to check electricity consumption from smartphones, tablets or PCs. A summary with consumption details is also sent by email every week. The ContaWatt independently connects to a data transfer platform, can send real-time anomaly alerts in the app or via email and can be installed without the support of experienced personnel. This innovative tool has already attracted quite a bit of interest, so much so that in the last two months of 2017 alone over 400 units were sold.

*"Hera LED and LED Business" support saving and environmental sustainability*

"Hera LED" is an offer under which Hera Comm's free market residential customers can buy one or two kits of light bulbs, choosing from a range of 6 models among the most used in homes, with a 30% discount on their market value. The highly successful initiative, with over 6,000 light bulb kits purchased by customers in 2017, has also been extended to business customers.

Hera Led Business offers the following benefits:

- class A+ bulbs, to reduce electricity consumption;
- quality products with low environmental impact and a 24-month warranty;
- modular kits made up of 22 different models to choose from according to needs (shape, power, screw pitch and light colour);
- optionally, payment in 24 instalments directly in the electricity bill.

*"Energy management portal" to monitor corporate energy consumption*

An energy management portal integrated into our on-line services was launched in 2017 for companies with electricity consumption of over 50 MWh and 10,000 SCM, to help them keep all their energy consumption under control.

The Portal allows customers to:

- view the energy consumption of multiple sites, using pre-configured charts and tables that simply guide customers to understanding their energy needs;
- be informed, through specific alerts, if their systems malfunction (e.g. consumption peaks);
- identify any inefficiencies.

*The "Hera District Heating" offer*

In 2017, the Hera Group launched Hera Condominium District Heating, an offer for centrally managed condominiums, with a simpler price of heating and new services included, specifically designed for condominiums. The services included are:

- Hera Led, which provides replacement of failed condominium bulbs with new LED bulbs, by a company specializing in services for condominiums;
- Legal expenses insurance, provided by a leading insurance company, that covers the condominium as legal entity and the serving property manager, in case of a range of disputes and lawsuits, administrative and contractual litigation, including actions to recover condominium expenses from tenants in arrears;
- Cleaning the heat exchanger also on the customer's side and topping up the water in the customer's internal circuit, which Hera undertakes to supply, upon appointment, to property managers who request it.

In addition, each property manager will be sent a periodic report containing a summary of the bills of all the condominiums it manages that use district heating and that have subscribed to the offer: a way to have the situation under control, and an additional tool to feed their management systems quickly and easily.

All the services described are included in the terms and conditions of the offer and, therefore, are free of charge for customers who subscribe to the Hera Condominium District Heating offer. The supply price has also been considerably simplified compared to the structure of Hera's residential binomial tariff, since it is a "single" heating price, updated quarterly according to the trend of gas prices, but not broken down by "consumption brackets". An annual payment called a "service fee", that depends on the power level committed to by the customer and which includes the meter rental is added to this price and applied to the heating actually consumed. It is a very simple pricing structure, designed to be easier to understand and to read for the customer.

The offer is addressed to all centralized residential condominiums, which use heat for heating, domestic hot water, or both, and can be activated by both condominiums that currently have Hera's "binomial" rate and by new customers.

The requalification of public lighting services

In 2017 work continued in the **Municipality of Ceccano** (FR), where about 2000 light points have already been renovated, out of the more than 3500 planned. The works to make the plants compliant and to ensure they are safe include, among other things, the replacement of sections of the electrical line, for a total of over 4 km. The traffic lights will also be equipped with LED lamps. Particular attention is paid to the old city centre, where the planned installation of artistic lanterns has been completed to further enhance this special part of town. We expect to complete the planned upgrades by early 2018.

We expected savings of over 70% compared to the initial state of the systems, which means about 290 toe years, and a reduction of about 625 tonnes/year of CO<sub>2</sub> emissions.

In the **Municipality of Cesena** (FC), the requalification project concerns 4880 light points. The current annual consumption of the lamps is 2,350,000 kWh. In particular, all the vapour and mercury lighting fixtures and some high-pressure sodium lighting fixtures, which are no longer efficient in the lighting field, will be replaced by new LED lighting fixtures. Once the efficiency improvement works have been completed, the Municipality will be able to count on an average energy saving of 72% compared to the initial system, equivalent to 316 toe per year and a system that will avoid discharging into the atmosphere 682 tonnes of CO<sub>2</sub>/year.

In 2017 Hera Luce was also awarded a contract for the works to improve the energy efficiency of the systems of the **municipalities of Pradalunga** (BG) and **Veiano** (VT). We expect savings of 110 toe, reducing CO<sub>2</sub> emissions by about 100 tonnes/year.

In 2017, energy retrofitting works were also carried out in over **20 municipalities** in the areas served by **AcegasApsAmga**, which led to the replacement of 20,144 lighting fixtures. The savings on electricity consumption are equivalent to about 1,120 toe per year, and a reduction in CO<sub>2</sub> emissions of 2,418 tonnes per year.

*New heat management contract in Modena with energy efficiency objectives*

The Contract entered into by the Hera Group and the Municipality of Modena is an important example of an Energy Performance Contract (EPC), awarded to the Group as a result of a European Public Tender, competing with some of the most important companies in the industry.

In particular, the Hera Group, which partnered in the tender with Sinergie Spa (now AcegasApsAmga Servizi Energetici) committed to provide to the Municipality significant results in terms of energy efficiency improvement, to be achieved through both management improvements and energy requalification measures.

In particular, Hera Group's offer included a 18% reduction of thermal energy consumption compared to the past consumption (based on the average of the last 5 years) for the buildings included in the scope of the

contract, and also was to improve this performance by a further 10% due to energy efficiency improvement measures, which will involve, in the first years of the contract, investments of Euro 7 million.

From the systems engineering point of view the most significant investments concern energy-saving measures for the thermal power plants, the installation of thermostatic valves on the radiators, the replacement of burners, the creation of solar thermal and photovoltaic systems, the renovation of lighting systems by installing LED lamps.

"Passive" measures to limit heat dispersion in buildings also play an important role, including the creation of vertical insulation in 12 buildings and the insulation of the roofs of 10 others.

### *Third edition of "Value to Energy": all-round energy saving solutions*

In 2017, we published the third edition of our "Value to Energy" report, dedicated to energy efficiency. The scope of the data it contains includes AcegasApsAmga and Marche Multiservizi. The third issue of Value to Energy reported information relating to energy management at Group level, highlighting the results achieved in terms of energy efficiency improvement, some of the most representative indicators of the field in which the Group does business, and our current objectives and projects to reduce energy consumption.

In this edition of the report, the graphics have been completely revised to more clearly show the Group's commitment to energy efficiency. This commitment includes 447 projects (from 2007 to 2018), 130 of which involved local companies with the support of the Hera Group, for a saving of 740,000 toe, equal to the annual energy consumption of approximately 519,000 households and 1.7 million tonnes of CO<sub>2</sub> avoided.

The six paragraphs of the report contain information on energy management within the Group and the main projects implemented in that context.

## **Spreading renewable energy**

### *"Pacchetto Natura": our commitment to sustainability*

Families that sign up for the nature package option, provided on all of Hera Comm's free market rate plans, support electricity generation from renewable sources without incurring additional costs, contribute to reduce paper consumption by using electronic billing, and are on the road less since they use direct debit to pay bills. Pacchetto Natura has been chosen by about 75,000 customers (8.7% of all of Hera Comm's customers).

### *Biomethane from waste*

From organic waste to biomethane that can directly reach homes after being fed into distribution networks. The project consists in producing methane from renewable sources, specifically by anaerobically biodegrading the organic fraction of separated waste, to be done at the Sant'Agata Bolognese composting plant.

Hera has already been producing biogas for years, using biodigesters and landfills, to produce electricity; the next big step is to refine it to make biomethane like the gas that flows in household pipes. And this system is an initial embodiment that will use the organic fraction of the separated municipal waste as raw material to obtain biomethane and will also become fuel for methane-powered vehicles for local public transport.

The process begins with a semi-dry, continuous flow anaerobic biodigester where the organic waste is anaerobically digested, producing biogas and the digestate. The digestate is then sent to the subsequent composting step that comprises oxidation and final screening, to obtain high quality compost. The biogas is sent to an upgrading section to remove undesired components and obtain methane gas that it meets the specifications to make it suitable for being fed into the network. This process is the foundation of a perfect

circular economy in which food waste makes natural gas that can be used to cook more food or possibly be used for heating and for vehicles.

The biodigester will be able to process 100,000 tonnes per year of organic waste and 35,000 tonnes of green waste from separated waste collection, and starting in 2018 it will produce about 7.5 million m<sup>3</sup> per year of biomethane and about 20,000 tonnes of compost. The total investment is expected to be just under Euro 30 million.

The construction phase of the plant started in March 2017 and is progressing rapidly. The plant is therefore expected to start up and feed the first biomethane into the grid by the end of 2018.

The project was included among best practices in the SDG Industry Matrix report published by the Global Compact and KPMG in 2017, which reports the business opportunities linked to the Sustainability Development Goals of the UN Agenda.

#### *Biorefinery 2.0 to produce biomethane from pruning material*

Hera started targeted research to analyse the technologies to produce advanced biofuels obtained by processing mowing and pruning material collected in the area. These waste materials are currently used in composting processes or are used for energy recovery but in the future, they could be used to produce bioethanol and biomethane. Both of these fuels can be considered advanced because they are produced from waste materials and not from dedicated energy crops which use land which can potentially be used for human food or animal feed. To be able to obtain these fuels from ligno-cellulosic waste, pretreatments are required, such as steam explosion (a particular thermal treatment with high pressure steam) that makes the material readily degradable by bacteria, enzymes or yeasts, in anaerobic digestion processes or alcoholic fermentation.

The positive results of the tests carried out in 2017 have reinforced the possibility of the production of biomethane from mowing waste, while the idea of production of ethanol has been discarded due to the low yield. Two continuous anaerobic digestion tests will be conducted in 2018, which will provide the necessary confirmation of the feasibility of biomethane production and the technical and economic feasibility of a full-scale plant to be built in the future.

#### *Since 2017 Hera has been using only renewable energy*

The Hera Group has decided to accept a new challenge which, in line with the EU objectives and the UN's 2030 Agenda, adds to the important efforts it is already making in the field of energy efficiency. Starting in 2017, only energy from renewable sources has been used for Hera Spa's operations in Emilia-Romagna. The decision places the Hera Group among the leaders in Italy in terms of saving energy resources and fighting climate change, able to anticipate and exceed the guidelines set by the National Energy Strategy, by the "Climate-Energy Package" and by the 2030 Agenda for sustainable development.

The activities that Hera Spa manages in Emilia-Romagna (waste management, energy and water) determine an annual total consumption of about 315 GWh, equivalent to that of 117,000 families or 85,000 petrol fuelled cars, about 90% related to the water cycle business. This consumption determines the emission of 146,000 tonnes of CO<sub>2</sub>.

From 2018 also Marche Multiservizi and AcegasApsAmga plan to use only renewable energy.

#### *Energy recovery from methane decompression with General Electric*

The project involves the exclusive development, construction and installation of an experimental system, based on a patented technology, to recovery energy from the pressure drop in regulation and measuring stations. It is a small to medium sized turbo expander (330 kW electric) installed in the medium sized regulation and measuring stations, in combination with a heat pump that uses CO<sub>2</sub> as a heat carrier fluid, designed to use part of the electrical energy to preheat the gas used in the process.

A contract was signed with the General Electric Group for prototype testing of the system and in 2017 the design of the prototype and the complementary works necessary for its installation in the "Ducati" regulation and measuring station in Bologna were completed. Authorization activities and the construction of the machinery were started, and installation is scheduled for spring of 2018.

## **Reduction of greenhouse gas emissions**

### *Hera improves its position in the CDP (Carbon Disclosure Project)*

Since 2006 the Hera Group has been a part of the Carbon Disclosure Project (CDP), an independent not-for-profit organization that offers businesses and countries a way to measure, track, manage and globally share information about climate and water change.

This initiative, which currently holds the largest international database of information on climate change management policies, aims to raise awareness on the issues of greenhouse gas reduction, by analysing the risks and opportunities related to it. This awareness is increased by filling out a questionnaire to report and measure all the actions and initiatives carried out to reduce CO<sub>2</sub> emissions.

In 2017, Hera's questionnaire scored A- on an A-D scale, improving its position compared to the previous year.

## Efficient use of resources

### The objectives and the results

What we said we would do	What we have done	Scope		
<ul style="list-style-type: none"> <li>Extend quantity-based tariffs for municipal waste to 9% of residents in Emilia-Romagna. Complete the extension to all the municipalities served, by 2021.</li> </ul>	<ul style="list-style-type: none"> <li>Since 1 January 2018, the quantity-based tariff was extended to 5 more municipalities (including Ferrara) in addition to the 2 municipalities currently served, for a total of 9% of the residents of Emilia-Romagna served by Hera.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Increase the recycling rate to 57% by 2020 and the recycling rate of packaging to 74%</li> </ul>	<ul style="list-style-type: none"> <li>The recycling rate was 48% (compared to 47% in 2015), while the packaging recycling rate was 68% (compared to 64% in 2015).</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue limiting the use of landfills: 7% of municipal waste in 2017 and 6% in 2020</li> </ul>	<ul style="list-style-type: none"> <li>Continue limiting the use of landfills: 7% of municipal waste in 2017 at Hera Group level</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue limiting the use of landfills:               <ul style="list-style-type: none"> <li>- design a mechanical biological treatment plant in Pesaro</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Continue limiting the use of landfills:               <ul style="list-style-type: none"> <li>- the preliminary design phase has been launched and the final design phase is planned for 2018.</li> </ul> </li> </ul>			M
<ul style="list-style-type: none"> <li>Continue limiting the use of landfills:               <ul style="list-style-type: none"> <li>- building a glass pre-treatment plant in Rimini</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Continue limiting the use of landfills:               <ul style="list-style-type: none"> <li>- authorization was obtained for the glass pre-treatment plant in Rimini, which will be completed in 2018.</li> </ul> </li> </ul>	ER		
<ul style="list-style-type: none"> <li>Complement the waste management offer for industrial customers with solutions in the circular economy and increase the recovery rate of industrial waste.</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, HASI handled over 558,000 tonnes of industrial waste, of which 31% was sent for material or energy recovery (25% in 2016).</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Increase separate waste collection: 58% in 2017 and 66% by 2020 at Group level</li> </ul>	<ul style="list-style-type: none"> <li>Separate waste collection at Group level was 57.7% in 2017</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Launch a campaign to improve the quality of collected plastic</li> </ul>	<ul style="list-style-type: none"> <li>The campaign involved all residents in the first six months of the year.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Extend the "Il rifiutologo" app to Marche Multiservizi adding an environmental reporting function</li> </ul>	<ul style="list-style-type: none"> <li>The "Il rifiutologo" app is still under development in the territory served by Marche Multiservizi and will be launched in 2018.</li> </ul>			M
<ul style="list-style-type: none"> <li>Continue to implement projects for waste prevention and to improve urban décor: extension of "Farmacoamico" (increase in the coverage rate to 45% of the residents served in Emilia-Romagna in 2017), relaunch of "Cambia il Finale" and its extension in the Triveneto region in order to increase the volumes of bulky waste sent for reuse.</li> </ul>	<ul style="list-style-type: none"> <li>The coverage rate of "Farmacoamico" has increased to 44% of the residents we serve in Emilia-Romagna, while "Cambia il finale" has been relaunched in Emilia-Romagna, and its extension to the Triveneto region is still under evaluation.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Rimini Seawater Protection Plan: complete 1 more project (5 already completed at the end of 2016) and start/continue 5 more projects in 2017.</li> </ul>	<ul style="list-style-type: none"> <li>The conclusion of the further works has been postponed to the first quarter of 2018, while 4 measures are in progress and a further 4 are in the planning stage.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Servola water treatment plant (Trieste): start the new facility in 2017</li> </ul>	<ul style="list-style-type: none"> <li>The plant was completed and started up with rainwater. Wastewater treatment started in March 2018.</li> </ul>		T	

What we said we would do	What we have done	Scope
<ul style="list-style-type: none"> <li>Start the authorization procedure to upgrade the Borgheria treatment plant at Pesaro</li> </ul>	<ul style="list-style-type: none"> <li>The authorization process to upgrade the Borgheria treatment plant at Pesaro started in 2017.</li> </ul>	M

What we will do	Scope*
<ul style="list-style-type: none"> <li>Continue implementation of projects to prevent municipal waste:               <ul style="list-style-type: none"> <li>- extension of "Farmacoamico" (increase of the coverage rate to 50% of the residents served in Emilia-Romagna in 2018);</li> <li>- start construction of "reuse areas" at waste collection centres</li> </ul> </li> </ul>	ER
<ul style="list-style-type: none"> <li>Extend the quantity-based municipal waste tariff to a further 100,000 inhabitants in 2019. Complete the extension to all the municipalities served, by 2021.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Municipal waste: increase the recycling rate to 60% by 2021 and the recycling rate for packaging to 70%.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Urban waste: continue to reduce landfill use: &lt;5% in 2018 and about 3% in 2021 at Hera Group level.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Urban waste: increase separate collection: 60.6% in 2018 and 70% by 2021 at Group level extend the Rifiutologo app in the Marche region.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Industrial waste: to supplement the waste management offer for customers with solutions in the circular economy and to further increase the recovery rate.</li> </ul>	
<ul style="list-style-type: none"> <li>Obtain the environmental permit for the mechanical-biological treatment plant for mixed waste at Pesaro in order to further reduce the use of landfills.</li> </ul>	M
<ul style="list-style-type: none"> <li>Start recovering at least 74% of the treated waste in the 5 Herambiente selection plants and install crushing plants in Bologna (in 2018) and Modena (start of authorization process in 2018) to reduce the use of landfills for the disposal of screened waste.</li> </ul>	
<ul style="list-style-type: none"> <li>Rimini Seawater Protection Plan: complete 2 of the projects in progress and continue work on 3 more projects in 2018.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Start structuring water management activities as a result of joining the UN CEO Water Mandate. In this context, reduce water consumption at the Imola cogeneration plant by 40,000 cubic metres (-15% compared to 2017)</li> </ul>	ER
<ul style="list-style-type: none"> <li>Start the upgrade of the sewage treatment sector, in particular by:               <ul style="list-style-type: none"> <li>- upgrading an urban area larger than 2000 PE by 2018 and of all urban areas larger than 2000 PE by 2021;</li> <li>- completing the design for 66 urban areas between 200 and 2000 PE in 2018;</li> <li>- completing the design of 5 plants for over 10,000 PE in 2018.</li> </ul> </li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Launch scenario analyses on the impact of climate change on the supply sources and the water supply network and the subsequent definition of an action plan agreed with public authorities.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Starting the authorization procedure to upgrade the Borgheria treatment plant at Pesaro.</li> </ul>	

\* Geographic scope of the ER improvement objectives: Emilia-Romagna T: Triveneto M: Marche.

## Transition to a circular economy

### Scenario and policies

#### Why it is important

The current economic model is linear: produce, use, dispose of. This involves the use of large amounts of energy and raw materials as well as the emission of the same amount of waste and pollutants. The alternative is represented by circular economy, a system where raw materials stay in the economic cycle for as long as possible, products reach the end of their lifecycle after being used several times and waste is minimised. New business models are required to address this

transition. What we need to do is maximise recycling and design lasting products that can be exchanged, reused, repaired, reproduced and, only at the end, recycled.

**3**

planets like Earth required to maintain the current lifestyles of the global population in 2050

**60%**

the percentage of all materials consumed in Europe in 2015 which were not recovered, re-used or recycled

**1 trillion dollars**

the value of food wasted every year globally, equal to around 6% of global GDP

**700 billion dollars**

annual global savings estimated in the consumer goods sector, with a circular economy model

**14%**

percentage of plastic recycled globally in 2016

**7%**

estimated growth of European GDP between 2015 and 2030 related to the spreading of circular economy

### **The European strategy to guide the transition**

The European circular economy package sets out some ambitious measures for the entire lifecycle of products: from production and consumption to waste management and the secondary raw materials market. An agreement was reached in December 2017 between the Council, Commission and Parliament to amend some European directives on municipal waste, with a view to increasing recycling and reducing landfill use. Packaging waste recycling: ready for the 2030 challenge

### **Municipal waste in landfills: they must more than halve over the next 20 years**

	<b>2016</b>	<b>Goal in 2035</b>
Europe	25%	10%
Italy	28%	10%

The European targets are highly challenging but the recent trend is encouraging, with landfill disposal per capita decreasing between 2011 and 2016 by 31% in Europe and 45% in Italy. This is due to an increase in separate waste collection and to the diffusion of modern waste treatment systems.

**Recycling of municipal waste: good results, but the goal is still a long way off**

	<b>2016</b>	<b>Goal in 2025</b>	<b>Goal in 2030</b>	<b>Goal in 2035</b>
Europe	45.8%	55%	60%	65%
Italy	45.1%	55%	60%	65%

**Packaging waste recycling: ready for the 2030 challenge**

	<b>2016</b>	<b>Goal in 2025</b>	<b>Goal in 2030</b>
Europe	65.7%	65%	70%
Italy	66.8%	65%	70%

With regard to the municipal waste recycling rate (especially packaging), 2016 figures show an improvement compared to the past.

The 2025 targets for packaging waste have already been achieved in Italy by all supply chains, except for plastics.

The aluminium and wood sectors will achieve their goals by the end of 2030. In 2016, 8.4 Mt of packaging waste were recycled (3% higher than in 2015) equal to 67% of the amount released for consumption. In addition to this, 1.4 Mt of packaging waste were used for energy recovery, equal to 11% compared to the amount released for consumption. Total recovery in 2016 amounted to 78.2%.

## The results of Hera's integrated waste management system

The Hera Group is a major player in the field of municipal waste management. Hera manages the urban waste service in six provinces of Emilia-Romagna for a total of 132 municipalities. As well as these municipalities, Hera also manages another 3 in the province of Florence. In addition, through Marche Multiservizi, it also serves 40 municipalities in the Province of Pesaro-Urbino and another 6 municipalities in areas adjacent to the Marche Region. Since 2013, through AcegasApsAmga, it has served 6 municipalities in the provinces of Padua and Trieste. In total, Hera **served 187 municipalities in 2017 for a total population of 3.3 million inhabitants.**

### Total municipal waste collected, by area

thousands of tonnes	2015	2016	2017
Hera	1,627.5	1,632.4	1,617.1
AcegasApsAmga	247.3	247.3	246.8
Marche Multiservizi	167.5	167.1	175.2
<b>Total</b>	<b>2,031.9</b>	<b>2,046.8</b>	<b>2,039.0</b>
<b>kg per inhabitant</b>	<b>601</b>	<b>612</b>	<b>609</b>

The data relating to waste collected per capita does not include waste from beaches.

The area served by Hera is characterized by a high level of production of similar-to-municipal waste and, as such, has one of the highest **annual per-capita waste production rates** in Italy: 609 kilograms per capita (629 kilograms per capita in Emilia-Romagna, 614 in Pesaro and 526 in Triveneto), compared with a national average of 486 kilograms in 2015 (source: 2017 Ispra Municipal Waste Report). The figure is down compared to 2016, thanks to a 1% reduction in the Emilia-Romagna region.

The area served by the Hera Group has a very well-structured collection system that makes it possible to separately collect many different types of municipal waste, primarily for material recovery, reconciling the needs of the Municipalities with management efficiency and effectiveness.

Hera's Waste Management System (WMS) is characterized by three main services:

- **local collection:** these are widespread collections throughout the territory, primarily targeted at residential users and small, non-residential users and can be carried out using:
  - roadside bins, set up according to the Basic Drop-Off Points (IEB) model which groups the main collection chains into individual stations; in recent years, electronic traceability systems for disposal monitoring (e.g. the "lid" model for non-separated waste or lock for separated waste collection chains) are becoming increasingly widespread in combination with road containers;
  - door-to-door collection, carried out at the users' premises, where residents set out the waste on fixed days and times for collection.
- **residential collection** for "target", non-domestic users that produce specific waste similar to urban waste (cardboard in shops, glass or tins in bars, organic waste in canteens or restaurants, etc.);
- **Waste collection centres:** also known as Drop-Off Points, these infrastructures are present in almost all the municipalities served by Hera and complete the range of services offered to residents for dropping off separated urban waste. The use of waste collection centres is becoming a real habit for residents: a wide range of categories of urban waste (including certain hazardous waste) can be safely disposed of; bulky and heavy waste can be disposed of; in many areas there is a discount system that rewards the disposal of many categories of differentiated waste.

The system is also supplemented by the residential collection of bulky waste (free of charge, by phone call or by appointment), the collection of green waste, and the collection of other types of hazardous waste at specific businesses (such as batteries and pharmaceuticals). Lastly, roadside collection and collection at

shopping centres of WEEE (Waste Electrical and Electronic Equipment) and of used vegetable oil is gradually spreading.

To improve their effectiveness, the collection services are **diversified according to standardized area types** (city centres, residential areas, tourist areas, suburban areas, industrial zones). For each area, the collection system that best fits with urban, environmental and local characteristics is identified. The aim is to **maximize the percentage of separate waste collection** and its quality by providing a technically and economically sustainable service.

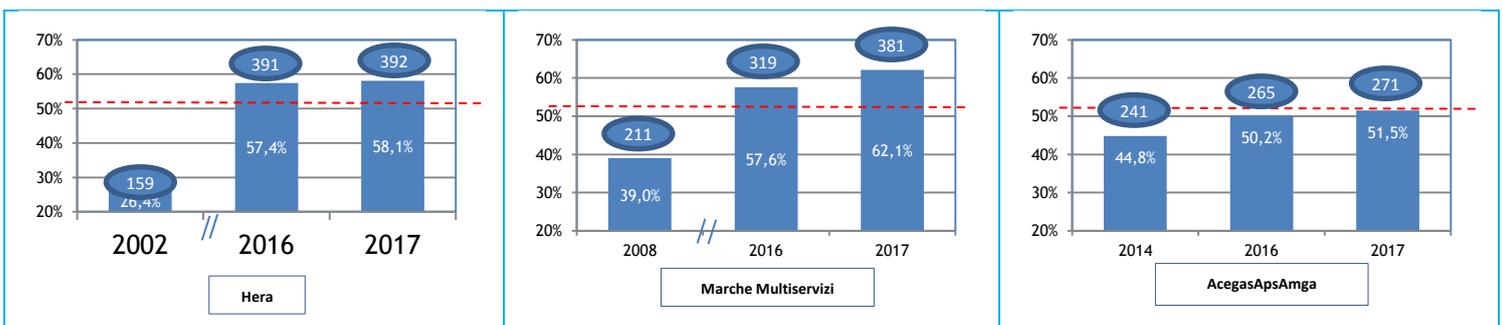
*Separate waste collection*

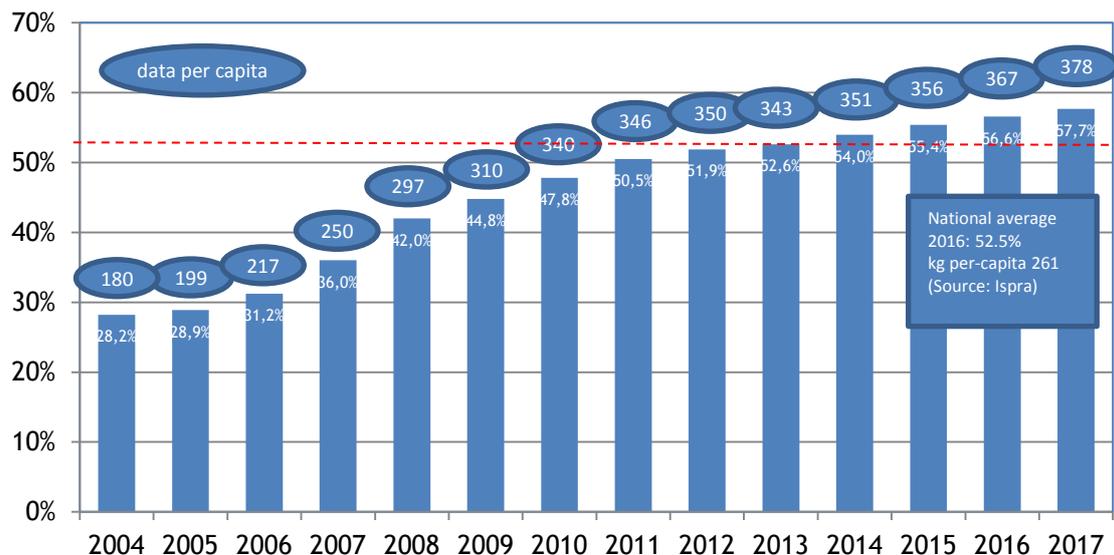
The main types of separately collected waste are:

- **packaging and similar:** paper and cardboard, plastic, glass, aluminium and steel cans, wood;
- **durable goods:** iron, waste from electrical and electronic appliances (WEEE) and bulky waste;
- **compostable waste:** kitchen organic waste and “green” waste from mowing and pruning;
- **other waste:** inert materials from small demolitions, used mineral oil and cooking oil, batteries and accumulators, pharmaceuticals and other hazardous municipal waste.

In 2016, separate waste amounted to 1,238.9 tonnes (+1.9% compared to 2016). At Group level, the percentage of separated waste, i.e. the relationship between the quantity of municipal waste collected in separate form and total municipal waste, went from **56.6% in 2016 to 57.7% in 2016**. Excluding AcegasApsAmga and Marche Multiservizi the value rises to 58.1%. National average is about 52.5% in 2016 (source: ISPRA). In the **9 provincial capital cities where the service is provided by Hera**, in 2016, the level of separate waste collection reached 53.4%, compared with a national average of 44.2% in Italy’s provincial capital cities and 54.0% in the cities of Northern Italy (sources: Legambiente, Ecosistema Urbano 2017) The 2018 target for separate waste collection is: 60.6% (61.0% for Hera Spa, 53.4% for AcegasApsAmga and 66.2% for Marche Multiservizi). In 2021, separate waste collection is expected to reach 70%.

**Separate waste collection**





The percentage of separate waste collection is calculated including the quantities of waste deriving from road sweeping, and excluding the waste from the shore, and, since 2013, takes into account Emilia-Romagna's Regional Government Decision 2317/2009. The calculation of separately collected waste also includes similar waste transferred by manufacturers for recovery and separately collected waste from third parties or directly from municipalities. The differing criteria for considering waste as similar-to-municipal laid down by Atersir, the Water and Waste Regulatory Authorities and municipalities may be responsible for quota differences from one area to the next.

The calculation of the Group's separate waste collection also includes similar-to-municipal waste sent for recovery by manufacturers and separate waste collected from third parties as defined by Regional Authority Decision 2317/2009, implemented in the municipal and local regulations in force. The situation is very diverse in each area and depends on the revisions of the regulations of the individual municipalities. In 2017, this amount of waste was around 132,000 tonnes, excluding AcegasApsAmga and Marche Multiservizi, or 13% of the total amount of separate waste collected, down from 2016 (about 3%); it should be noted that these quantities are subject to different timing and dynamics not directly related to the services present in the territory. At group level, this amount was 11% of total separate waste collected, in line with 2016.

In **Emilia-Romagna**, Regional Law 16 of 2015 on the Circular Economy set as a minimum objective **for 2020** the launch of the Quantity-Based Tariff throughout the region. Quantity-Based Tariffs are one of the economic and financial instruments for the implementation of the Regional Waste Management Plan and makes the payment of environmental hygiene services no longer only linked to the living space and the number of tenants of the house, but also to the quantity of non-separated waste produced. Quantity-based tariffs reward responsible conduct.

As regards local collection, which accounts for the majority of waste, Hera is implementing various systems **geared oriented towards the future application of quantity-based tariffs:**

- roadside bins with a control system and user identification ("lid" system);
- residential collection with bins equipped with tag transponders;
- collection centres with weighing and user registration systems.

In many municipalities, there are mixed local collection systems (for example, roadside collection for some materials and door-to-door for others; roadside collection in some areas, door-to-door in others): in the following tables the local collection services of each municipality are simply reclassified by their main system.

### Main forms of waste collection used in the areas served

number of municipalities served	2015	2016	2017	% 2017 (on the number of residents)
Roadside collection	145	127	106	67%
Roadside collection with special disposal control mechanisms	20	23	32	16%
Mixed system (door-to-door non-separated and roadside separated waste)	-	13	24	3%
Door to door	24	24	25	14%
<b>Total</b>	<b>189</b>	<b>187</b>	<b>187</b>	<b>100%</b>

In view of the gradual switch to quantity-based charging in **Emilia-Romagna**, reorganization of the service has started and will continue in the coming years to implement identification and measurement of disposals. In 2017, the main organizational changes led to the extension of the systems with disposal monitoring; in 8 municipalities these systems became fully operational: Castelfranco Emilia, San Cesario sul Panaro, Molinella, Imola and the municipalities of the Santerno Valley. Overall, systems with disposal monitoring are prevalent in 31 municipalities (and 1 in the Triveneto area), mainly in the province of Rimini, but are being extended extending to the province of Bologna (11 municipalities) and Modena (2 municipalities). In the last quarter of 2017 other municipalities, including Ferrara and some municipalities in the Modena province, also reorganized the service with disposal monitoring systems that became fully operational in January 2018 at the same time as introducing quantity-based tariffs; for this reason, the table below includes them as roadside collection. The door-to-door system is stable for 2017 with 16 municipalities (and 3 municipalities in the Triveneto area and 6 in Marche).

The 2017 data show the **good results that can be achieved with the roadside collection system with disposal monitoring**: 63.8% of separate collection, an encouraging figure not far from 68.7% of municipalities with door-to-door systems, considering that the roadside system without disposal monitoring is at 54.7%. The Budrio municipality led the way, officially switching to quantity-based charging on 1 January 2016, using a door-to-door-to-door collection system. San Giovanni in Marignano also switched in 2018, using a roadside, electronic lid type bin system for non-separated waste. Bastiglia, Bomporto, Castelfranco Emilia, Ferrara, Monte San Pietro and San Cesario sul Panaro also switched in 2018. The use of electronic roadside bins to monitor disposal of all waste types was implemented in the municipalities of the Province of Modena; in San Cesario sul Panaro and Castelfranco Emilia the system became fully operational in the first half of the year. Some municipalities in the Imola area (Imola, Casalfiumanese, Borgo Tossignano, Fontanelice and Castel Del Rio) have also begun to use electronic roadside bins to monitor disposal of all waste types.

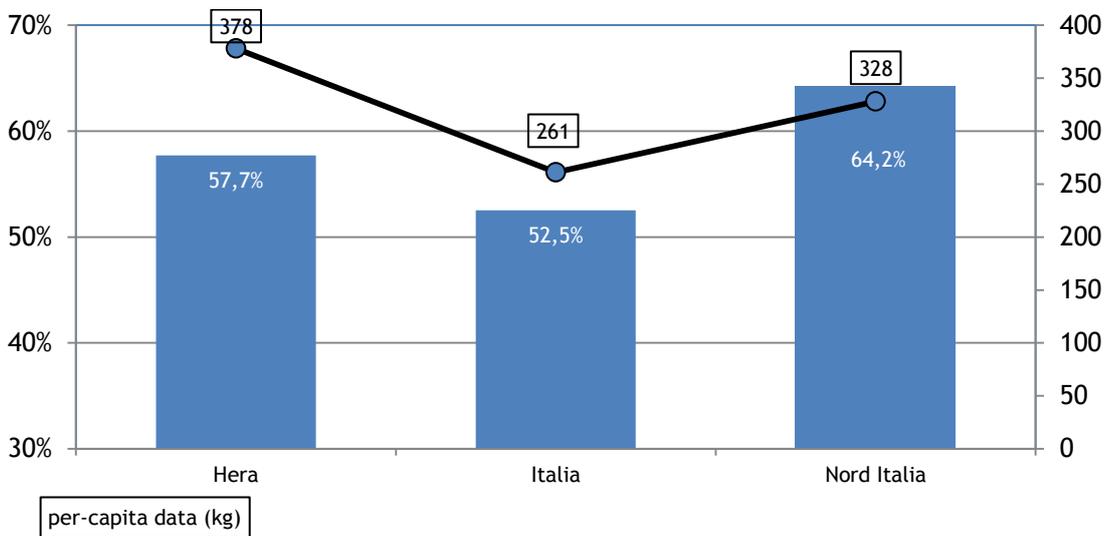
The **municipalities of Padua and Trieste that we serve** are equally split among roadside collection and roadside collection with disposal monitoring or door-to-door collection. In 2017, door-to-door collection was started for a further 10,000 residents in the municipality of Padua (Guizza/Bassanello), while in Abano Terme, in the same period, service was started for 15,300 residents with quantity-based tariffs (lid with access card). The initiatives led to a sharp increase in the separate waste collection for Abano Terme (about +15% compared to roadside collection, reaching well over 70%). For Padua, the start of door-to-door collection in the Guizza district slightly increased the percentage of separated waste disposal. In 2018, door-to-door will be launched in the Mortise/San Lazzaro district (about 8,500 inhabitants) and "Ecological Saturdays" will be organized, days in which mobile waste collection centres will be set up in several areas of the city, where AcegasApsAmga operators will help residents dispose of the types of waste that cannot be put in the roadside containers used for separate waste collection, such as furniture, appliances, gardening waste, and batteries.

In the areas we serve, 11 municipalities in 2017 have transitioned to the mixed system, with door-to-door collection of the non-separated dry solid waste and roadside collection of recoverable parts, and 1 municipality implemented total door-to-door collection. The municipalities of Pesaro and Urbino use all three collection systems.

When considering the **effectiveness of separate waste collection**, a useful indicator is the quantity per capita figure, expressed in kg/inhabitant/year, which makes it possible to carry out important analyses on the quantities of waste sent for recovery, both overall and by single supply chain. **Per capita separate waste collection** at Group level was 378 kg in 2017, up 2.8% over the previous year.

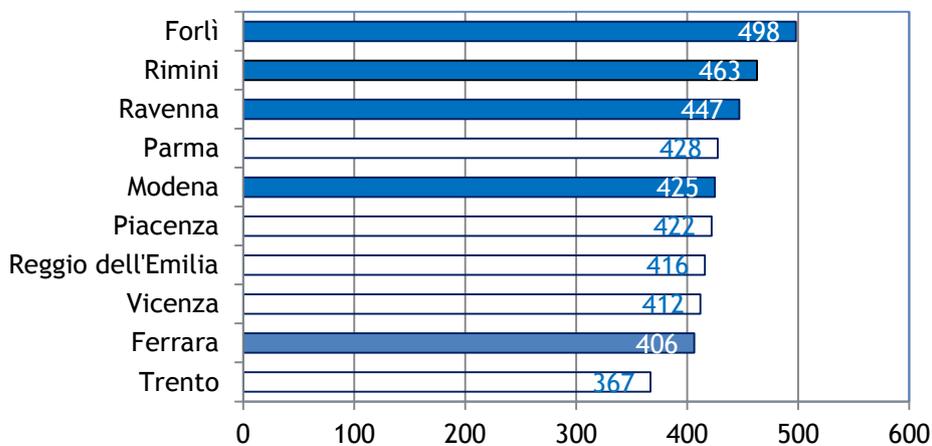
The comparison with the 2016 average national figure (261 kg per capita) remains quite significant compared with that of Northern Italy (328 kg) as found by ISPRA, also due to the high amount of similar-to-municipal waste in the area served by Hera.

**Separate waste collection percentage and per capita (2016 data)**



Considering Italy's provincial administrative capitals with populations over 100,000 inhabitants, **5 of the top 10 best-performing Italian cities** by per-capita separate waste collection are served by the Hera Group.

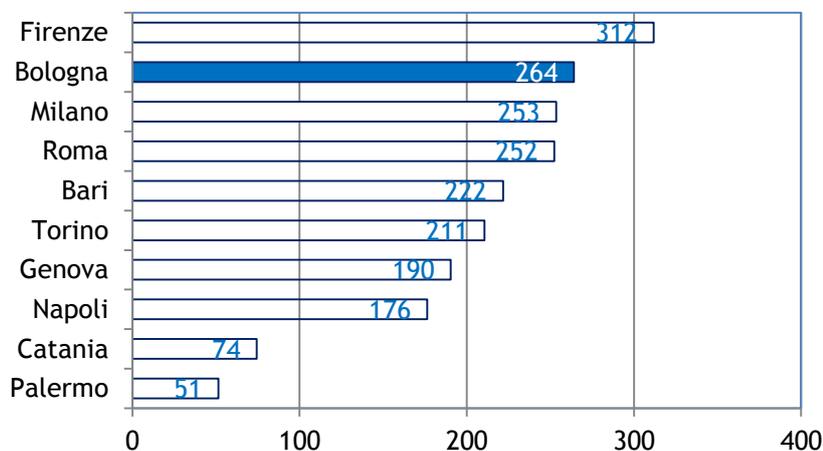
**Separate waste collection per capita, in kilograms, for municipalities with over 100,000 inhabitants (2016)**



Source: processing of Legambiente, Ecosistema Urbano 2017 data).

On the other hand, considering provincial capitals with populations of over 300,000 inhabitants, Bologna is second in Italy, while it was fourth in 2012. (Source: processing of Legambiente, Ecosistema Urbano 2017 data).

**Separate waste collection per capita, in kilograms, for municipalities with over 300,000 inhabitants (2016)**



Source: processing of Legambiente, Ecosistema Urbano 2017 data).

As regards **individual territories**, considering the per capita figure, the growth of separate waste collection in the Municipality of Ferrara (+11.3%) is particularly significant, as in 2017 it started to upgrade its collection system for quantity-based tariffs; this increase is reinforced by a reduction in non-separated waste (-14.4%). Separate waste collection in the Bologna area due to new projects (+3.3%) is also notable, and includes the project that involved the Bologna's city centre, also reducing non-separated waste. In the Faenza Imola area, there was a sharp increase in separate waste collection (+7%) due to new projects (introduction of disposal monitoring systems), accompanied by a reduction of the non-separated portion (-7.7%); this growth was however totally "absorbed" by the sharp decrease in the "unmanaged" portion, which, as already mentioned, was subject to trends and factors unrelated to services.

Ferrara also recorded a very strong increase in the percentage of separate waste collection compared to the previous year, reaching 62.1%. In terms of percentage of separate waste collection, 2017 ended with 3 territories over 60%: the Rimini area (60.7%), the Modena area (63.0%) and Ferrara as stated above; the other areas are all above 55%.

As regards the separate collection data relating to the **types of material collected**, below are the details of the individual types, with the most significant changes in 2017 compared to 2016:

- a reduction in multi-material collection (-11.1%), which are being phased out in Emilia-Romagna and in the Triveneto region;
- increase in the inert materials category (+14.9%), wood (+10.2%) and the collection of plastic (+8.3%) and glass (+6.4%), the latter two being the subject of specific communication campaigns in collaboration with the respective Consortia for those types;
- a decrease in green waste (down 5.3%), whose production is strongly influenced by seasonal trends, and paper/cardboard, the decrease of which is attributable solely to the "unmanaged" component;
- the "other" item increased as a result of a different calculation of sweeping dirt in the Triveneto area.

### Separate waste collection by waste type

Thousands of t	2015	2016	2017
Paper and cardboard	251.7	259.5	258.5
Green waste	252.4	240.3	227.7
Glass	92.3	95.1	101.2
Organic waste	183.7	197.3	204.1
Plastic containers	81.4	85.4	92.9
Mixed materials	64.8	65.8	58.6
Wood	86.7	90.7	99.9
Bulky waste	48.0	50.5	50.8
Inert materials	52.7	59.1	67.9
Iron	27.0	27.9	28.5
WEEE	16.1	16.9	16.9
Other	26.8	26.9	31.9
<b>Total</b>	<b>1,183.7</b>	<b>1,215.8</b>	<b>1,238.9</b>

Separate waste collection by waste type is shown here taking into account the Regional Authority Decision no. 2317/2009.

### Separate waste collection per capita (2016)

	Paper	Glass	Plastic	Wood	Metals	Organic and green waste
<b>Hera Group</b>	78	31	28	30	9	130
<b>Northern Italy</b>	63	39	26	20	7	129
<b>Italy</b>	53	31	20	12	5	108
<b>Best region</b>	84 <sup>1</sup>	50 <sup>2</sup>	35 <sup>3</sup>	29 <sup>4</sup>	12 <sup>5</sup>	164 <sup>6</sup>

<sup>1,3,4</sup> Emilia-Romagna, <sup>2,5,6</sup> Veneto. Source: Ispra

Hera's separate waste collection levels are due to the widespread coverage of its services and to the regulations for categorization as similar-to-municipal waste, that encourage the recovery of materials. In all cases, except for glass, Hera is above the national average and for green/organic waste, wood, metals and paper it is above the average for northern Italy.

The cost of collecting and disposing of municipal waste is also influenced by the revenues coming from the sale of separately collected and recovered material or the contributions that Conai (the national packaging association) provides to the service manager. In 2016, these revenues and contributions were 30% of the direct costs of separate waste collection (including the cost of treating and recovering waste) as described in the "Tracking waste" report.

### Separate collection centres

The Collection Centres receive, among other types, waste that, due to its nature or size, cannot be collected with normal local services, integrating roadside and residential collection and are the most sustainable environmental solution with the lowest impact for collection of separated urban waste.

There are 164 **Separate Waste Collection Centres** (or equipped drop-off points, including 139 in Emilia-Romagna, 8 in Triveneto and 17 in Marche) for customers to drop-off their waste. Many Collection Centres are equipped with weighing and user-recognition systems that make it possible to track waste disposal and apply tariff discounts.

The waste received by the separate waste collection centres increased by 2.7% compared to 2017, and amounted to 278,467 tonnes (rising in particular in the Ferrara, Rimini and Ravenna areas). There were 1.6

million accesses to the separate waste collection centres, rising again, on a like-for-like basis by 4.6% over 2016.

#### *Smaller separate waste collection categories*

The new service for the roadside collection of vegetable oils, carried out using new aesthetically pleasing bins specially designed to contain residual domestic cooking oil, was launched on a trial basis at the start of 2014. This new initiative forms part of a broader Hera project, and the only one of its kind in Italy in terms of the service provided and its geographical extension, aimed at the spread of this type of collection which until 2013 was only carried out via the Group's 140 waste collection centres.

At the end of 2017 there were around 380 roadside bins located in 70 municipalities in the Emilia-Romagna area, 10 more than in 2016, serving an overall customer base of over 1 million residents. The use of these roadside bins made it possible to collect over 410 tonnes of cooking oil in 2017, in addition to the 390 tonnes collected at the waste collection centres. As such, all in all Hera recovered around 800 tonnes of vegetable oil in 2017. This quantity of recovered oil will enable us to generate electricity for around 4000 inhabitants or produce biodiesel to use as fuel in heating systems, or as fuel for motor vehicles, mixed with diesel fuel or on its own, helping to reduce greenhouse gases since its emissions are over 80% lower than those of fossil oil-based fuels - the result of a renewable energy source replacing fossil fuels.

The **LIFE Identis WEEE project**, supported by the EU LIFE fund, aims to prove the traceability of Waste from Electrical and Electronic Equipment (WEEE) and increase the collection of small appliances such as chargers, mobile phones, televisions, electronic toys, and electronic lamps. This collection is especially difficult with traditional systems. The project sees Hera Spa as parent company and was created in collaboration with two partners: the Italian Ecolight consortium and the Spanish consortium Ecolumn.

The project was completed with the "Mobile" prototype (a mobile station with an operator) that can collect all types of WEEE, providing a scheduled service to users even in areas that are not close to waste collection centres (currently in operation in the city centre of Bologna) and ensuring the traceability of the waste disposed of. These machines are an integral part in a data collection system (DPC) that can provide traceability reports and manage the identification and statistical data on users and the alert messages sent by prototypes in the area served by Hera. The project, funded by the European Community, ended in 2015. In addition to the Mobile prototype, 36 containers for disposal of small household appliances are located in the area served by Hera, mainly in shopping centres, where approximately 37,500 items have been disposed of, which allowed about 50 tonnes of WEEE and 600 kg of batteries to be "properly treated". The constant increase of waste received by the Mobile prototype is particularly relevant, as over 4000 items per year were discarded in it in 2017.

During 2017, the collection and recovery of used toner cartridges continued, carried out by Ecorecuperi, which was awarded the tender to provide this service, in October 2016. In 2017, using "Ecobox" containers distributed to public users such as schools and municipal offices, approximately 200 tonnes of used cartridges were collected that were actually provided to the reuse market (regenerated toner cartridges for printers).

#### *The collection of bulky waste*

Bulky waste is waste that due to its type, size and weight, cannot be disposed of in bins for municipal waste. Hera currently offers the following options for the collection of bulky waste and large home appliances, so they can subsequently be recovered or disposed of:

- donation of the item to the not-for-profit organizations involved in "Cambia il finale": if the item can be re-used, its user can donate it for reuse by means of a not-for-profit organization. The not-for-profit organization may collect bulky waste free of charge at its facility or at the user's home, to give it new life and use it for charity.
- delivery to drop-off points: if is not reusable, the items can be taken to the nearest drop-off point for home collection service.

- if the item is not reusable and the user cannot take it to a drop-off point, the user can call the call centre for the free bulky waste collection service.

In 2017, this type of waste amounted to 3.2 % of the total waste and to 5.3% of separate waste, up by almost one percentage point compared to 2016. In the area served by Hera Spa, 97,607 requests for the collection of bulky waste, up compared to the previous year (+11.5%). Including the waste disposed of at Separate Waste Collection Centres and the waste dumped without notification, a total of over 56,000 tonnes was collected (+1.6% versus 2016). The number of bulky collection requests is growing, in line with previous years, due to the greater use of dedicated collection services and a greater number of reports for this type of waste, largely linked to a better usability of the channels to contact Hera and a greater awareness to urban décor matters.

### *The waste prevention initiatives*

The European Directive 2008/98/EC on waste, transposed into Italian Law by Legislative Decree 205/2010, defines the following hierarchy for the prevention and management of waste:

- prevention;
- preparation for reuse;
- recycling;
- other types of recovery, such as energy recovery;
- disposal.

Waste prevention is also confirmed as a priority action by the European package on the circular economy, referenced in one of the case studies in this chapter, which, among other things, includes a target for preventing food waste, for which the agreement reached by the three-way meeting held in December 2017 set indicative targets of 30% by 2025 and 50% by 2030, compared to the quantity generated in 2014.

Emilia-Romagna's Regional Law 16/2015 on "Provisions in support of the circular economy, the reduction of the production of urban waste, the reuse of end-of-life goods, separate collection and amendments to Regional Law N. 31 of 19 August 1996" also includes provisions to support waste prevention, including the possibility to grant, in the framework of the regulation on the fees for waste management services, incentives for companies that implement actions aimed at waste prevention.

During 2017, although it operates as waste management manager, and therefore in full respect of the prerogatives of those responsible for waste planning, Hera has developed and participated in numerous initiatives aimed at encouraging waste prevention. This commitment is in line with the new European, national and regional regulations which, as seen above, introduce prevention and reuse targets as an integral part of integrated waste management. These initiatives have enabled us to prevent the production of around 10,000 tonnes of waste, equivalent to the annual output of about 16,300 people.

Among the most significant initiatives there are "Cambia il finale" (Change the ending), "FarmacoAmico" (Medicine friend), Cibo amico, Hera2O and Urban Springs which are covered by special in-depth sections of this report (case histories). The most significant initiatives included:

**Cambia il Finale**, (Change the outcome), the project linked to the specific memorandum of understanding between Atersir and Hera on the management of bulky waste, developed in collaboration with Last Minute Market, provides a way to intercept all objects in good condition, otherwise destined for bulky waste collection, and re-use them. The goods can be donated by residents to a circuit of non-profit organizations in Emilia-Romagna that collect bulky goods at their headquarters or door-to-door, using them for second-hand markets, using them in their offices or donating them to people in need. The collection of goods carried out by non-profit organizations is promoted through all of Hera Group's communication tools, in particular through call centre operators, who offer users the possibility of donating bulky objects in good condition if they intend to dispose of them.

The initiative promotes good habits related to reuse and generates positive social effects thanks to the activities of the charitable associations involved, in line with Hera Group's social responsibility and

environmental protection principles. It also responds to recent developments in environmental legislation, which aim to establish a management model based on the concepts of prevention and reuse.

At the end of 2017, 20 participating non-profit organizations were distributed throughout the Emilia-Romagna region served by Hera, ensuring coverage of all its main cities. In 2017, the associations received over 9500 phone calls from residents willing to donate bulky goods and over 6700 collection runs were carried out, for a total of about 134,500 items and about 866 tonnes collected. The majority of the goods donated were sent off to be reused, with an average percentage close to 70%: from January to December 2017, and the project as a whole therefore made it possible to avoid a total of about 580,000 tonnes of bulky waste, resulting in lower charges for waste collection and great savings for the environment.

“Second Life”, is a reuse area launched in September 2011 together with the Municipality of Bologna, in the immediate vicinity of a separate waste collection centre. In 2017, the facility was operated by the social cooperative “Open Group”. During the year, Second Life has received almost 95,000 objects, (up over 40% compared to 2016), putting almost all of them back into circulation. The most-exchanged items are clothes (44% of incoming items and 42% of outgoing items) and plates, cake-pans, dishes in general (13% of incoming items and 13% of outgoing items).

**Trashware** is a project developed by the S.P.R.I.Te. student association in partnership with the Cesena municipality, Hera and the Campus of the University of Cesena, the project is a reference point in the area for those that wish to get rid of old but functioning computer equipment and for all organizations that need reconditioned computers for basic computer activities. The “Trashware” project met its 6th-year goal and will continue its activity in 2018. During 2017, initiatives and information points were promoted in the occasion of events and holidays and we strengthened our presence on the web. Since the beginning of the project, over 3000 people have contacted us to donate equipment. Over 1,100 reconditioned PCs have been given to schools and associations since the project started in 2011; with over 130 of them delivered during 2017.

“Toner Eco-boxes”, are containers for sending used toner cartridges for recycling, mainly distributed in schools in the areas served by the Hera Group. Eco-box is a service for the separate collection, transportation and reuse/recovery of non-hazardous special waste, known as “used electronic printing system consumables”, which has been active for several years. The initiative is carried out in association with Ecorecuperi, a Solarolo (Ravenna)-based company. In 2017, more than 200 tonnes of toner and cartridges were recovered.

Hera's initiative has been very appreciated, and since 2016 it has made it possible, through the **Informatica Solidale** agreement signed with Istituto Techne, to give its discarded computers to needy people. With this action it was possible to recover a lot of IT equipment with outdated technology but still able to satisfy further and different needs, such as the implementation of IT literacy and occupational and social reintegration projects, directing them to different categories of people (elderly, prisoners, disabled, immigrants, political refugees) of the target regional territory. As stipulated in the agreement, Techne handled the functionality and testing of the equipment and managed the deliveries.

120 disposed of devices (70 desktops and 50 laptops) were made available to various associations. Considering the number of computers distributed and their use, the operation is assumed to have reached and involved at least 400 disadvantaged people in 2017. The equipment was assigned to both groups, supervised by teachers and operators and to individual beneficiaries, mainly under the supervision of dedicated tutors.

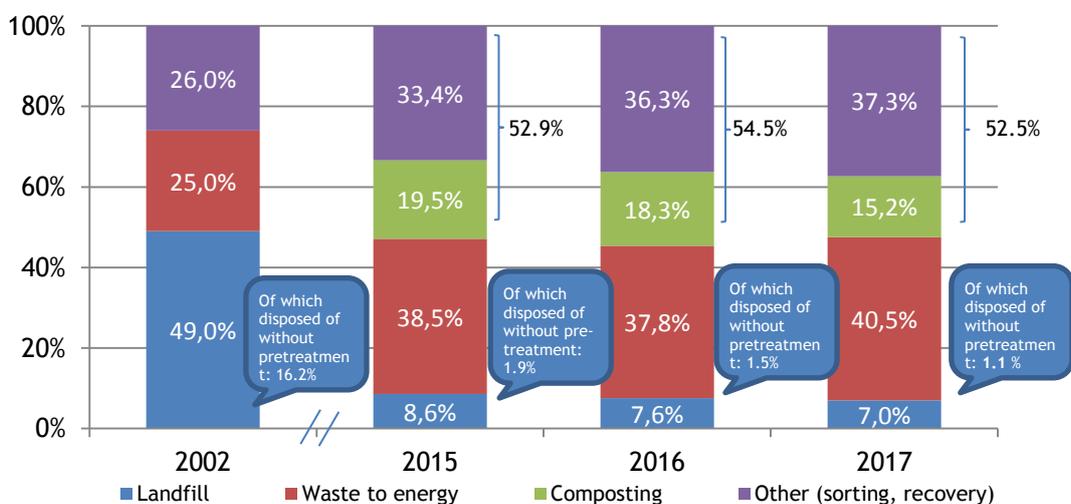
The Informatica Solidale agreement therefore satisfied important social needs, but also ecological-environmental aspects, avoiding the production of waste and new raw materials to make equipment with not particularly high performance, but fundamental for social integration.

## **Disposal of municipal waste in Italy and Europe and comparison with Hera**

National and EU regulations define principles and priorities for waste management, from minimizing waste at source to material recovery, energy recovery and, only as last resort, disposal in landfills.

Over the years, the Hera Group has worked in this direction, as shown by the comparison between 2002 data and those of the last three years. In particular, the results were successful in terms of reduction of material sent to landfill, for which a further reduction was also posted in 2017 (-0.4% percentage points compared to 2016). This is consistent with the Group's objectives, which, in line with national and European regulations and the plans of the relevant authorities, envisage a reduction in the use of landfills and an increase in separate waste collection. In 2017, the percentage of municipal waste disposed of in landfills after pre-treatment was 7%, compared with the 2016 Italian average of 28%, (source: Eurostat), therefore below the 2035 goal set by the December 2017 agreement on the revisions to the directives envisaged for in the circular economy package. The use of landfills was particularly low in the areas served in Emilia-Romagna, reaching 5.2% in 2017. In the territories served in the Marche Region, there was also a reduction in 2017 (from 40.7% in 2016 to 34.9% in 2017), while in Triveneto Hera again used no landfills for the disposal of solid urban waste in 2017

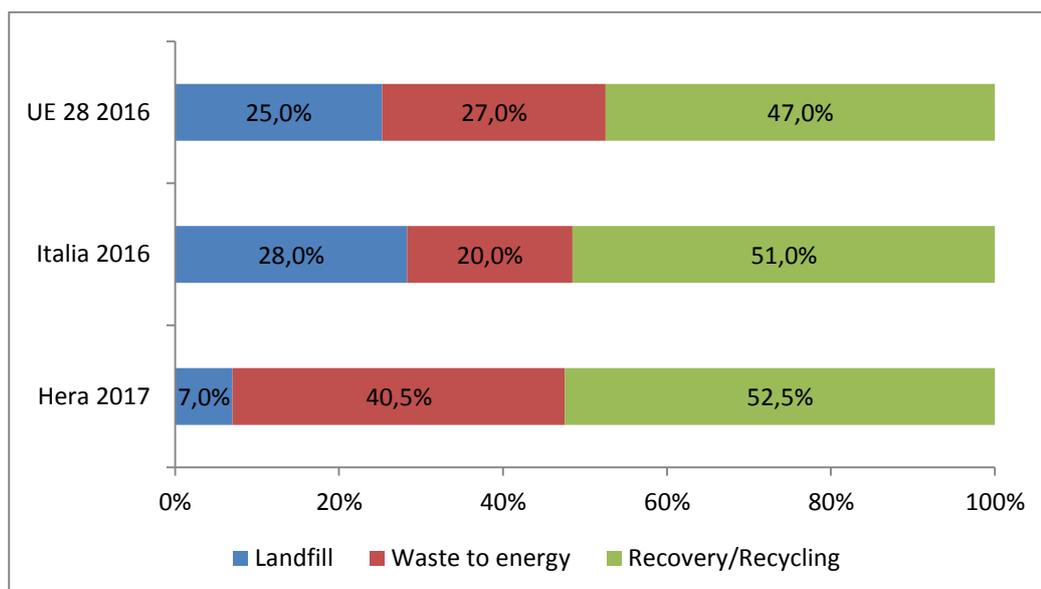
### Urban waste collected by Hera by destination



At European level (source: Eurostat), the trend of reducing the use of landfills as a form of municipal waste disposal is also continuing, even if there are significant differences among the countries: in the EU-28 the figure for 2016 was 25% (26% in 2015). Landfills are still the main way of treating waste in Italy: 28% of disposed municipal waste in 2016 was put into landfills compared to 20% sent for waste-to-energy treatment: both values show a reduction of 2 percentage points compared to the previous year, in favour of recycling/composting.

Landfills continue to be the primary treatment method in 11 European countries, with peaks of up to 92% in Malta and 82% in Greece. In Sweden, Belgium, Denmark, Holland, and Germany, landfill is used for around 1% and waste-to-energy varies from 32% to 50%, with the remainder being sent for recycling. Hera is in line with these countries in terms of recycling with further improvements planned for the coming years.

### Urban waste management in Europe and Italy and Hera's ranking (2016)



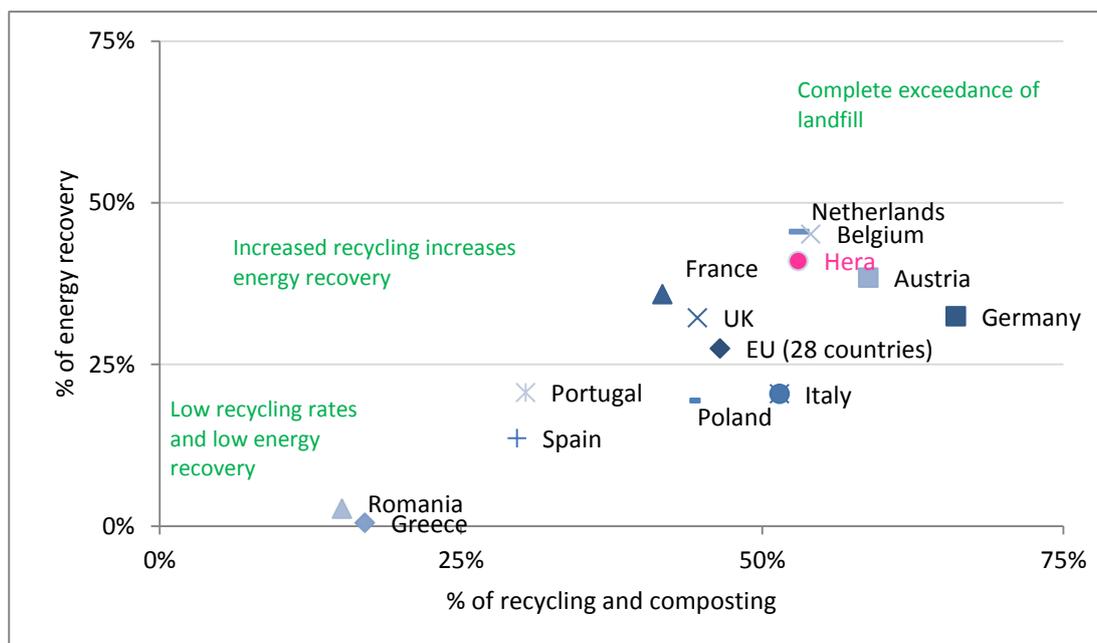
### Municipal waste: A three-speed Europe and Hera's area of operation is among the most virtuous (2016)

Country	Landfill	Waste to energy	Recycling/Composting
<b>Countries with landfill use lower than the European average</b>			
Sweden	1%	50%	49%
Belgium	1%	45%	54%
Denmark	1%	51%	48%
Netherlands	1%	46%	53%
Germany	1%	32%	66%
Austria	3%	38%	59%
Finland	3%	55%	42%
Hera Group	7%	41%	53%
Estonia	11%	53%	31%
Luxembourg	17%	34%	48%
France	22%	36%	42%
Great Britain	23%	32%	45%
Slovenia*	24%	18%	58%
<b>European Union (28 countries)</b>	<b>25%</b>	<b>27%</b>	<b>47%</b>
<b>Countries with landfill less than 50% but higher than the European average</b>			
Italy	28%	20%	51%
Lithuania	31%	18%	50%
Poland	37%	19%	44%
Ireland***	42%	18%	40%
Portugal**	49%	21%	30%
<b>Countries with landfill greater than or equal to 50%</b>			
Czech Republic	50%	16%	34%
Hungary	51%	15%	35%
Spain	57%	14%	30%
Bulgaria	64%	4%	32%
Slovakia	66%	11%	23%
Latvia	72%	0%	28%
Croatia	78%	0%	21%

Country	Landfill	Waste to energy	Recycling/Composting
Cyprus	81%	0%	19%
Romania*	82%	3%	15%
Greece*	82%	1%	17%
Malta	92%	0%	8%

\*2015 data, \*\*2014 data, \*\*\*2013 data. Source: Eurostat

### Disposal of municipal waste in Europe: the correlation between recycling/composting and energy recovery. Hera among the European best practices



Source: Eurostat

### Equipment to support the circular economy

Through its Herambiente subsidiary, the Hera Group manages 92 treatment plants for recovery and disposal of urban waste, and of hazardous and non-hazardous special waste among which the main ones are: 10 waste-to-energy plants, 11 composting plants/digesters and 15 selection plants. Marche Multiservizi manages two landfills and one biostabilization plant. Herambiente also holds a 50% stake in Enomondo, which operates a biomass plant.

The initiatives launched by Herambiente in terms of material and energy recovery continued in 2017, characterized by a strong acceleration in the process of transformation of its industrial activities in view of a "circular economy".

In fact, 2017 was marked by two important and fundamental events that testify to Herambiente's ability to transform the principles underlying the concept of circular economy into facts:

- acquisition of control (through an 80% stake) of the Aliplast Group, leader in the production of rigid and flexible films, as well as regenerated polymers, starting from plastic waste from packaging and plastic products;
- full operational start-up of the construction site for a plant to produce biomethane from the organic fraction of separately-collected urban waste.

The two events mentioned above also reflect one of the deepest characteristics that guide Herambiente's development choices, namely to promote balanced growth both through internal and external routes

(M&A). The two initiatives represent, from the point of view of a circular economy, the most concrete and innovative initiatives that can be undertaken today.

In parallel with the two important initiatives described above, the constant development of Herambiente's plant pool continued, following these main guidelines:

- identification and implementation of solutions to efficiently produce and use electrical and thermal energy in the sites where waste-to-energy plants and landfills with energy recovery are located;
- implementation, in the liquid industrial waste segment, of technologies aimed at recovering, rather than disposing of, organic water, solvents, sludge, etc;
- modernization and upgrade of organic matrix composting and aerobic stabilization plants to align all Herambiente Group plants to the best available technical standards and BATs (Best Available Technologies);
- integration of the plant system linked to M&A operations, increasingly oriented towards market segments related to industrial waste management and recovery and "full service" services at production plants of medium to large sized companies operating in the oil & gas, food & beverage, large-scale retail, etc. sectors;
- activities related to the construction of new landfill volumes for non-recoverable fractions. In this perspective, a project was started in 2017 to assess the feasibility of "landfill mining" operations, given the high number of exhausted landfills in the post-mortem phase currently operated by Herambiente.

#### *The recovery of material and energy in Herambiente's sorting plants*

The selection plants treat the municipal and special waste coming from separate waste collection and from industrial or artisan manufacturing in the province in which they are located. The objective of the process, which uses more or less complex technologies and treatment lines according to the type of waste to be treated, is to recover the greatest possible amount of material from the incoming flow and reduce reliance on landfills. These systems recover: paper/cardboard, plastic, wood, metal, glass, biodegradable waste (pruning), tires, textiles, inert materials. The treatment lines used are specific to the characteristics of each collection. Five of the 6 plants have computer vision systems that are particularly efficient in selecting plastic and paper from municipal waste both in terms of flow (hourly quantity of waste treated) and in terms of the quality of the material obtained by the selection.

The scrap of the treatment, the non-reusable fractions and non-reusable material are sent off to be used for energy recovery or to be disposed of.

In 2017, Herambiente's selection and recovery plants handled **371,905 tonnes of waste**, the quantity treated and targeted for recovery was about over **73% of the incoming material**, the share used for energy recovery was just over 3%, for an **overall recovery of 76.2%**. The overall material recovery level confirms the upward trend compared to previous years. A portion of the of non-reusable fractions is used for energy recovery, about 13% of the scrap produced is, in fact, sent to waste-to-energy plants. The project to implement crushing lines to increase the non-reusable fractions for energy recovery is still under way, and the permit for the Granarolo plant was issued at the end of 2017. The crusher will be installed in early 2018. The authorization process for Modena will start during 2018.

Only 22% of the waste treated was disposed of, the waste in stock at the plants at the end of 2017 was less than 2% of the waste that entered the plant.

### Percentage of waste sent for recovery of material and energy

%	2015	2016	2017
Bologna	66.3%	71.4%	68.0%
Coriano (RN)	75.9%	81.1%	81.9%
Ferrara	75.5%	87.9%	80.9%
Lugo (Ravenna)	72.7%	79.3%	77.1%
Modena	58.1%	75.7%	73.4%
Mordano (BO)	67.5%	76.7%	76.9%
<b>Total</b>	<b>69.3%</b>	<b>78.6%</b>	<b>76.2%</b>
<i>Of which material recovery</i>	66.5%	71.3%	72.9%
<i>Of which energy recovery</i>	2.8%	7.3%	3.3%

#### *Aliplast's integrated system*

The Aliplast Group, that Herambiente acquired in 2016, has 9 plants. The 4 foreign plants located in Spain, Poland and France, and the 2 Italian plants, Cerplast and Variplast, are engaged in the selection and procurement of plastic. The Aliplast and Alimpet plants transform waste plastic into finished products, while the Umbro Plast plant produces finished products from semi-finished plastic products.

The plants treat waste from urban separate waste collection and from special collection of shavings, scrap and plastic packaging waste. The Aliplast Group recovers a significant portion of the incoming waste and only a small percentage is discarded because it is made up of non-recyclable polymers or because of weight losses due to the presence of liquids. The 2016-17 trend of incoming waste is slightly increasing (from approximately 108,000 to 109,000 tonnes), this waste has been transformed into new products or transferred to third party companies operating in the recycling sector.

### Percentage of waste sent for recovery of material and energy

%	2016	2017
Processing plants (Aliplast, Alimpet and Umbro Plast)	91.9%	92.4%
Selection plants (Cerplast, Variplast, Aliplast Polska, Aliplast Iberia and Aliplast France)	96.2%	96.4%
<b>Total</b>	<b>93.5%</b>	<b>93.9%</b>
<i>Of which material recovery</i>	93.5%	93.9%
<i>Of which energy recovery</i>	0%	0%

#### *Recovery of industrial waste with Hasi and Waste Recycling*

Herambiente Servizi Industriali, a subsidiary of Herambiente, managed over **558,000 tonnes of industrial waste** in 2017, of which 31% was sent for material or energy recovery, a very positive figure, considering that in 2016 the recovery rate was around 25%. This figure reflects the commercial strategy orientation, according to which the company increasingly interfaces with the B2B world of primary producers of industrial waste, with a **Global Waste Management** offer for large customers, i.e. an effective system based on an analysis of business needs, up to final treatment, also by selecting qualified partners. All this, always, with the utmost attention to sustainability. The data confirm the potential of the offer, with a 78% recovery of material and energy from managed waste for Global Waste Management customers.

During the year, the offer also focused more on SMEs, proposing recovery solutions. The objective for 2018 is to **increase the recovery rate of industrial waste** through a commercial development integrated with circular economy solutions.

## Quantity and percentage of waste sent for recovery of material and energy

	2016		2017	
	Quantity treated (tonnes x 1000)	Share of waste recovered	Quantity treated (tonnes x 1000)	Share of waste recovered
<b>Large customers</b>	409	12%	389	16%
<i>of which large global waste management customers</i>	53	72%	59	78%
<b>SMEs</b>	156	58%	169	64%
<b>Herambiente Servizi Industriali Total</b>	565	25%	558	31%

Waste Recycling, acquired by Herambiente at the end of in 2015, has worked in the special waste collection, storage, treatment and recovery sector in Pisa for over 20 years. The two main facilities managed are a **selection plant for non-hazardous waste** and a **chemical-physical-biological plant for hazardous and non-hazardous liquid waste**. The company also manages **three other waste treatment plants**.

Some examples of recovery are:

- scraps of leather are used to produce soil improvers and fertilisers
- the recoverable parts of paper are sent to paper mills
- ferrous materials are separated and recycled in foundries
- plastic is washed, drained and made into flakes for future processing
- wood scraps are used to produce chipboard panels
- all non-separated, not hazardous, waste such as bonded materials or other are used for energy production.

## Percentage of solid waste sent for recovery of material and energy

%	2016	2017
Non-hazardous waste	21.3%	36.7%
Hazardous waste	9.2%	14.9%
<b>Total</b>	<b>17.0%</b>	<b>27.8%</b>
<i>Of which material recovery</i>	13.5%	25.6%
<i>Of which energy recovery</i>	3.4%	2.2%

Excluding liquid waste

In 2017, approximately 196,000 tonnes of solid waste were treated, of which 27.8% was recovered. Waste recycling also has a high level of competitiveness in the treatment of liquid waste, the effect of the significant investments made between 2010 and 2013 in the biological and chemical-physical plants. In 2017, 245 tonnes of liquid waste were treated, 77.4% of which was recovered. The water was discharged at the Aquarno treatment plant or reused as industrial water. The remaining 22.6% is made up of sludge disposed of in landfills.

2016 was the first year in which both lines of the osmosis plant were fully operational. Approximately 20,000 tonnes of water were recovered and returned to the production cycle as industrial water, thus reducing the amount of groundwater drained. At the end of 2016, the concentration lines downstream of the two evaporators were also started up, one for salt water and one for oily emulsions. The latter produces an oily concentrate which is then recycled.

In September 2017, a solvent water distillation plant was started up, capable of recovering the solvents contained and then recycle them. In 2017, 3,680 tonnes of solvents were recovered.

The acquisition of Teseco by Waste Recycling in 2017 will allow an increase in the percentage of recovery of incoming waste, also thanks to a new sorting plant, and it will be possible to lower the level of environmental risk thanks to an optimization and redistribution of the production and waste storage areas.

Waste Recycling owns the Best Recycling brand, registered in Italy and in Europe for Italian fashion companies and launched at Ecomondo 2014. Partnering with Certiquality, Best Recycling certifies that the companies that use the mark, recover all the waste produced by manufacturing leather, fur or fabric clothing, bags, shoes and fashion accessories.

The I-WASTE project is currently underway and involves the creation of a unified platform capable of gathering and processing information from a range of sensors and relating them to production activities in order to improve the efficiency of the management, technical and energy processes, allowing:

- the various management applications already in use at Waste Recycling to dialogue and integrate;
- to collect new analytical data concerning the performance of the individual devices (pumps, inverters, PLCs, transformers, etc.) and of the treatment plants for the various types of waste, using specific sensors; in other words, to extensively introduce IoT within the business
- real-time processing of information from the various sensors using specific algorithms developed specifically to provide an overview of the functionality of the company's various departments, in terms of energy consumption.

#### *Main waste treatment plant expansion measures*

In 2017 we continue to develop/improve plant equipment in the following sectors:

- energy recovery of landfill biogas;
- energy recovery in the form of biofuels (biomethane) obtained from the organic fraction of separated waste;
- production and efficient use of electricity;
- greater recovery of plastic used to produce of new products;
- creation of new landfill volumes for residual waste components that cannot be used in any other way.

In 2017, we obtained construction and operation permits for the S. Agata Bolognese biomethane plant and construction on civil works and digesters began in April. The works carried out in 2017 on this site amounted to €12.2 million. At the same time, we also contracted the other components (upgrades, electrical systems, mechanical systems, etc.) that are being built in the factory and for which assembly is expected to take place in 2018.

In addition to these activities, the Herambiente Group made operational investments of a further Euro 43.2 million in the material and energy recovery sector, as well as in the construction of further landfill volumes; the most important of these include Alimpet's new PET washing line, the revamping of the boiler at the Pozzilli waste-to-energy plant, the implementation of energy recovery systems with biogas engines at the Imola and Ravenna landfills, the revamping of plant sections at the Cesena and Ozzano composting plants to bring them into line with BATs, the Best Available Techniques.

In 2017, in relation to glass treatment and recovery, we obtained permits for the construction and operation of the line that will replace the existing line at the Rimini selection plant. In 2017, we initiated the procedure to award of the provision and installation of the line. The procedure will be completed in 2018, and assembly and commissioning of the line will also be carried out during that year. In 2017, the company was granted authorization to implement a storage plant in Modena; the plant was built and started operating at the end of the year.

Below is a summary of some of the main environmental measures being designed, in progress or completed at the end of 2017. These 18 measures are worth about Euro 150 million.

## Main waste treatment plant extension/improvement measures

Plant	Progress as at 31 December 2017	Type of measure	Environmental benefits expected/obtained
S. Agata Bolognese	Construction in progress	Implementation of biomethane plant	Production of biomethane to feed into the network (approx. 7.5 million m <sup>3</sup> /year and 20,000 tonnes of compost expected)
Trieste waste-to-energy plant	Planning stage	Revamping of Line 2	Increased treatment and energy recovery capacity (20,000 Mwh/year expected)
Ravenna waste-to-energy plant	Planning stage	Plant revamping	Increased treatment and energy recovery capacity (from 22,000 Mwh/year to 29,000 Mwh/year)
Finale Emilia landfill	Planning stage	Implementation of lots 5-11	Capacity increase
Ravenna landfill	Completed	Implementation sector 9	Capacity increase
Borgolavezzaro transformation plant	Construction in progress	New PET washing line	Increase in PET recovery production capacity (increase in flake production by approximately 22,000 tonnes/year)
Cordenons landfill	Construction in progress	Construction of 1st portion	Capacity increase
Ravenna landfill	Planning stage	Implementation of sector 10	Capacity increase
Imola landfill	Completed	Addition of an additional 1.5 MWe energy recovery system	Electricity production (up to 11,000 MWh/year)
Ravenna landfill	Construction in progress	Implementation of energy recovery for sector 9	Electricity production (up to 8,500 MWh/year)
Firenzuola landfill	Completed	Addition of an additional 0.5 MWe energy recovery system	Electricity production (up to 4,000 MWh/year)
Tavullia landfill	Construction in progress	Expansion of landfill site trench volume	Capacity increase
Tavullia landfill	Planning stage	Construction of a mechanical biological waste treatment plant and production of CSS	Expected reduction of waste sent to landfills from 35% in 2016 to 29% in 2020
Cagli landfill	Construction in progress	Capping and environmental renovation	Reduction of leachate production and environmental renovation
Tavullia landfill	Construction in progress	Capping and environmental renovation	Reduction of leachate production and environmental renovation
Urbino landfill	Construction in progress	Expansion of landfill site trench volume	Capacity increase

Among the plants managed by the Group, note that as described below, we have enlarged the Tre Monti landfill (near Imola), run by the Conami consortium, the owner of the landfill.

### *Environmental impact assessments presented during the year*

The IEA and Screening procedures are accompanied by a series of environmental assessments aimed at assessing the effects of the works (both during construction and at the project stage) on the environment and on human health and well-being, based on the characteristics of the project and following analysis of the components involved in their ante operam condition. Interference with the following components was analysed in particular: atmosphere, water resources, soil and subsoil, flora, fauna and ecosystems, noise, human health and well-being, landscape and cultural heritage, settlement system and socio-economic conditions.

The approach used involves performing specific model simulations in addition to qualitative and descriptive evaluations, using software and calculation algorithms, to obtain numerical data that can be compared with current industry regulations and so as to assess the significance of the impact. Model simulations are carried out in particular for the emission of pollutants and odorous substances into the atmosphere, and noise emissions.

All the simulations carried out involve the precise characterization of the sources and the evaluation of the most disadvantageous scenario in order to make out a precautionary assessment. To assess the visual effect of the new works on the surrounding environment, and specifically for creating new lots/landfill sites, landscape assessments are carried out by using renderings and photomontages. In some cases (construction of the fourth lot of the landfill at Imola), the application was also accompanied by a specific "Health impact assessment and proposed health monitoring plan".

Once all impacts have been assessed, specific mitigation measures are identified, where necessary, in order to reduce their impact and, where that is not possible, specific compensatory measures are prepared (construction of PV plants, planting, etc.).

It must be noted that the design of the works is always carried out identifying and using the best available technologies as required by Legislative Decree 152/06 as amended and Article 29 bis, paragraph 3, which, for landfills, are defined by Legislative Decree 36/03.

The following Environmental Impact Assessment applications were activated in 2017:

- **Construction of sector 10 of the non-hazardous waste landfill in Ravenna at the Ravenna Industrial Zone at km 2.6 on the SS 16 road.** In order to fully implement the requirements of the Regional Waste Management Plan, the project involves the construction of the tenth sector of the non-hazardous waste landfill, with a capacity of about 250,000 tonnes of waste.

The project was carried out in compliance with the best available technologies identified by Legislative Decree 36/03 considering in particular the construction aspects and the operating and management procedures that are to be implemented. To preserve the soil beneath the landfill, a special waterproofing system has been designed in compliance with the provisions of Legislative Decree 36/03 by installing a single composite artificial confinement barrier compliant with the minimum requirements of Legislative Decree 36/03 with reference to the level of the aquifer. The bottom waterproofing system will then be supplemented by a leachate collection and pumping system that will allow the leachate to be removed for subsequent treatment. This new sector will be served by a biogas collection network that will be burned in endothermic engines to produce electricity, thus avoiding direct emissions into the atmosphere.

In order to maintain a high protection level for the surface water media, the project includes measures to handle the rainwater that will fall on the new sector and adjacent areas. The measures are part of the general hydraulic regulation project for the entire plant engineering sector.

The project also involves the construction of a definitive synthetic covering system, with a lower weight than a cover made of inert draining materials, which will therefore limit the overall sagging of the bottom of the landfill basin.

Daily coverage will limit the waste surface area exposed to the weather. In addition, during the year, special management/operational measures will be adopted to reduce atmospheric impact, such as regular wetting of unpaved roads and limiting the transit speed of vehicles to minimize dust or periodic rat extermination campaigns to reduce the number of sinanthropic animals.

- **Construction of a new lot (fourth lot) of the landfill for non-hazardous waste, in the small valley adjacent to the existing landfill, on the Tre Monti plant site, located in the municipality of Imola, with a capacity of 1.125 million tonnes of waste.**

The project was carried out in compliance with the best available technologies identified by Legislative Decree 36/03 considering in particular the construction aspects and the operating and management procedures that are to be implemented.

To preserve the soil, subsoil and groundwater, the landfill bottom waterproofing, in line with what has already been authorized for the lots currently in use, will be made by laying a HDPE covering on the clay already present on site such as to provide waterproofing characteristics that are considerably better than the minimum performance required by Legislative Decree 36/2003. The new system for draining, extracting, storing and pumping the leachate produced by the new lot 4 will be managed with the same logic and methods used for the currently authorized lots, in particular the pumping system for the storage basins has been designed adopting technical solutions that guarantee perfect sealing and a disposal potential that is considerably higher than the theoretical annual production estimate made for the expansion. In addition to the leachate collection network, the rainwater collection network from the lots being filled and the rainwater collection network for the internal roads and for the vehicle manoeuvring areas (equipped with a stormwater treatment system) will be built and kept separate. The new biogas collection network will be connected to the existing energy recovery plant, thus avoiding direct emission of biogas into the atmosphere.

Daily covering will preclude access to waste by insects and other animals, wind dispersion and the emission of odours; in addition, upon completion of each layer, a second cover will be put in place to contain the biogas that is released from the mass of waste. For the final cover, two different solutions will be adopted, one for the sloping areas and another for the flat surfaces.

In order to compensate the transformation of some forest areas as a result of the implementation of the planned works, two areas have been identified, one near the plant site and the other in an important hilly area, on which important renaturalisation works will be carried out. In order to compensate the CO<sub>2</sub> emissions due to construction of the 4th lot and the related induced vehicle traffic, a photovoltaic system will be built on the roof of the mechanical-biological treatment plant at the site. The annual production expected for the photovoltaic system will be around 277.5 MWh/year.

- **Expansion with increase of the production potential of the existing plant for recovery of non-hazardous waste in which PET granulates and PE sheets are produced from plastic waste coming from the separate collection of solid municipal waste and special waste, located in the Municipality of Borgolavezzaro (NO).**

The measure concerns the increase of the current production potential of the section of the plant that deals with crushing and washing the PET. The upgrade also involves a substantial increase in incoming waste, installing new production and auxiliary plants, and the construction of new storage areas.

The driver for these measures, in addition to concerns on the availability of incoming materials and on the capacity of the plastics market, there is also the will to pursue and further increase the virtuous cycle of waste recovery of from the separate collection of plastic, in particular the incoming waste is mainly provided by the Corepla consortium, which collects the material throughout the country, thus going beyond the local area.

In accordance with the regulations on Environmental Impact Assessment, the following Environmental Impact Assessment applications were carried out in 2017:

- **Increase in the maximum authorized quantity of waste that can be treated at the chemical-physical plant located in Modena, via Cavazza.**

The increase in incoming waste is equal to 12,000 tonnes/year, exclusively of non-hazardous waste. The above increase is mainly for landfill leachates and composting plants, which are necessary in view of seasonal rainfall trends.

At the logistics level, the Area 2 chemical-physical plant in Modena plays a, strategic role in terms of centrality and proximity for the treatment of leachates generated in particular by landfills in the Modena area (Modena, Finale Emilia, Zocca, Montefiorino, Fanano and Pievepelago), in the Ferrara area (full landfills near Ferrara) and in the Bologna area (Sant'Agata Bolognese, Bentivoglio, Galliera and Guelfa-Bologna landfills).

The application also envisages a change to the limits to discharge into public sewerage in relation to certain parameters, in particular an increase in the limit for total surfactants in order to be able to manage potential peaks of concentration attributable to the discharge of leachate from landfills during periods characterized by low atmospheric precipitation, and a decrease, on the other hand, of the exceptions authorized for BOD5 and COD considered possible on the basis of the characteristics of the waste entering the plant.

The application also includes a request to modify the lime milk preparation system, which involves supplementing the water supply of the lime milk preparer with the wastewater/inorganic waste in storage, in order to reduce the consumption of drinking and industrial water, estimating a saving in consumption of approximately 3000 m<sup>3</sup>/year of industrial water.

- **Project to build a new crushing line at the selection and recovery plant located in Granarolo dell'Emilia in Via del Frullo 3/F (BO).**

The request in question essentially consists in the introduction of a new type of waste treatment (activity R12, crushing), by installing an electric crusher, to be placed under an existing shelter, to crush quantity of wood equal to 15,000 t/year (flow already delivered to the plant). The crusher can also be used to treat medium/large-sized non-reusable fractions, in order to make them suitable for subsequent energy recovery at authorized plants.

Lastly, in 2017, the main requests for Environmental Authorizations concerned:

- **the Tre Monti plant site**, located in the Imola municipality, for which authorization was granted in December of 2016 to increase the height of the existing landfill to reach a capacity of 375,000 tonnes and to upgrade the mechanical-biological treatment plant (TMB) for non-separated municipal waste. During 2017, therefore, waste disposal to landfills began with the new authorization and, in autumn, work started on upgrading the mechanical-biological treatment plant, which will be completed by the end of the first quarter of 2018. In accordance with the provisions of the Regional Waste Management Plan, approved on 3 May 2016, development of the plant site continued by filing a new Environmental Impact Assessment application in March 2017 and substantially modifying the Integrated Environmental Authorization for the project to build a new landfill lot (called the 4th lot) in the valley adjacent to that of the existing landfill for a useable volume of 1.125 million tonnes of waste, as described in the previous pages.
- **The Sant'Agata Bolognese plant site**, for which the Environmental Impact Assessment procedure was successfully completed in March, including a substantial amendment to the Integrated Environmental Authorization, relating to the new plant configuration that involves:
  - final closure of the landfill site and no expansion;
  - construction and management of an anaerobic digestion plant and revamping of the existing composting plant to maximize the recovery of material (production of about 20,000 t/y of high-quality compost) and energy (about 7,400,000 Nm<sup>3</sup>/y of biomethane) by treatment of the organic fraction of separately collected waste. The biomethane produced will be fed into SNAM's pipeline

network, by building a link to the existing SNAM network. The plant's treatment capacity is 135,000 t/y of organic waste, of which 100,000 t/y of organic waste from separate collection and 35,000 t/y of woody-cellulose waste (pruning and green waste).

The project requires major investments to renew/renovate existing plant equipment without occupying new areas. During the design phase, particular attention was paid to reduce emission of odours related to these types of treatments (replacing the open leachate storage tubs with sets of tanks, enclosing the treatment and storage areas and extraction and treatment of the exhaust air). Concerning biomethane production and sale, in August, at the end of the authorization process, we were granted the joint authorization to build and operate electricity plants using renewable sources pursuant to Legislative Decree 387/2003. In fact, this permit is necessary to build and operate the upgrading plant that purifies the biogas produced by anaerobic digestion of waste, turning it into biomethane.

- **The plant site of Firenzuola (Florence)**, where preparatory work continued on the Environmental Impact Assessment procedure for the extension of the **Il Pago landfill**, activated in 2016, consistently with the requirements of Tuscany's Regional Waste Management Plan. The project involves enlarging the existing landfill (called the 5th lot), adding a capacity of 220,000 tonnes. In 2017, we solved the issues of incomplete availability of the intervention, namely a section of the no longer used old provincial road, and the area was transferred from the Metropolitan City of Florence to Herambiente after completion of the procedure needed to sell the asset. Herambiente also attended public meetings to provide clarification and to respond to the questions raised by residents, with a view to maximum transparency on the motivations and technical choices underlying the initiative.
- **The Baricella (Bologna) plant site**, where preparatory work continued on the Environmental Impact Assessment procedure, including the substantial modification of the IEA, activated in December 2015, to expand the landfill by adding a new section, adjacent to the existing one, with a capacity of about 1,850,000 tonnes of non-hazardous special waste. In addition to technical and institutional meetings, such as Services Conferences, Herambiente also attended public meetings to provide clarification and to respond to questions raised by residents, to offer maximum transparency on the motivations and technical choices underlying the initiative.
- **The Finale Emilia (MO) plant site**, for which preparatory work continued on the Environmental Impact Assessment procedure, including the substantial modification of the IEA, activated in November 2015, relating to the landfill mining of the exhausted landfill, in conjunction with the expansion project and the preparation of 11 new lots. Landfill Mining (LFM) is a process applied to existing landfills, which consists in excavating the deposited waste and mechanically treating it to separate a reusable fraction from a residual portion that is placed in a new landfill, designed with modern protection criteria. In this specific case, the main purpose of the planned LFM operation is to remove and reallocate waste to landfill lots that are more technologically and environmentally sound and to recover materials (mainly soil, aggregates and fine materials) as technical volumes, within the lots of this landfill. The expansion project will provide a total of 1,860,000 m<sup>3</sup> of conferral volume: 330,000 m<sup>3</sup> of this will be used to put back waste from the closed landfill, while the remaining 1,530,000 m<sup>3</sup> will be used for new conferral volume. Technical and institutional meetings were held in 2017.

In 2017, the most significant permit changes for waste-to-energy plants were:

- **Modena waste-to-energy plant**, in September 2017 we obtained an amendment to of IEA for the operation of the plant at saturation of the thermal load and as a result the elimination of the maximum annual quantitative limit for waste treatment and of the limit for conferral of special waste;
- **Forlì waste-to-energy plant**, with permanent shutdown of the pre-selection plant for non-separated urban waste.

Both of the above-mentioned permit amendments are the result of the implementation of Emilia-Romagna's Regional Government Regional Waste Management Plan (RMP).

### *Recovery plant qualification for Hera's waste-to-energy plants*

Directive 2008/98/EC, implemented in Italy by Legislative Decree 205/2010, introduces a criterion to calculate energy efficiency which makes it possible to classify a municipal waste incineration plant as an energy recovery plant. This criterion makes it possible to calculate the energy efficiency of the incineration process on the basis of the energy introduced with the waste, the amount of energy consumed and the amount of energy produced (thermal and electrical). In order to ensure that the methods of applying this criterion are consistent, a reference document has been issued at European level to calculate energy efficiency.

The formula used to calculate energy efficiency provided by Directive 2008/98/EC is, in fact, a performance index. Therefore, it does not match the plant performance calculated using the classical thermodynamic criteria, but is an indicator of energy recovery capacity aimed at comparing different plants.

In addition, a decree of the Italian Ministry of the Environment and for the Protection of Land and Sea, no. 134 of 19 May 2016, added a "climatic factor" to the formula to account for the climate type of the plant's location. This factor was added to offset climate-related effects both on electricity generation and on the quantity of unused heat produced; in fact, the energy performance of plants located in countries with warm climates are "physiologically" lower than those of plants located in colder areas. As well reflecting the quality of the investments made over the years to upgrade the plants to use the best available techniques, the status of "recovery plant" also makes it possible to attribute to the plant a role of primary importance in the waste management system.

In fact, while the municipal waste to be disposed of is subject to the "principle of self-sufficiency in the water and waste regulatory area (ATO)", the municipal waste to be recovered is subject to the "principle of proximity", meaning that it can be sent to the nearest recovery plant, not necessarily located in the same ATO it is in.

After having determined compliance with the energy efficiency criterion, as set by the regulation, the authorization that governs its activities (Integrated Environmental Authorization) must be modified so that an incineration plant can be operated as a recovery plant. These changes to the authorization are not substantial since they do not increase the plant's potential nor change to previously authorized emission levels.

All the recovery plants operated by the Herambiente Group (including those of Herambiente in Padua and Trieste) are R1 plants, except for the Ravenna special waste plant. In this regard, an evaluation process is being initiated in European round-tables to define a common criterion to assign R1 operation also to special waste plants.

The total installed capacity of the waste-to-energy plants managed by the Group (besides that of Ravenna) is approximately 140 MWe (equivalent to a medium-small thermoelectric power plant) and about 884 GWh of energy was recovered in 2016.

Recently, the Community framework further investigated the matter, determining at European level a climate correction factor (CCF) applicable to the R1 energy efficiency formula, in Commission Directive (EU) 2015/1127 of 10 July 2015; with a measure of the Ministry of the Environment (decree 134 of 19 May 2016). The factor has therefore been implemented, so the coefficient has been reduced from 1.38 to 1.25. Herambiente Group's plants retain the R1 qualification they have acquired.

This plant network makes it possible to manage the flows of non-separated municipal waste beyond the so-called municipal-derived waste in the region, in the event of a shutdown of the reference plant, this waste can be sent, either in full or in part, to the closest energy recovery plant, thus limiting the use of landfills and, by doing so, pursuing the goals set by European and national regulations on the hierarchy of waste treatment.

For example, with regard to the non-separated municipal waste collected in the Province of Rimini, if the Coriano (Rimini) plant were to shut down or the quantities of waste produced were to exceed its treatment capacity - as often occurs during peak tourism periods, for example - the waste could be sent to the closest available plants (e.g. Ravenna) for energy recovery and no longer disposed of in landfills.

Concerning the performance assessment of in terms of efficiency, there are two "structural" aspects. The first concerns the process related to the conversion of energy released by the combustion of waste, the

second to the external users that can make productive use of the waste heat generated by the combustion. In the first case, the assessment is plant related: The heat generated by combustion of the waste is used to produce steam, and depending on its characteristics (pressure and temperature) achieves different performance of the steam turbine, (the higher the temperature of the steam, the greater the efficiency of the cycle). The choice to opt for more or less advanced solutions takes into account not only performance but also economic factors (for example, to work with steam temperatures particular attention must be paid to the issue of acid corrosion of the pipes in which the steam flows, which increases costs due to a greater thickness of the pipes or due to coating them with materials such as Inconel, effective against corrosion but very expensive) and management factors (for example, work in more critical conditions may result in the need to increase both the duration and the frequency of ordinary and extraordinary maintenance). In the second case, finally, it is necessary to capability of recovering the waste heat produced by the combustion processes. The greater the ability to recover this waste by users outside the waste-to-energy plant, the greater the efficiency of the plant, also in terms of the R1 index. Lastly, waste-to-energy plants not only ensure significant energy recovery (electrical and thermal), but also produce heavy slag (called IBA, Incinerator Bottom Ash), for which there are well-established recovery processes whereby the slag is sent to organizations that work in this specific sector. With a production of about 250,000 tonnes of such slag in the group's plants, more than 80% is routinely used for material recovery (only a small portion is used in landfills as technical material for cultivation). The most important recovery chain is the production of artificial aggregates used to produce cement, as well as the production of cement mixes and (in one case) directly for the production of cement. Therefore, waste-to-energy plants not only guarantee energy recovery but also contribute significantly to the recovery of building materials from the point of view of a circular economy.

#### *The "Sblocca Italia" Decree and the new legislation on waste disposal*

Art. 35 of Legislative Decree 133/2014, converted, with amendments, into Law 164/2014, the so-called "Sblocca Italia" law, aims to develop a suitable, integrated system at national level to manage municipal waste and to meet the separate waste collection and recycling goals.

This objective is also aimed at guaranteeing national safety in terms of self-sufficiency and, as a result, circumventing and preventing additional violations due to failure to comply with European regulations in the sector. One of its key aims is to reduce the disposal of waste in landfills. In this context, the use of waste-to-energy technology, an alternative to landfill disposal, represents a solution to the various sanctions imposed on Italy by the European Court of Justice, the last of which, totalling Euro 42.8 million for every six months of non-compliance, was applied in December 2014 due to the ongoing non-compliance with the European Directive of the authorizations of 198 landfills in Italy.

The Italian Prime Minister's Decree of 10 August 2016 implements the principles and objectives of art. 35, as it identifies the overall capacity of the treatment plants of waste-to-energy plants at national level, and as a result identifies within macro-areas of Italy the residual requirement to be covered by building waste-to-energy plants.

Thanks to the important investments made in particular by the Hera Group in the last decade, Emilia-Romagna is one of the few Italian regions that does not risk descending into an emergency situation in the next 20 years as regards the recovery and disposal of waste.

In application of the principles and goals defined in art. 35, the Hera Group uses the following hierarchy to identify the priority criteria for the saturation of the capacities of its WTE plants:

- Local municipal waste;
- Regional municipal waste;
- any municipal waste from outside the region according to the resolutions of the relevant bodies;
- Non-hazardous special waste until saturation of residual heat load.

On the basis of these principles our Integrated Environmental Authorizations (IEAs) have updated between the end of 2015 and during 2016 and, at the same time, we have signed framework agreements with Local Authorities involved for the waste-to-energy plants of Forlì, Rimini and Modena. For the waste-to-energy plant of Ferrara, in the context of these updates, we were granted authorization to increase the amount of waste to be treated up to 142,000 tonnes/year to cope with possible emergencies outside the region for urban solid waste, subject to specific requests from the relevant authorities. In December 2015 the local authorities in Forlì and the Region signed a specific agreement for the management of municipal waste in the Forlì waste-to-energy plant to which municipal waste is sent only from the regional catchment area in respect of the planning being approved.

In 2017, no solid urban waste from other regions was treated in the above waste-to-energy plants.

*Special waste: similar-to-municipal waste, hazardous and non-hazardous*

When one talks about waste, usually household rubbish immediately comes to mind. However, in reality, household rubbish does not even represent 20% of all waste produced.

Indeed, in Italy, where a total over 160 million tonnes of waste is produced each year, more than 130 million is special waste, i.e. waste generated by production activities, while around 30 million tonnes are municipal waste (household and non-household waste). In Emilia-Romagna, out of over 11.4 million tonnes of waste produced in total, around 2.9 million are municipal waste.

**Urban and special waste production by province (2014) (thousands of tonnes)**

Area	Municipal waste	Non-hazardous special waste (excluding C&D, construction and demolition)	Hazardous special waste	Total special waste (excluding non-hazardous C&D)	Total waste
Modena	437	1827	70	1,898	2,335
Bologna	562	1156	169	1,324	1,886
Ferrara	225	734	47	781	1,006
Ravenna	281	1195	153	1,347	1,628
Forlì-Cesena	275	552	30	582	857
Rimini	244	276	65	341	585
<i>Total of provinces in Hera's service area</i>	2,024	5,740	533	6,273	8,297
Piacenza	184	371	106	477	661
Parma	248	782	33	815	1,063
Reggio Emilia	400	1013	41	1,054	1,454
Total Emilia-Romagna Region	2,856	7,905	714	8,619	11,475

Source: MW: ISPRA, Centro Nazionale per il ciclo dei rifiuti - Catasto dei Rifiuti

[www.catasto-rifiuti.isprambiente.it](http://www.catasto-rifiuti.isprambiente.it) (data at February 2018); SW: Portale Dati Ambientali ER <https://webbook.arpae.it/indicatore/Produzione-rifiuti-speciali-00001/>

Despite its quantitative predominance, special waste becomes almost invisible in the collective imagination as it is far removed from daily life and also because of the different way it must be treated, by law.

In fact, municipal waste must be collected and disposed of in the Region in which it is generated at a cost, for the general public, that is pre-set by the Water and Waste Regulatory Authorities. Conversely, special

waste must be disposed of by and at the expense of its producer and therefore companies use the operators that best cater to their needs, also economically speaking.

Special waste is therefore often transported quite far from where it is actually produced: to other provinces, other regions or even abroad. Over the years, this lower visibility, often coupled with a smaller degree of traceability, has been reflected in strategic planning deficiencies with regard to disposal plants, and unfortunately this tends to lead to illegal forms of disposal, which for years has filled the coffers of the so-called environmental mafia.

The ER Region, in its Regional Waste Management Plan approved in spring 2016, has identified and verified the need for special waste disposal and treatment capacity, comparing the demand with the capacity of existing plants to meet this need or equivalent quantities. With DGR 987/2017 the same Region has updated the assessment of the needs that is increased especially for the disposal to landfill of special hazardous and non-hazardous waste.

Under Italian law, waste is classified on the basis of the place it was generated (homes or factories) and not on its physical, chemical or product-related characteristics.

Legislative Decree 152/2006 classifies waste as urban or special on the basis of its origin, and, only downstream of this initial classification, according to its level of hazardousness, they are defined as hazardous or non-hazardous.

Municipal waste is household waste (inclusive of bulky waste) produced by homes, waste from cleaning streets and other public places, plant waste from green areas and any type of waste dumped or present in public areas, including beaches and riverbanks, whose production cannot be traced to a specific source. Also classed as municipal waste is non-hazardous special waste originating in premises and places not used for dwelling, that is similar-to-municipal waste in terms of quality and quantity according to the Municipal Regulations (or according to the regulations of supra-municipal authorities - Atesir) on the basis of the general guidelines set by the State; this waste is special in terms of origin but, after being ruled similar-to-municipal, it is handled (collected or disposed of) together with domestic municipal waste and subject to the corresponding tariffs or taxes (now called TA.RI.).

Special waste is waste from agricultural, construction, artisanal, industrial, sanitary, commercial and services activities, waste coming from waste recovery and disposal activities (therefore also the waste coming from treatment of non-separated municipal waste), water treatment sludge, mining or decontamination.

Waste is classified as hazardous or non-hazardous depending on the substances it contains. Hazardous municipal waste is made up of domestic waste that contains levels of pollutants or toxic substances such that they have to be disposed of in special plants (e.g. pharmaceuticals and batteries). Hazardous special waste is generated by production activities and contains the aforementioned pollutants or toxic substances.

In June 2015, the European and national criteria used to classify the hazard characteristics to waste were updated with reference to the regulation on criteria for hazardous substances (the so-called Regulation (EC) No. 1272/2008 on Classification, Labelling and Packaging). EU Regulation 1357/2014 applies to the assignment of HP hazard properties (except HP 14) and Decision 2014/995/EU with the new European waste list (EER, ex CER) already applied and consolidated. From 5 July 2018, EU Regulation 2017/997 will be in force for the attribution of the HP 14 hazard property.

For all these new developments, the Group has implemented and developed specific activities to adapt and update the classification and homologation criteria for the waste it manages.

The line between municipal waste and special waste is therefore set by the regulations defined by national law and applied at optimal municipal and/or area level.

Until the national standard is issued, each municipality may independently define the criteria for identifying waste from production, commercial and service activities as being similar-to-municipal waste. The more waste that is similar-to-municipal, the less special waste is left to be handled by the private sector with the risk of lower levels of control and traceability. In the areas served by the Hera Group, and in Emilia-Romagna in general, there is a high level of production of similar-to-municipal waste: the waste handled by the public service is estimated to comprise 50% waste of domestic origin and 50% waste of non-domestic

origin, i.e. similar-to-municipal special waste. It is also estimated that there are around 1.5 million tonnes of similar-to-municipal special waste that due to its characteristics (i.e. non-hazardous) is not processed as similar-to-municipal because it is produced by a single manufacturer in quantities above the set limit. Unlike the method used in Italy, in Europe the classification of waste is more directly related to its level hazardousness and to the type of treatment it undergoes.

	<b>Non-hazardous waste</b>	<b>Hazardous waste</b>
<b>Municipal waste</b>	Domestic waste (dry and organic) Waste from the cleaning of streets and other public places Waste similar to-municipal waste	Batteries, lead accumulators Environmentally harmful packaging TVs, monitors, fridges, air conditioning units and lamps Mineral oils
<b>Special waste</b>	Waste from agricultural and agro-industrial activities Inert materials and bricks (from construction and demolition businesses) Commercial and industrial packaging Plastics and glass processing waste Artisanal and industrial Coming from waste recovery and disposal operations, including municipal waste	Petrochemical and pharmaceutical production waste Metallic waste Sludge from reclamation activities Used oils Medical and veterinary research waste

#### *The special waste supply chain at Hera*

Within Hera Group, the special waste-management chain is managed by Herambiente

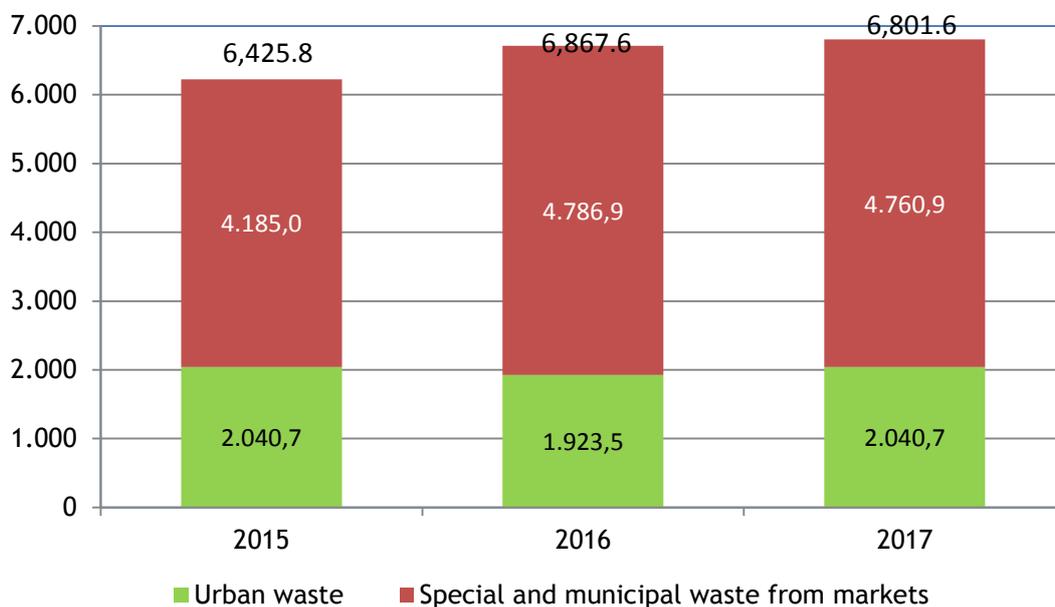
At Hera, the flow of special waste treatment is highly structured given the variable nature of this waste that comes from industry, from the treatment of wastewater, from construction, from the commercial and services sector, and from the healthcare sector. Herambiente has over 25 plants exclusively equipped for the disposal of special waste, with around 5 million tonnes managed in 2016 (including sub-products deriving from Group plant activities).

The Herambiente's plants, as regards special waste, includes, inter alia, plants such as:

- Disidrat (Ravenna) - treatment plant for pumpable sludge, shovellable material, ash, soil (authorized for 150,000 t/year)
- F3 (Ravenna) - special waste incinerator, including hazardous waste, of industrial origin (40,000 t/year)
- HASI waste storage and pretreatment centre (Herambiente Servizi Industriali), Ravenna - facility for special hazardous and non-hazardous waste (25,000 t/year of hazardous waste)

## Total waste treated by the Group

### Waste treated by type



### Municipal and special waste disposed of, by plant type

thousands of tonnes	2015	2016	2017
Selection plants	432.7	535.5	451.2
Waste-to-energy plants and biomass plants	1,390.3	1,336.3	1,305.4
Compost and stabilization plants	455.3	388.2	379.4
Landfill	918.5	777.7	872.3
Stabilization, and chemical and physical treatment	1,141.6	1,154.2	1,000.5
Third party plants/Other plants	1,887.2	2,675.8	2,792.8
<b>Total</b>	<b>6,225.7</b>	<b>6,867.6</b>	<b>6,801.6</b>

The data refer to plant inflow waste. Duplication may therefore be included. Some of the waste treated in selection plants, for example, may be disposed of in landfills following selection. The outgoing waste from plants, which has therefore been included among the final-use plants, was subtracted from the quantities treated in the separation plants.

Waste treatment is slightly down, by 1.0%, compared to 2016. As far as landfills are concerned, the increase in quantities is due to the expansion of plant availability in the Ravenna areas, as a result of the permits we obtained. The reduction in waste treated in the waste-to-energy plants is mainly due to the different scheduling of plant shutdowns and scheduled maintenance. The decrease in quantities in sorting plants is mainly due to a different classification of some plants as inerting and chemical-physical plants. The decrease in quantities for the inerting and chemical-physical plants is due to the reduction in landfill leachates due to the lower rainfall and to a different representation of some plants in this category (as mentioned above). Lastly, the third-party plants/other plants sector benefits from the acquisitions of the Aliplast Group and of the plants branch of Teseco Srl.

In 2017, the Group's landfills and waste-to-energy plants always complied with the quantitative limits on incoming waste set by the individual Integrated Environmental Authorizations for each plant.

### Thermal capacity saturation percentage of the plant

%	2015	2016	2017
Bologna (FEA) waste-to-energy plant	93%	93%	93%
Ferrara waste-to-energy plant	95%	97%	98%
Forlì waste-to-energy plant	87%	95%	94%
Modena waste-to-energy plant	95%	94%	95%
Ravenna waste-to-energy plant	100%	100%	98%
Rimini waste-to-energy plant	99%	100%	99%
Pozzilli waste-to-energy plant	100%	98%	95%
Faenza (Enomondo) waste-to-energy plant	93%	100%	100%
<b>Weighted average on thermal power</b>	<b>95%</b>	<b>97%</b>	<b>96%</b>

Excluding AcegasApsAmga.

Given that in 2017 the waste-to-energy plants indicated in the table treated quantities of waste substantially in line with the authorized quantities, and given the calorific value of this waste, the average percentage of the thermal capacity was 96%. This means that in 2017 the plants were used at 96% of their potential.

### The circular approach within the Hera Group

#### *Waste produced by the company*

In 2017, excluding AcegasApsAmga, the Group produced around 2.4 million tonnes of waste. The amount of waste produced by waste-to-energy plants (slag, particulate and solid waste from stabilization) increased, particularly in the Triveneto region. Slag produced by landfills has increased and, scope being equal, also by selection plants and by chemical-physical-biological plants, due mainly to weather. Waste from waste selection plants is on the increase, as a result of the entry of Waste Recycling.

### Main types of waste produced by the company

thousands of tonnes	2015	2016	2017
Sludge from purification treatment, potable water treatment and distribution	116	110	165
Sand from treatment plants	16	17	10
Ash from treatment sludge incineration	3	3	3
Other sludge produced in the field of the integrated water service	5	4	4
Other waste in the fields of the integrated water service and gas and electricity distribution	4	4	10
Waste-to-energy plant electrofilter particulates	47	52	47
Waste-to-energy plant slag	230	259	266
Solid waste from stabilization	44	51	101
Sludge produced by chemical-physical-biological plants	61	65	45
Sludge treatment water	616	781	543
Separated oils produced by chemical-physical-biological plants	1	1	1
Surnatant from chemical-physical-biological plants	106	95	71
Leachate from landfills	633	560	427
Scavenging water/sludge from waste-to-energy plant fumes	48	40	49
Non-reusable fractions from selection plants and to produce fuel from waste	284	360	430
Other waste from Herambiente storage and plants	38	101	221
<b>Total</b>	<b>2,252</b>	<b>2,504</b>	<b>2,393</b>
<i>of which non-hazardous in landfills</i>			342
<i>of which non-hazardous for energy recovery</i>			128
<i>of which non-hazardous for other treatment</i>			1,758
<i>of which hazardous in landfills</i>			39
<i>of which hazardous for energy recovery</i>			8
<i>of which hazardous for other treatment</i>			118

The data do not include Hera Luce and Uniflotte whose waste can be estimated at 0.2% of the total. Urban waste produced in the premises was not considered.

#### *Recovery of waste-to-energy plant slag*

The waste-to-energy plant growth and renovation plan pursued by Herambiente in recent years has had a positive impact on the production of combustion slag. The new combustion systems and, above all, the systems for the “cooling” and “gondola”-type systems to extract combustion slag, make it possible to have waste with a very low quantity of unburned matter and low water content. This has resulted in a lower percentage of slag produced and, above all, a quality level more suitable for subsequent recovery.

In 2017, the 9 waste-to-energy plants operated by the Group for the disposal of municipal waste (excluding the Ravenna F3 plant) produced 257,587 tonnes of slag, 20.5% of the waste treated at these plants. 81% of the slag produced was recovered while the remaining 19% was disposed of at landfills. The slag produced by the Herambiente plants and to be disposed of was sent to the Group’s landfills of Castelmaggiore (Bologna) and Ravenna, while the waste to be recovered was sent to plants located in the Provinces of

Pavia, Pavia and Ravenna. The slag produced by the Hestambiente plants is recovered in third-party plants in the provinces of Padua and Verona.

Slag recovery is carried out in third party facilities, and is used to produce secondary raw materials, which are then used to manufacture concrete and bricks. The Ferrara and Pozzilli plants also have a metal separation system for reuse of the metal in the metallurgical industry: 1,522 tonnes of metal were recovered in 2017.

#### *Recovery of treatment sludge*

Treatment sludge is considered special waste and must be managed as specified in **Legislative Decree 152/2006**. In 2017, the plants operated by the Group produced 37 kg of sludge per population equivalent served, in line with the previous year. Sludge used directly in agriculture accounts for 3.4% of the total. Recovered treatment sludge was used directly in agriculture only in the Triveneto area. At Group level, the remaining sludge produced was processed by **dedicated incineration** (24,387 tonnes, 14.8% of the total), **transfer to landfills** (approx. 16,442 tonnes, 9.9% versus 12.1 in 2016 and 19.0% in 2015) and **indirect agricultural reuse, following composting** (109,112 tonnes, 66.0%). The use of Herambiente's industrial sludge treatment plant in the province of Ravenna has contributed to reduce by 3 million tonnes the sludge disposed of in landfills as such: the sludge treatment makes material that can be used to cover landfills and fill the cavities of mines.

## Sustainable management of water resources

### Scenario and policies

#### Why it is important

The increase in water consumption, pollution, the loss of habitats and climate change endanger freshwater reserves and compromise natural ecosystems, with negative consequences for human health and safety. Drought is the cause of migrations and armed conflicts, with economic and social repercussions not only in directly affected countries. Excessive water use is a threat to energy and food industries. Investing in sustainable water management reduces risks and is evermore an essential condition for protecting life on Earth and for lasting growth.

**40%**

of the global population suffers from water shortage

**8**

conflicts in 2017 related to the use of water

**3**

infringement procedures for Italy initiated by the EU for waste water treatment delays

**55%**

growth in global demand for freshwater expected between 2010 and 2050

**81%**

of freshwater biodiversity decreased between 1970 and 2012 due to pollution, exploitation and alteration of water bodies

**10**

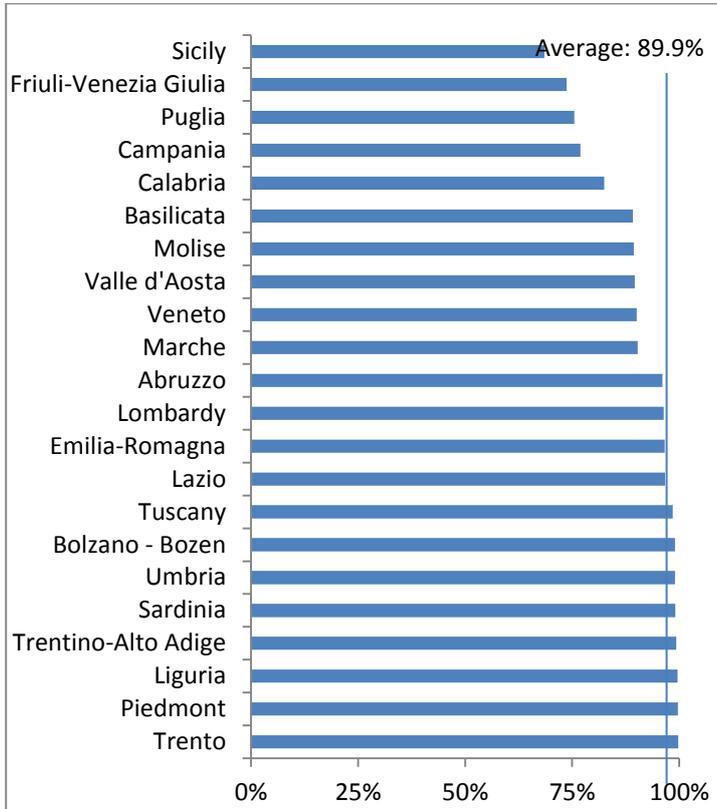
Italian regions that were prepared in August 2017 to request recognition of a natural disaster due to drought

#### Water, a precious resource that we must protect

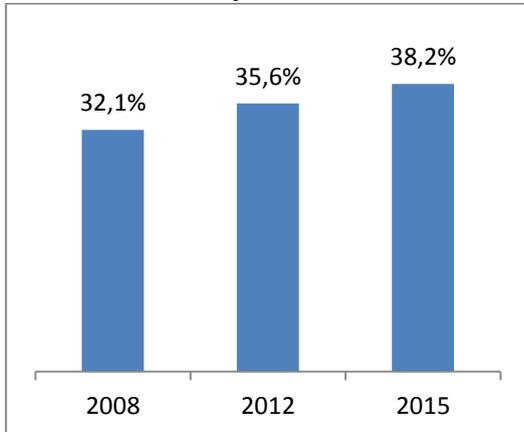
In Europe, widespread pollution, mainly of agricultural origin, significantly affects 90% of river basin districts, 50% of surface water bodies and 33% of groundwater bodies. In Italy, “high” and “good” class waters monitored for their ecological status and chemical status reached 25% and 18% of the total, respectively. The goal for 2025 is to bring water ecosystems to “good” status. Despite the progress made in recent years, wastewater treatment in several Italian regions is showing compliance delays. Given the risk of drought and water pollution, it is increasingly important to preserve water and limit its waste.

In 2015, 38.2% of the water fed into the distribution networks was lost.

**Wastewater treatment: Italy's delay with respect to the percentage of treated wastewater still evident**



**Water lost in Italy could meet the needs of 10.4 million people**



## Water supply sources

Hera Group's water supply sources comprise underground water, surface water and, to a lesser extent, springs. In Romagna, the distributed water is purchased wholesale from Romagna Acque – Società delle Fonti.

The drinking water purification processes vary in complexity depending on the quality of the source water: they range from advanced chemical and physical processes, usually used for surface water, to simpler filtration and disinfection treatments for water coming from deep wells and springs that is already of good quality when collected.

The treatments carried out ensure that the product we distribute has suitable chemical physical and microbiological features for human consumption, and is constantly compliant with the limits laid down by current regulations.

## Water fed into the network, by source

Thousands of m <sup>3</sup>	2015		2016		2017	
Groundwater	227,782	53.7%	226,314	53.6%	239,043	55.6%
Surface water	168,258	39.6%	166,309	39.4%	164,887	38.3%
Springs and minor sources	28,390	6.7%	29,460	7.0%	26,146	6.1%
<b>Total</b>	<b>424,430</b>	<b>100%</b>	<b>422,083</b>	<b>100%</b>	<b>430,076</b>	<b>100.0%</b>

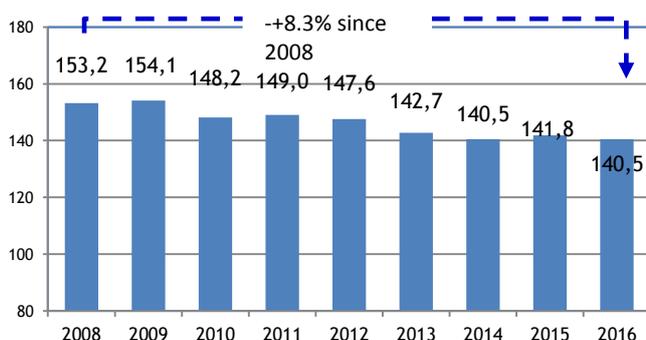
The data refer to both the civil aqueduct and the industrial aqueduct (the latter is present in the areas of Forli-Cesena, Imola-Faenza, Modena and Ravenna and accounts for about 3% of the total) and do not include for Marche Multiservizi any losses along the stretch of network upstream of the purification plant (estimated at 0.6 million m<sup>3</sup>). The total amount of water collected and introduced into the network includes about 2 million m<sup>3</sup> related to the consumption of the Group's plants. The values shown in the table include surface water collection totalling 1.1 million m<sup>3</sup> relating to the Group's disposal plants. Consumption does not include: Aliplast Group and Waste Recycling, whose consumption is estimated at 0.4% of total energy consumption.

The data shown shows a total volume of water fed into the network slightly up compared to 2016 (+1.9%), which in turn was slightly compared to the previous year.

The mix of supply sources is substantially unchanged compared to 2016. From a geographical point of view, the share of groundwater is lowest in the Marche Multiservizi area (22%), while it is predominant in the Triveneto area (91%).

In Emilia-Romagna, the data on the total volume of water fed into the network in 2017 show a significant increase compared to 2016 (+3.4%). In terms of the use of the various sources, the extended drought period led to a greater use of groundwater (+8.7% compared to 2016). Considering only the domestic water network Hera Spa operates, in 2017, 308 million m<sup>3</sup> of water was fed into it (+3.4% compared to 2016). The territories of Bologna and Forli-Cesena are those that increased the most compared to the previous year. Limiting the analysis to domestic consumption only, it is interesting to note that in the 2008-2016 period the water sold decreased significantly, by 8.3%.

## Water sold for household use (millions of m<sup>3</sup>)



Excluding AcegasApsAmga and Marche Multiservizi.

Hera Group's distribution network covers **35,096 kilometres** and, where possible, is interconnected and linked in order to ensure **supply continuity** even in the event of temporary interruptions of one or more pipelines.

### Water network components

%	2015	2016	2017
Plastic material	52.6%	52.9%	53.1%
Asbestos-cement	21.0%	20.9%	20.8%
Steel	17.2%	17.0%	16.9%
Cast iron	8.3%	8.4%	8.4%
Other materials	0.9%	0.8%	0.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

The amount of asbestos cement in the water network is continuing to decrease, and accounted for 20.8% of the Group's share in 2017. The slight decrease is due to use of materials other than asbestos cement in new networks or in those subject to extraordinary maintenance. Over the last 3 years the Group has replaced approximately 30 kilometres of asbestos cement mesh.

### Actions for drought risk prevention

During 2017, the low rainfall was accompanied by high temperatures, and determined an increase in consumption, but Hera provided the water supply service regularly throughout the area without any outage or limitation. This was possible both due to the interconnections of the water supply networks and source differentiation implemented over the years on the water service, and to the extraordinary measures put in place to manage the summer drought, especially in some Apennine areas.

Water sourcing in mountain areas, mainly springs, was proportionally less available due to lower rainfall, as the typical depletion curve of the Apennine springs decreased about three months earlier, and the exceptionally low level of the watercourses led to a decrease in water production at some water treatment plants.

In the Apennines, the Modena area has been equipped over the years with infrastructure designed to manage the water requirements and the original municipal aqueducts have been interconnected so that the physical integration of each of them makes up an infrastructure system capable of mutuality and subsidiarity. The saturation of the transport capacity of the entire water-supply system, required to transfer the resource from zones where water is available to those where it is lacking, was made possible by the cooperation between the specialist skills of the "on site" operators and those of the remote control system, which were able to create the necessary configurations and optimize them centrally and mainly remotely.

Hera operates the main aqueduct system in the Bologna area: it distributes approximately 90% of the total volume for the province of Bologna. The lower production of the Val di Setta power plant, due to the exceptionally low water flow rate, was offset by the use of groundwater, which provided supply continuity to the primary system even in critical conditions. In the Apennines area near Bologna, on the other hand, the construction of two new pumping plants in the municipality of Guiglia and the interconnection with the Modena system, and in particular the construction of a new storage and pumping plant in the Monte Severo (Monte San Pietro) area, have made it possible to reduce the need to supply tanks in the mountains using tanker trucks (down by 40% in the summer of 2017 compared to 2012, the most recent significant drought).

In Romagna, where Hera operates mainly as a distributor, Romagna Acque Società delle Fonti built the "Standiana" drinking water plant (capable of treating a flow of 1100 l/sec) in the Ravenna area in response to the problem of water reserves on the Adriatic coast, a major tourist destination, supplementing the Ridracoli feeding system. In any case, in the Romagna area, the measures Hera has implemented in recent years have also mitigated the problems caused by the dry summer, such as:

- in the Forlì-Cesena area: the construction and start-up of the new interconnection between the Cesena water distribution network and the primary supply line, the Meleto reservoir plant in Sogliano to supplement and increase water availability, the implementation of the remote control system at the main storage tanks in the municipality of Bagno di Romagna;
- in the Ravenna area: the upgrade of the San Martino a Lugo pumping station to supplement the Sant'Agata sul Santerno water distribution network, the upgrade of the remote control system to control pumping and water levels in the tanks of the Parco Carnè aqueduct in Brisighella, the Vairsole pumping station and the water distribution network underlying Marradi to improve the water supply of the area, the construction of the Faggiola pumping station at Palazzuolo sul Senio to supply the Croce di Visano reservoir;
- in the Rimini area: the upgrade of the Monte Pedriccio pumping station in the municipality of Saludecio to facilitate water distribution network integration for the municipalities of Saludecio, Mondaino and Montegridolfo, the upgrade of the Conca pumping station in the Municipality of Montefiore, of the Miramare pumping station in Rimini, of the Cattolica pumping station, the extraordinary maintenance work on the Senatello water system in the municipality of Casteldelci and at Sant'Agata Feltria.

The measures implemented are directed towards increasing the interconnected management of water supply networks and increasingly developing remote control systems and automated management of water systems in the direction of a smart grid aqueduct, a path which leads to be able to manage and control the problems which occur in extraordinarily dry summers such as that of 2017.

### **Non-revenue water**

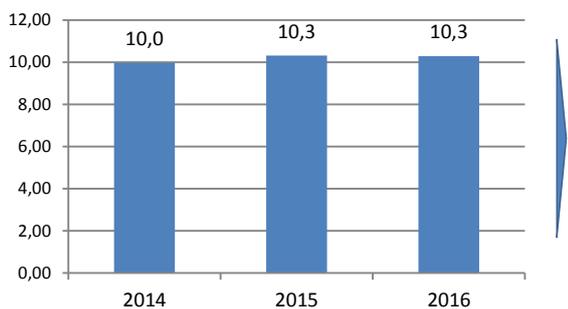
The percentage of non-revenue water compared to water fed into the network is related to physical or real losses (due to breakage of pipes or hydraulic equipment, etc.) or procedural or apparent losses (metering inaccuracies, errors in estimated presumed consumption at 31 December, unrecorded internal consumption, illegal use). The latter losses result in water which is effectively delivered to the final customer but is not recorded or billed.

Until 2006, network losses were calculated as the difference between the water fed into the water network during the year and the water accounted for as supplied to customers during the same period: the amount was estimated at 31 December of every year on the basis of the historical consumption of customers since it is not possible to take a single reading at 31 December of all the meters. This estimate was then supplemented so as to take into account the correct period of recording in accounts of the water sold to customers as at 31 December of the previous year, calculated after reading all the meters. Since 2007, network losses have been calculated by integrating the adjustments coming from meter readings in the pertinent year, thereby ensuring perfect comparability between water sold and the related amounts fed into the system each year. With this approach, it is possible to calculate the final figure for the year only around 4-6 months after the close of the financial statements, or after all the meters have been read. For this reason, the table below does not include the provisional figures for 2017.

At Group level, network losses for 2016 were 31.6%, in line with 2015. The Group continues to rank significantly below the national average of 39.1% in 2016 (source: Istat, Dati ambientali nelle città 2016) and the 35% average of the 12 largest provincial capitals (source: Legambiente Ecosistema Urbano 2017).

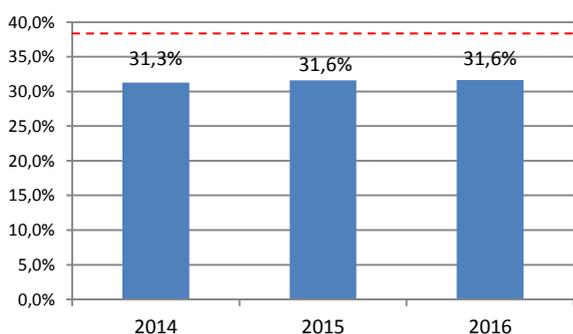
The corresponding line loss for 2016 is 10.3 m<sup>3</sup>/km/day, in line with 2015. We believe that the figure of water not billed per kilometre of network is more representative of the effectiveness and efficiency of the distribution system and more useful for comparison with other companies. The figure for line losses in the Emilia-Romagna region was 9 m<sup>3</sup>/km/day in 2016, substantially in line with the average of 8.3-8.4 m<sup>3</sup>/km/day measured by the European Environment Agency on a group of 32 European utilities that took part in the study "Performance of water utilities beyond compliance". It is an even more significant value if compared with the average of 27 m<sup>3</sup>/km/day of the major Italian utilities for 2016 (source: Utilitatis, Benchmarking della Sostenibilità 2017).

**Water not billed per kilometre of network operated (m<sup>3</sup>/km/day) (physical and administrative losses from the domestic water system)**



	2014	2015	2016
Hera	8.3	8.9	9.0
Marche Multiservizi	6.6	6.8	6.4
AcegasApsAmga	27.3	25.7	25.2

**Water not billed (physical and administrative losses from the domestic water network)**



Italian average:  
39.1%

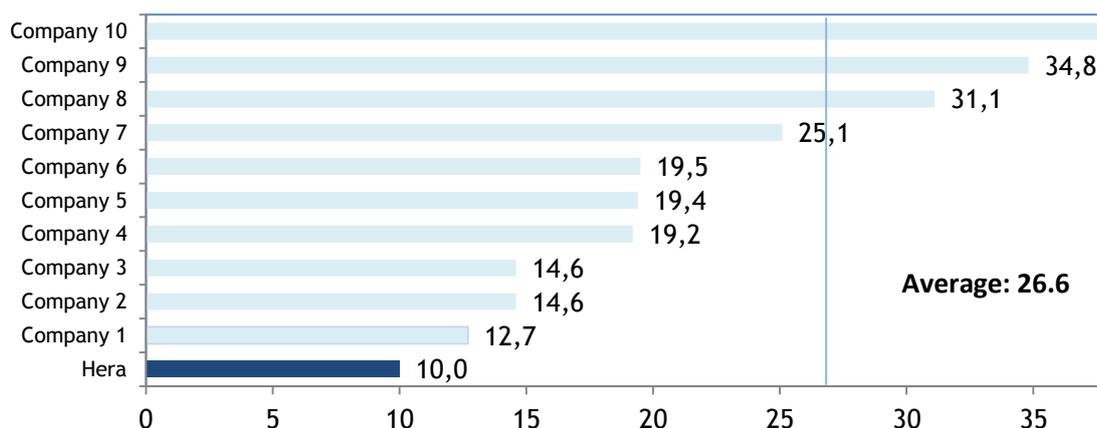
	2014	2015	2016
Hera	28.6%	29.7%	29.9%
Marche Multiservizi	32.7%	33.3%	32.1%
AcegasApsAmga	39.6%	37.5%	37.4%

The figure for 2017 is not reported since it is provisional.

*Non-invoiced water in the main Italian utilities*

In a comparative analysis between the main Italian utilities, Utilitatis considered the non-revenue water per kilometre of network: Hera's 2016 result (10.3) is 62% below the average index of the 11 multi-utility companies considered (26.6).

**Water not billed per kilometre of network operated (m<sup>3</sup>/km/day)**



**Water consumption within the Group and water reuse**

In 2017, 3 million m<sup>3</sup> of water were consumed at the Group's plants and sites, down 6% compared to the 3.2 million of 2016.

The biggest consumers were the waste disposal plants and the cogeneration plants. In particular:

- waste disposal plants (2.6 million m<sup>3</sup>, of which in particular 2.4 million in waste-to-energy plants) decreased by 7% compared to the previous year, due in particular to the consumption of the Trieste waste-to-energy plant where water demand decreased as a result of changes to cooling tower recirculating water conditioning which determined less drain-off. The downward trend in water consumption also continued for the Ferrara (-11% compared to 2016) and Padua plants (slight in absolute terms but positive considering also a +2.7% increase in waste treated);
- the co-generation plants that in 2017 consumed 341,688 cubic metres of water, up 8.5% compared to 2016. In particular, 251,541 m<sup>3</sup> were consumed by the Imola power plant. The year was positively affected by water savings in some cogeneration plants such as S. Biagio (BO), Ippodromo (FC), and Bufalini (FC). There was a higher consumption, compared to 2016, at Cogeneration Acer - Barca (BO) because in 2016 the plant was virtually inactive due to complete revamping. However, after a year of complete operation, its water consumption has halved, compared to 2015. Furthermore:
  - some cogeneration systems increased electricity generation by 7.3%, and therefore used more water;
  - for the Bologna Berti power plant, the increase in consumption is due to the greater demand for cooling energy from customers;
  - some breakages affected water consumption (Ecocity BO).

Around 132,000 m<sup>3</sup> were used in the offices.

In 25 waste treatment plants with Emas certification, water consumption is estimated at 1.5 million m<sup>3</sup>. In some plants, this water is reused within the production cycle. In 2016, reused water accounted for 22% of total water consumed. The flue gas scrubbers we have installed in our waste-to-energy plants are mainly the dry type, since they reduce water consumption compared to wet scrubbers. In the composting plants, the recirculated water is connected to the storm water tanks. In other plants, the water is reused for other processes within the same site, while in the waste-to-energy plants it is reused to extinguish the slag and to clean the paved areas.

### **Wastewater treatment quality**

In 2017, the Hera Group operated the sewage and wastewater treatment service in 231 municipalities, 49 of which as Marche Multiservizi and 18 of which as AcegasApsAmga.

At Group level, the **sewage service** for all urban areas covered 93% of the requirements of the areas served (population equivalents). This value rises to 99% if we consider only urban areas with over 2,000 population equivalents in Emilia-Romagna.

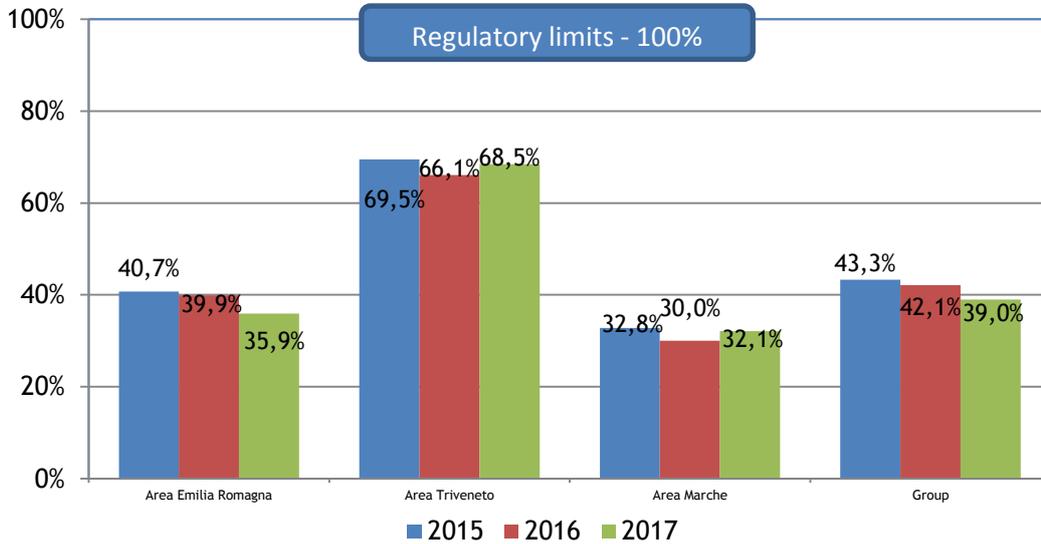
In 2017, the **treatment service** covered 92% of population equivalents in the areas served by the Group. This value rises to 99% if we only consider urban areas with over 2,000 population equivalents in Emilia-Romagna.

These values are very positive if compared with the average of the Italian utilities that were included in the Utilitatis study in 2016, at 90% for the sewage network and 88% for the treatment network. Concerning the country-wide values, the latest data available are for 2007, when 85% of Italians was served by the sewage network and 70% by a treatment plant. (Source: 2009 Utilitatis Blue Book for 2007). Assessing the percentage of wastewater treated compared to the total, the Italian average in 2015 was 89.9%, with negative peaks for the regions of southern Italy such as 68.5% in Sicily or 76.9% in Calabria (source: ISPRA).

The Hera Group treated over 364 million m<sup>3</sup> of wastewater in 2017, compared to 393 million in 2016 as a result of the low rainfall in 2017 and, therefore, of the lower inflow of rainwater. The sewer networks that feed those plants are generally mixed-type systems, and the volumes treated therefore depend on rainfall. In Emilia-Romagna, wastewater treatment was carried out in 880 plants, 14 of which have a capacity of over 100,000 population equivalents each.

The sewage network Hera Spa operates is approximately 14,681 km long and about 53% of the total (55% in 2014) is a mixed-type system. The Group's sewage network is approximately 18,642 kilometres long, and about 58% of the total is a mixed type system.

**Compliance of the treated water with the limits set by law (optimal values <100%)**



The indicator relates to the plants with over 10,000 population equivalents (the volumes treated in these plants are 77% of the total wastewater treated) and is calculated on the basis of the ratio between the concentration measured for BOD5, COD, TSS, ammoniacal nitrogen, phosphorus and total nitrogen and the related maximum concentrations permitted by Legislative Decree 152/2006.

The efficiency in removing pollutants to comply with the regulatory limits, as expressed by the indicator in the chart, is related to the treatment capacity of the plant and the technologies used. At Group level, this indicator averages 39% of regulatory limits, taking into account BOD5, COD, TSS, ammoniacal nitrogen, phosphorus and total nitrogen, and 30% excluding phosphorus and total nitrogen. The indicator that expresses the efficiency of removal of the main pollutants improved slightly compared to previous years, also due to the fact that some important upgrade projects started in previous years are nearing completion.

## The main works to expand treatment plants

Plant	Population equivalents	Progress (at end 2017)	Type of measure	Environmental benefits expected/obtained
<b>Trieste</b>	220,000	Construction in progress (wastewater treatment started in March 2018)	Measure to achieve compliance and expand plant	More effective treatment and greater guarantee of compliance with applicable regulations EC Infringement Resolution 2014/2059
<b>Ca' Nordio (PD)</b>	235,000	Construction in progress (to be completed in 2019)	Enhancement/upgrade for new incoming loads	Increase in the flow rate that can be treated in the plant
<b>Borgheria (PU)</b>	116,500	Design in progress (to be completed in 2021)	Measure to make the plant compliant with regulations	More effective treatment and greater guarantee of compliance with applicable regulations EC Infringement Resolution 2014/2059
<b>Orciano (PU)</b>	30,000	Construction in progress (to be completed in 2018)	Plant upgrade measure	More effective treatment and greater guarantee of compliance with applicable regulations EC Infringement Resolution 2014/2059
<b>Ca' Nordio (PD)</b>	197,000	Completed	Regulatory compliance measure	More effective treatment and greater guarantee of respect for the laws in force
<b>Riccione (RN)</b>	140,000	Construction in progress (to be completed in 2018)	Measure to make the plant compliant with regulations	Improvement of treatment efficiency and upgrade of drainage
<b>Sasso Marconi (BO)</b>	12,000	In progress (to be completed in 2020)	Treatment plant revamping	Improvement of treatment efficiency and upgrade of drainage
<b>Cesena (FC)</b>	100,000	Construction in progress (to be completed in 2018)	Measure to comply with regulations	Improvement of treatment efficiency and upgrade of drainage
<b>Ravenna</b>	240,000	Construction in progress (to be completed in 2018)	Treatment plant revamping	Improved handling of treatment sludge
<b>Trieste</b>	8,000	Completed	Measure to achieve compliance and expand plant	More effective treatment and greater guarantee of compliance with applicable regulations EC Infringement Resolution 2014/2059

The table shows the main improvement and expansion measures of treatment plants completed during the year or under construction, that involve a total investment of around Euro 100 million.

## Percentage of analyses on outgoing treatment plant water compliant with regulations

%	2015	2016	2017
Plants with over 10,000 population equivalents	99.3%	99.2%	99.0%
Plants with less than 10,000 population equivalents	99.0%	99.2%	99.5%
<b>Weighted average</b>	<b>99.2%</b>	<b>99.2%</b>	<b>99.1%</b>

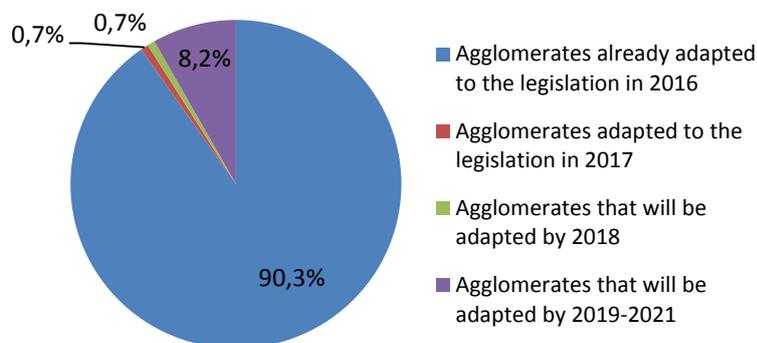
The 2015 and 2016 data have been aligned with the calculation criteria used for 2017

Considering the 10,811 analyses carried out in 2017 on 229 treatment plants, in 99.1% of the cases the results were compliant with the regulatory limits.

The final values for this indicator in 2017 show a very satisfactory situation with extremely encouraging percentages of the total checks found compliant. The only cases that exceeded the authorized limits were in relation to purely incidental situations, largely compatible with the variability of the incoming quantities, the operating conditions and the structural condition of the plants.

Wastewater treatment quality can also be identified by monitoring the **upgrade trends of urban areas**, defined as areas in which population and production activities are concentrated to the extent that it is technically and economically acceptable to build an independent sewage treatment system. As set out by Directive 91/271/EEC, Legislative Decree 152/2006, and by the Water Protection Plan of the Regional Government of Emilia-Romagna, compliance requires that at least 95% of wastewater must be collected and the capacity of the treatment plants must exceed the requirement for the population equivalents of the urban area with secondary or tertiary treatment (where necessary).

## Compliance work for the sewerage-treatment system (% of urban areas >2000 PE achieved compliance with regulations)



At the end of 2017, at Group level, 122 of 134 urban areas had achieved compliance with Legislative Decree 152/2006 (one more than in 2016: Sistiana in the province of Trieste, with 3,649 population equivalents). Compliant urban areas amount to 85% of the total population equivalents. In Emilia-Romagna, this figure reaches 100%. In 2018, the Trieste Muggia urban area will achieve compliance, for a total of 256,882 population equivalents. By 2021, all urban areas with a population equivalent greater than 2000 in the territories served by Hera will have achieved compliance.

In 2017, the Ministry of the Environment formally informed the Regional Government of Emilia-Romagna that it had withdrawn infringement proceedings 2014/2059, which therefore ended with compliance of the 206 urban areas >2000 PE in the region, 101 of which are managed by Hera. In 2016, all urban areas larger

than 2000 PE reached the quality objectives set out in the Water Protection Plan of the Regional Government of Emilia-Romagna, in terms of extension of the networks and the presence of treatment plants.

In the area served by AcegasApsAmga, the upgrade of the Trieste Sistiana conurbation was completed in 2017, for a total of 3,649 population equivalents. Upgrade work in the Trieste Muggia conurbation, which was facing infringement proceedings by the European Union under Procedure 2014/2059, is already in progress and will be completed by 2018, with the start-up of the Servola treatment plant. In the Marche Region, 7 urban areas will achieve compliance in 2021.

With regard to urban areas under 2000 PE, where critical issues remain for subjecting the final effluents to appropriate treatment, Emilia-Romagna's Regional Government identified and set the timeframe for achieving compliance as 31/12/2018 to prepare the detailed plan and 31/12/2021 to implement the measures, in its Resolution 201/2016. During 2017, the measures at Palagano (MO), Bastia (RA) and San Bernardino (RA) were completed, while the commissioning of the works in Boara (FE) is still in progress. We expect to complete design in 2018 and implement the measures by 2021 for 86 urban areas, amounting to 53,000 population equivalents. At Group level, there are 292 urban areas with less than 2000 PE for a total of 193,000 population equivalents, of which 44.5% are compliant (130 urban areas for 96,000 population equivalents). In Emilia Romagna, 130 out of 217 urban areas are compliant, equal to 60%.

At Group level, there are 292 urban areas with less than 2000 PE for a total of 193,000 population equivalents, of which 44.5% are compliant (130 urban areas for 96,000 population equivalents). In Emilia-Romagna, 130 out of 217 urban areas are compliant, equal to 59.9%.

Some urban areas have critical issues. For example, some have undersized network floodways or require more thorough nitrogen abatement, as Resolution RER 201/2016 now requires for urban areas over 10,000 PE. Although these situations do not undermine the compliance of those urban areas to Legislative Decree 152/2006, they may locally jeopardize the achievement of quality objectives for water bodies. Therefore, the Regional Government of Emilia-Romagna, together with the of the integrated water service operators, have defined timescales and compliance criteria in the aforementioned resolution. A total of 31 urban areas must be made compliant by 2030. In 2017, upgrade work was completed at the Cattolica-Misano-Val Conca conurbation (11 urban areas already compliant with regulation). We plan to make a further 5 urban areas compliant by 2021, 5 more by 2024 and a further 15 by 2030, bringing the total to over 2 million population equivalents.

### **Constructed wetlands**

Hera operates 16 small or medium-capacity constructed wetlands, located in the provinces of Bologna, Ferrara, Florence, Forlì-Cesena, Rimini and Ravenna: some are secondary biological treatment plants downstream of primary sedimentation while others are tertiary treatments used for final refinement of the wastewater before its final discharge.

Constructed wetlands are a natural process used to treat polluted water based on the capability of soil and vegetation to remove pollutants. They are designed as a system of biological ponds and of planted macrophyte vegetation.

This kind of treatment also contributes to the reclamation of borderline areas, creating natural environments and landscapes that are pleasing to the eye, and often chosen as refuges for various species of birds, amphibians and reptiles. In these areas it is therefore also possible to organize education tours to observe specific animal and plant species typical of wetlands.

## Case study

### Transition towards a circular economy

#### *Municipal waste in landfills: European targets for 2020 already met*

In December 2017, a tripartite agreement (Council, Commission and Parliament) was reached on amendments to some waste directives, proposed as part of the Circular Economy package adopted in 2015.

In particular, the new agreement includes:

- as regards municipal waste, achieving a recycling rate of 55% of waste by 2025, 60% by 2030 and 65% by 2035 (the initial proposal was 50% by 2020, 60% by 2025 and 65% by 2030);
- for packaging waste, achieving a recycling rate of 65% by 2025 and 70% by 2030 (the initial proposal was 75% by 2030);
- a maximum of 10% in landfills by 2035 (the initial proposal was by 2030).

In this scenario, Italy is far from the objectives on the use of landfills and recycling of municipal waste, while it ranks well in relation to packaging recycling.

In the area served by the Group, the targets for landfill use have already been achieved (8% compared to the 2035 objective of 10%) while it is on track to reach the target for recycling of municipal waste (48% in 2016 compared to the 2025 objective of 55%) and has already exceeded the target for packaging (68% in 2016 compared to a target of 65% by 2025). The Group's objectives for 2021 are to reach 60% for recycling of municipal waste and 70% for packaging.

#### *Hera among the world leaders in the circular economy*

In October 2017, the Hera Group was the second Italian company to join the Ellen MacArthur Foundation' prestigious international CE100 programme and immediately started a close collaboration relationship to implement the projects carried out to create shared value through activities inspired by the circular economy principles. In addition to large groups concentrated mainly in Europe, the United States and South America, the programme also includes institutions, universities, small and medium-sized enterprises, with the aim of promoting awareness of these issues, the exchange of experience, the launching of partnership projects and collaborations in the field of research and development.

The CE100 initiatives address the global challenge of using resources sustainably, where the model of prolonging the life of the goods produced or recycling and converting them into raw materials becomes predominant and provides economic, environmental and social benefits. In line with the principles set out above, the Group has prepared and presented to the Ellen MacArthur Foundation its CE100 plan, i.e. the main "circular" projects underway and planned for 2018, and described in this report.

Through the Ellen MacArthur Foundation, the Group intends to increase the exchange of ideas with other members of the CE100 programme, in order to make the re-use cycle even more virtuous, efficient and broad and to play an even more important role in certain strategic sectors, such as recycled plastic, also taking into account the recent European Strategy for Plastics. With the support of such a prestigious global organization as the Ellen MacArthur Foundation, Hera will be able to further increase the creation of shared value and contribute effectively to long-term sustainable development.

#### *Aliplast among the main actors in Italy in the plastic recycling*

In December 2017, Herambiente's ownership of Aliplast increased to 80%. Aliplast, with 9 industrial plants, 4 of which outside Italy, manages the plastic integrated cycle, transforming waste into finished products, mainly PE films, rigid PET films and polymer granules/flakes. Its mission is to make the life-cycle of plastic sustainable, by collecting and recycling it to produce new materials, with the lowest possible environmental

impact. Focusing on constant research, development and technological innovation (regarding products, services and processes), Aliplast manages a traceable plastics production chain, which is capable of transforming a fragmented path into a virtuous circle and of ensuring high quality final products that are efficient and economically more convenient than traditional materials. In 2017 the plant treated 109,586 tonnes of plastic waste, recovering 93.9% of it.

#### *A new waste tariff for 9% of the residents served by Hera in Emilia-Romagna*

During 2017, Hera completed the development of systems and processes for the integrated management of quantity-based tariffs on a large scale, so as to apply the Group model effectively and uniformly in all its aspects and phases, from customer management to the measurement of non-separated waste disposed of, and up to final invoicing. In addition to the application of the tariff in the two municipalities of Budrio and San Giovanni in Marignano, during the year Hera began all the preparatory activities for the transition to the quantity-based tariffs for the municipalities of Ferrara, Castelfranco Emilia, San Cesario sul Panaro, Bomporto, Bastille and Monte San Pietro from 1 January 2018, which will bring the total number of residents served by the new tariff system to about 225.000 inhabitants, equal to 9% of the residents of Emilia-Romagna served in 2017 by the Hera Group through the integrated management of municipal waste.

In the municipality of Budrio, the first to switch to quantity-based charging in 2016, the second year of application of quantity-based charging ended successfully. The collection service applied is the door-to-door collection, with non-separated waste bins equipped with transponders that recognize the client disposing of the waste. Customers were regularly billed at the agreed intervals, including the balance of the first year of quantity-based charging.

From 1 January 2017 the quantity-based tariff was applied also in the Municipality of San Giovanni in Marignano, after dedicated experimentation. The service in that municipality is mainly carried out through roadside bins, with volume-based limitation system and "lid" type user identification installed on the containers of the non-separated waste bins. The first invoice was issued in July.

In Ferrara, where lid type bin had already been tested in the hamlet of Pontelagoscuro, quantity-based tariffs were applied using the group model, taking into account the complexity and needs of a large capital city. The service with waste metering has been extended to the entire municipal territory and is tuned for optimal coverage of the territory, mainly served by lid-type roadside bins for non-separated waste in residential areas, supplemented by door-to-door service areas with bins equipped with tag transponders in suburban and production areas. The lid installed on the non-separated waste bins is an innovative, larger-volume model, (30 litres), developed to improve use by users. A Carta Smeraldo card was delivered to all users to give them access to lid-type roadside bins; contact with users for the distribution of equipment was managed through temporary booths, equipped with dedicated computer systems, gradually set up in the various areas involved.

Ferrara organized a number of initiatives to involve residents and inform them on the new collection system: over 60 informational evening events, 4 eco-branch offices, use of eco-volunteers for 5 months in the city districts, multilingual flyers, 3 letters sent to residents, information pages in local newspapers, numerous tweets and presence on local TV, including a video in Ferrara's dialect that logged over 18,000 views on YouTube.

The introduction of quantity-based tariffs in Ferrara will allow the most virtuous residents (i.e. those that separate their waste) to save: it is expected that **a family of 3 people that disposes of 52 deliveries of non-separated waste in 2018 per year will save about Euro 35** compared to the previous year.

In the Municipality of Castelfranco Emilia the service that had been trialled in the Gaggio and Mezzaluna hamlets in 2016 was gradually extended to the entire area, using roadside bins equipped with waste disposal monitoring and a volume limiter for non-separated waste, and a user identification system on

separated waste bins. In this case too, temporary offices were set up for communication and distribution of materials to users in the various areas involved. The service model used for Castelfranco was also applied in the neighbouring municipality of San Cesario sul Panaro, with the same methods for access and measurement of disposal.

In the municipalities of Bomporto and Bastiglia, the service was activated throughout the territory with new roadside bins, equipped with a lid installed on the non-separated waste bins and user identification system on the separated waste containers, and door-to-door collection service in industrial production areas. All users were given the equipment to access the waste collection systems: Carta Smeraldo cards to open the bins, personal bins with tag transponders for door-to-door collection.

In Monte San Pietro, the door-to-door collection service was activated throughout the area using bins equipped with tag transponders for the quantity-based charging of non-separated waste.

Excellent results were achieved in terms of increasing separate waste collection. In Ferrara, from October to December 2017, the percentage was **73%**, 16 percentage points higher than in the same period of the previous year. A similar effect occurred in the municipality of Castelfranco Emilia, where the new service increased the separated waste from 63% in 2016 to 79% in 2017 (16 points), and reduced the amount of waste produced per capita.

These results confirm the positive effect already experienced in the municipalities that switched in 2016: in Budrio, although the situation was already very good, quantity-based charging increased separate collection to 82%, while in San Giovanni in Marignano growth was 11 percentage points (76% in 2017).

The excellent results achieved now allow us to increasingly focus on the quality of separate collection, which is necessary to ensure high recycling rates.

In the coming years, further municipalities served by Hera will gradually transition to quantity-based charging (an additional 100 thousand residents will switch in January 2019), increasing the services for measuring mixed waste and the application of the tariff according to the Group model, always in accordance with the provisions and guidelines defined by regulatory bodies.

*Circular economy and separate waste collection: thanks to the commitment of Hera and residents, 94.6% of the separate waste collection was actually recovered in 2016*

2017 was a very important year for Hera in the circular economy, culminating in its entry in the CE100 of the Ellen MacArthur Foundation, which brings together the world's leading companies actively involved in processes that support circular economy. As proof of Hera's commitment, for the eighth consecutive year it published the *"Tracking waste"* report, which transparently and completely certifies that the percentage of separate waste collection actually recovered by the company reached **94.6%** in 2016, divided into 87.3% of material recycling and 12.7% of energy recovery that is obtained exclusively in the plastic and green waste sectors. The initiative regarded the main materials that are collected separately: green waste, paper, organic waste, glass, plastic, wood, iron and metals (aluminium, steel and tinfoil packaging).

The report, that for the first time includes the entire Group, shows a recovery rate of 98.2% for green waste, 95.6% for paper, 92.3% for organic waste, 95.8% for glass, 83.6% for plastic, 98.5% for wood, 98.0% for iron and 92.0% for metal, and over 271 kg of separated waste per capita.

To produce this year's report, **66 companies** were analysed, that operate **79** first destination waste **plants**. Thanks to them we have gone up the entire recovery chain, tracing the 174 final recovery plants managed by 159 companies that **regenerated, renewed and circulated** waste from separate waste collection, reinstating it in the production cycle in a circular economy perspective. Of these, 32 are in the area served by the Group.

For the first time, the report also includes two new sections on Hera's initiatives for the circular economy, which summarize the main initiatives for recycling and reuse and for the circular economy and the Group's

commitments and results in relation to the European Commission's objectives in terms of recycling and use of landfills.

The report was presented at the international Ecomondo 2017 event, and emphasizes how recovery is one of the key supply chains of the green economy. The circular economy of recovery, in fact, feeds 159 recovery facilities that employ a total of **19,000 people** and achieve a total turnover of over Euro **9 billion**. To ensure maximum transparency and reliability of the data provided, the report was examined and entirely audited by DNV GL.

The extended contents of the project and further in-depth data can be viewed at [www.gruppohera.it/report](http://www.gruppohera.it/report).

#### *Separate waste collection in the Bologna city centre reaches 60%*

The project for the city centre, consisting in the construction of underground mini drop-off points for glass and organic waste, and simultaneously starting door-to-door non-separate waste collection district by district, began at the end of 2014 with the former San Vitale neighbourhood, continued with the activation in June 2015 of the former Porto neighbourhood, and in May 2017 with the former Saragozza neighbourhood. The businesses were also supervised to assess needs on the target services.

The project was delayed initially by the demanding requirements set by the Archaeological Superintendence, due to the need for continuous stratigraphic surveys and the relevant restrictions related to underground utilities, and subsequently for the inclusion of the project (3rd portion mini drop-off points and 3rd portion upgrade of large underground drop-off points) in a regional financing operation and therefore, before starting all the related activities, it had to wait for the completion of the authorization process.

Of the 140 mini drop-off points initially planned, a total of 109 were built below ground and 14 above. The lower number compared to the plan is due to the presence of underground utilities found after starting the work, which prevented the tanks from being installed. 23 underground drop-off points were activated in March 2018 in the fourth and last district of the old town: Santo Stefano.

In the second half of 2017, the three large underground drop-off points already existing, were also reopened after revamping.

The entire municipality reached 47.6% in 2017 compared to 45.9% in the previous year while the entire old-town changed from 46.2% of 2016 to 50.0% in 2017. In the three neighbourhoods of the old-town with a collection system in place, separate waste collection is on average 60%. Checks on the quality of the organic and glass waste continue to be encouraging, with percentages of compliant materials around 90%.

#### *Tracking and recovery also for industrial waste with HASI*

Herambiente Servizi Industriali is the Group company that offers solutions for the proper disposal of industrial waste. As it constantly dialogues with industry, the company is committed to responsibly manage natural resources, improve its results and adopt increasingly efficient technologies with low environmental impact. A key element of its offer is the identification of the optimal solution to recover and recycle, which ensures maximum traceability and compliance with all environmental regulations whose objective is to minimize landfill disposal. In 2017 and 2018, the commercial strategy is aimed at creating value for the Group and for its customers, by offering solutions that are increasingly oriented towards circularity in waste treatment, due to more consolidated synergies with the companies acquired during the year.

Business customers have found that Herambiente Servizi Industriali is a coordinated partner that is capable of correctly treating and sending their waste and scrap to be recovered with priority, an expert market leader that contributes with its expertise to optimize and innovate processes, as well as a supplier that makes it possible to achieve challenging performance objectives. Since 2015, within the new Herambiente website, a reserved area has been created in which, for each contract, information is provided regarding the quantities disposed of or recovered with evidence of individual destinations.

The success path we have undertaken in the past few years is evolving: not only management of the produced, but also the optimization of internal processes and on-site management of facilities. The goal for coming years is to develop and strengthen the waste collection and treatment processes for recovery and recycling, so as to concretely lead customers into the circular economy. Lastly, approximately 60% of the companies with Global Waste Management, have within their plant systems that treat certain production process by-products, and that generate waste: Herambiente Servizi industriali wants to offer these customers a service that manages this type of systems, aimed at optimizing them. The integration of our Waste Management services with those of Systems Management helps the Group be effective and well known in the market, encourages customer loyalty and creates value, besides being a factor that sets it apart from its competitors.

#### *With Riciclandino we help the environment and schools*

Riciclandino is a project that engages children and families in an environmental initiative that involves the part of a town's residents that is related to school, in its role as an institution and a community of people. Under the project, the more separate waste collection is done, and the more waste is sent to drop-off points, the more points are obtained, giving the local school the opportunity to receive financial incentives. Families of students can use their Riciclandino Card to dispose of waste at drop-off points, obtaining a discount on their own bill, as per municipal regulations, and providing a matching incentive to their child's school. The added value of the initiative is raising environmental awareness and sharing actions that create and strengthen the civic and social sense of the community.

In 2017, the project, which started in the 2010-2011 school year in Ravenna, involved 18 municipalities in the Ravenna area, and 22 municipalities in the Modena area, and Ferrara, for a total of 41 municipalities. It involved 388 schools and 74,146 students in the 2016-2017 school year. The participating schools were awarded prizes for their work amounting to over Euro 102,000. In the framework of the project, over 1,700 tonnes of waste were taken to drop-off points by children and their families. All 41 municipalities will participate during the 2017-2018 school year.

#### *City clean-up after major events*

During the summer/autumn of 2017 Hera organized and managed the extraordinary waste management services for the major events held in some municipalities of the territory it serves.

The organization activities focused particularly on some common strengths:

- service planning in collaboration with the municipalities involved and the companies partnering to implement the service;
- environmentally sustainable event management: supply of containers for separate waste collection and promotion of the company's "Green" image, also by means of awareness-raising actions addressed to the general public;
- special attention to cleaning and immediate reinstatement of pre-event "normal" conditions.

The **Guns 'n Roses concert** attracted 83,000 paying spectators. For the concert, the equipment present in the territory was integrated with 3 non-separated waste containers, 35 igloo bins for glass, plastic and cans, and 170 waste paper trestles located on the Station-to-Racetrack path and in the areas surrounding the circuit. During the event 3.3 tonnes of waste were collected, 1.2 tonnes of which as separately collected waste. The cleaning service required 31 hours of manual street sweeping, 4 hours of automated street sweeping, 22 hours of sweeping and cleaning of green areas.

The **Vasco Rossi concert** drew over 300,000 people to Modena, of which 220,000 were concentrated within the Enzo Ferrari Park concert area. The waste collection and cleaning service required: 600 workers and 315 vehicles (including 15 special vehicles: hay rakes, high-pressure cleaners, tankers, etc.), 400 1,700 litre bins, 100 wheeled bins located in the old city centre areas and outside the park, 800 cardboard containers for separate waste collection and 200,000 bags. 291 tonnes of waste were collected, 188 tonnes of which as separately collected waste, reaching 62% of separated waste (32% sent for recovery); 100 work shifts over 4 days were needed for collection.

**Pope Francis' visit** involved the cities of Cesena and Bologna during the same day. In Cesena, in order to ensure safety during the visit of the Pontiff, 19 basic drop-off points were removed and repositioned, involving handling 100 containers and about 120 baskets were "treated" by sealing or removing/repositioning them. All the work required 38 hours of service. In the Municipality of Bologna, we provided the sweeping and cleaning of the parking area used as landing area for the helicopter used by the Pope and cleaned the road of his visiting route after moving the containers, and the surrounding areas (500 containers and 400 baskets). We set up two stations with tanker trucks to distribute water and supplied bags for plastic and solid municipal waste for the volunteers of the Curia. Lastly, the Group has also expanded its cleaning services to restore normal conditions. In addition to the normal personnel, the operation required 16 people from within the Company and 20 outsourced resources.

Experience gained by analysing the events provides various opportunities for better future management:

- Creation of guidelines and standardization of good practices (cleaning, container handling, environmental sustainability, communication).
- Creation of a standard for the containers to be used (number of containers per participant or number per area involved, volumes, supply chains).
- Possibly create a centralized "Major Events" point for containers available for all areas.
- Ideas for promoting the Company's image: use of the Hera logo and diffusion of institutional messages, communication/awareness campaigns for participants, tutoring of volunteers and workers.

#### *CiboAmico: 12,000 meals recovered in Hera's canteens in 2017*

"Cibo Amico" is the project that the Hera Group launched in December 2009, with the support of Last Minute Market, to recover the meals that had been prepared but not eaten in the company's 5 canteens, and to donate them every day to 6 non-profit organizations that provide hospitality and assistance to around 140 people in need, in 8 facilities.

The project has social, economic and environmental benefits, from preventing the production of waste (in 2017 the project avoided the production of 5.7 tonnes of waste, approximately the volume of 10 bins) to reusing excess food and preventing the waste of the water, energy and land consumption required to produce it.

In 2017, 12,577 complete meals were recovered, a value of Euro 54,513 (+23.5% compared to 2016). Since the beginning of the project to the end of 2017, almost 80,000 meals were donated overall, for a value of over Euro 327,000; this avoided the production of approximately 34.7 tonnes of waste, meaning about 76 bins.

The project was suggested as good practice in a meeting addressed to the municipalities of European countries engaged by the Municipality of Ferrara in a project funded by the European Commission on the prevention of food waste.

In December 2017, television footage on the CiboAmico project was also taken at the Hera offices to be broadcast on PresaDiretta, for an edition on "The Agricultural Revolution" aired on Rai Tre on 5 February 2018, to highlight the benefits and effects of the project for the recovery and donation of food surpluses.

#### *FarmacoAmico: 53 thousand medicines that have not yet expired recovered*

FarmacoAmico is the project promoted by Hera to collect medicines that have not yet expired in order to create a charitable network in the local area. The pharmaceuticals, which still have at least six months to go before their use-by dates and which have been properly stored, are thus reused by non-profit organizations that operate in local or decentralized cooperation projects. The goal is to prevent the production of waste, spreading good practices regarding the decrease of waste and supporting the organizations that help the weaker sections of society.

Launched in 2013, in Bologna, FarmacoAmico is jointly organized with Last Minute Market and currently involves 13 municipalities in Emilia-Romagna where there are about 1.1 million inhabitants (44% of the population served).

In 2017, in the above-mentioned areas, approximately 53,000 packets of pharmaceuticals were re-used (+34.7% compared to 2016) for a total value of over Euro 670,000 (+33.3% compared to 2016), with increasingly positive results, also thanks to 2 new municipalities joining the project.

The project involved a total of 109 pharmacies and 30 not-for-profit organizations, some of which operate abroad, as well as several partners, institutions, trade and business associations, for a total of 49 parties involved, a positive increase compared to the 38 participating partners in 2016.

In the Bologna area, as part of the joint school-work experience courses, students from several high schools in the Bologna area attended introductory lessons to the FarmacoAmico project, and a 40-hour internship was developed, in which the students worked to raise awareness among residents in a number of pharmacies that participated in the project.

Thanks to the collaboration of the Modena Pharmacists' Association and the Local Public Health Unit, a training course was organized for volunteer pharmacists on the correct method to select and sort medicines at not-for-profit organizations. The extension of FarmacoAmico remains one of Hera's objectives: we have planned 3 extensions for 2018 that will bring the project's coverage to over 50%.

#### *Change the Ending is an ongoing success: 866 tonnes of bulky waste collected in 2017*

"Change the Ending" is the project promoted by Hera, in collaboration with Last Minute Market and 20 local non-profit organizations, which aims to recover bulky goods that are still in good condition, preventing them from becoming waste, while also pursuing the goal of social responsibility. Under this initiative, that started in March 2014, users can contact Hera's customer service to request home collection of bulky waste. If the material is not reusable the user can always take it to the nearest drop-off point or get it collected free by the bulky waste collection service, if their area is served. The project is active in 80 municipalities. In 2017, the not-for-profit organizations collected around 866 tonnes of bulky waste by carrying out 6,773 collections, 5,320 of which were free collections at the user's home. Compared to the previous year, the quantity by weight of goods collected increased by 15% and the quantity by weight of goods sent for reuse by 10%, and the total number of items collected also increased. Lastly, and significantly, Hera's 20 non-profit partners involved over 1,100 volunteers and made 360 socially-motivated job placements in 2017, 99 of which directly involved in the project.

#### *Hera for the "circularity" and sustainability of FICO Eataly World, the world's largest agri-food park*

At the end of 2017, Fabbrica Italiana Contadina, the world's largest agri-food park that is focused on the Italian sector, was inaugurated in Bologna. It is a place not only for food lovers interested in discovering secrets and traditions, but also a space dedicated to food and environmental education, to talk about food waste and how to avoid it, about the need for sustainable use of resources in a circular economy, a new paradigm of economic development in which raw materials and natural resources "live" longer, through recycling and reuse.

Hera signed a protocol of understanding with Eataly World, CAAB and the FICO Foundation which, supported by the leading role of the Ministry of the Environment, promotes collaboration to implement circular economy actions, such as the recovery of surplus food and the reduction of waste, encouraging its reuse. In particular, Hera is committed to:

- promote waste reduction initiatives;
- improve the selection of dry waste in order to encourage its recycling;
- reduce environmental impact by using local infrastructure;
- recover organic waste by producing biomethane;
- cooperate in initiatives to reduce food waste and promote re-use;
- promote information/educational activities on sustainable development at FICO.

In the FICO space, district heating, waste management, electricity, water and ICT are services totally managed by Hera, which is therefore its only partner in the energy and waste sector.

In May, one year after signing the memorandum of understanding, the first report will be issued on sustainability data relating to waste management and prevention, electricity and heat consumed and water consumption.

*Il Rifiutologo (the Wasteologist), an app for separate waste collection and more: 95 thousand residents use it!*

Il Rifiutologo is a free app with several features, available both online on Hera's website and as apps for smartphones and tablets. As of 31 December 2017, the number of downloads reached over 184,200 and there are almost 95,600 active users, proving the usefulness of the tool. In 2017, internal work was carried out to make the Rifiutologo an increasingly interactive tool, able to provide residents with the real time status of waste management services, geolocalised for each territorial area. It is a great change for the service information that will be made available to residents through the new customer site, as well as with the new release of the app, planned for spring of 2018. The breakdown of all each service information within the new system will make it possible to find out about the individual services offered (e.g. eco-mobiles, cooking oil collection stations, location of underground mini drop off points...) and to view the door-to-door collection schedules, so as to be always updated on the individual services in real time. In addition, the "environmental reporting" feature is expected to be even easier to use. Residents will be able to use it to send customized messages or real time georeferenced pictures to Hera's staff to point out problems with the waste management services and/or request action, and correspondingly receive a report when the issue has been dealt with.

In 2017 29,840 (+51% compared to 2016) reports were sent concerning emptying bins, cleaning roads and removing abandoned waste; 5,660 suggestions were sent on new types of waste to be added to the database (+34% compared to 2016). The "Scan barcode" feature is also quite popular. It helps the user recognize materials by scanning the barcode printed on products and shows how to properly dispose of each package, by accessing an archive that as of 31 December 2017 includes 1,300,000 barcodes of the most widely used products. For packages made of multiple materials, the app can provide instructions on where to dispose of each component. If a code is not recognized, or a type of waste is missing, the resident can report it via the Rifiutologo so that it can be added to the system: in 2017 there were 7,529 reports of bar codes sent by the residents to update the database compared to 11,850 in 2016. The searches carried out by scanning barcodes grew from 104,081 in 2016 to 282,804 in 2017. The app is active throughout the territory we serve in Emilia-Romagna and Triveneto; in 2018 it will be extended to the Marche region.

*SCART®: the beautiful and useful side of waste*

In 1998, Waste Recycling started up SCART®, an ecological and original project founded on the desire to restore life to the materials that become waste every day. SCART® is now a registered trademark in Italy and in Europe with which exclusive works and installations are 100% made of waste. Its goal is to encourage responsible behaviour versus environmental matters, offering new stimuli to create useful and artistic objects starting only and exclusively from waste as raw material. As a result, sofas, armchairs, tables, chairs, lamps, drawers, games, musical instruments, clothing, and installations were made, but also scenery for shows and costumes. SCART® is an invitation to think of new styles of intelligent, creative and most importantly sustainable life.

Many initiatives at national and international level, such as the important conventions with the Academies of Fine Arts in Florence and Bologna, involve many students every year in seminars and workshops that are held at the SCART waste recycling workshop. These are artistic and training initiatives addressed to students and their topic is experimentation on the artistic use of industrial waste. Over the years SCART®

has also attended many national and international exhibitions; in 2017 it was the star of touring exhibitions in Imola, Modena and Ravenna. At the end of January 2018, the travelling exhibition also stopped in Bologna on the occasion of Arte Fiera.

*Hera Luce measures the "circularity" of street lighting systems, and measurement now becomes a part of Minimum Environmental Criteria (MEC)*

The circularity measurement project concerns the lighting system installed by Hera Luce in the municipality of Gabicce Mare. The objective was to measure the material and economic circularity since an environmental impact assessment had already been carried out at the preliminary stage and during the design phase of the system through a study by LCA.

The installed system, which has 25 light points, is completely powered by energy from renewable sources. Furthermore, we expect the system's life cycle to be about 40 years, only requiring replacement of the lighting fixtures after 20 years.

In order to obtain useful feedback from the project, the circularity measurement was based on the input-output principle and was divided between "system resources" and "maintenance resources". Fuel consumption for the periodic maintenance required during the maintenance phase was also taken into account.

The material circularity was initially evaluated through an analysis of the types and quantities of materials used in relation to their origin and destination at the end of their life: renewable/non-renewable, virgin/recycled/permanently recycled and recycling/energy recovery/landfill.

Subsequently, the economic circularity was evaluated, considering only the system's components and those necessary for the maintenance phase, as well as the economic cost/revenue valuation of the components that have reached their end-of-life. The economic data on the system and maintenance elements have been taken from specifications, while the economic values at end-of-life have been provided by Hera Ambiente.

At the end of the two evaluations, cross-referencing the information obtained, interesting information was found on the possibilities of improving the system's circularity, and on the maintenance phase. For example, concrete, which is currently used as a base to ensure the stability of the pole, amounts to 84% of the resources used and is the greatest cost element for recycling. Clearly, replacing concrete can be an initial improvement step, alongside the replacement of other material, also for the maintenance phase. The final results were then compared to the system's expected life and to the individual elements to define the circularity KPIs for internal company use.

By thoroughly measuring the material and economic circularity, we have obtained design guidance to improve the lighting systems, linking the system's components with the maintenance phase and the end of its life.

Anticipating the requirements of the lighting MEC, and in line with Hera Group's policy, Hera Luce has started a series of circular economy actions to introduce instruments that measure the circular economy of all its plants, also involving Public Administrations to present the results in terms of the environmental benefits obtained, as a communication tool towards end users. Public lighting MECs are an energy assessment system updated to the latest available technologies and set the guidelines for targeted investments in the sector, providing public administrations with a useful tool, which could reduce energy consumption by over 35%, with an annual saving of Euro 530 million and a reduction in CO<sub>2</sub> emissions of 1.3 million tonnes.

*Increasingly sustainable services with bills on recycled paper*

Even for Hera customers who have not yet switched to electronic invoicing, bills are becoming as green as possible: in August 2017, the company decided to print them on recycled paper. By doing so, every year, 68 million sheets of paper saved cut CO<sub>2</sub> emissions by over 100,000 kilograms, saving approximately 650,000 kilograms of wood and 400,000 kilograms of waste, besides saving 1.3 million kW/h of energy and 10 million litres of water. Hera's commitment to the circular economy is thus enriched by a new important

initiative, which for now affects only Hera Comm's customers, but which from 2018 will also extend to those of AcegasApsAmga in the Triveneto area.

#### *"More trees in town" if you go to Hera's drop-off points*

After the great success of the "Delete the bill, give a tree to your city" campaign, the project "More trees in town" has been launched, with the Municipality of Modena, designed to further promote urban forestation by encouraging residents to use waste collection centres more often.

Thanks to this initiative, throughout 2018 Hera will donate one tree to the city for every 50 new households in Modena that dispose of their separated waste at the waste collection centres. The Municipality of Modena, according to its plan for urban green areas, will plant the trees in the appropriate public places.

The objective of the urban forestation initiative is to plant at least 150 trees in Modena by 31 December 2018, a goal that seems almost at hand if we consider that at 31 January 2018 more than 25% of the objective had been reached.

The project aims to encourage a greater use of Hera's waste collection centres. This behaviour is beneficial for the environment and urban décor as it helps to reduce waste abandonment and increase the quantity and quality of separate waste collection. The use of waste collection centres also brings economic benefits for residents: municipalities grant households a discount on the TARI waste tax.

"More trees in town" will also improve air quality and mitigate the negative effects of climate change: each tree can capture 100 kg of CO<sub>2</sub> annually. Once the target is met, the plants donated by Hera will be able to remove 15 tonnes of carbon dioxide from the air every year, which is equivalent to the amount produced by a car travelling 112,000 km.

During 2018 the project will be extended to Ferrara.

Full details of the initiative are available at [www.ilrifiutologo.it/alberimodena](http://www.ilrifiutologo.it/alberimodena)

### **Sustainable management of water resources**

#### *The Rimini Seawater Protection Plan continues*

The Seawater Protection Plan aims to eliminate swimming bans and reduce the pollution measured in terms of COD by 90% by 2020, through structural measures on the sewerage – treatment system of the City of Rimini.

The numerical modelling of the sewerage – treatment system already started in 2014, and led to further optimization of the measures already planned for the system of tanks that serves the southern area of Rimini and the identification of 3 additional measures. The optimization of the tanks, introducing a different way to manage rainwater, together with additional measures that involve the construction of the works called the AUSA backbone sewerage collector, Mavone spillway and the sewerage pumping system in via Santa Chiara are able to determine synergies that significantly reduce the risk of flooding in most of the built-up area where this problem often occurs and thus expand the objectives of the plan to include a mitigation of hydrological risks. In this regard, it should be noted that the preliminary investigation is also under-way for these additional works, aimed at obtaining further public funding in the so-called "Italia Sicura" sector.

The Plan is currently essentially made up of the 10 measures originally planned, plus the filling of the AUSA Canal, added in 2015, and the additional measures mentioned above, for a total of 14 measures amounting to over Euro 160 million.

At the same time, the Plan's optimization process is making progress; aimed at identifying, through numerical modelling of the system, especially in terms of cost/benefit ratio, any additional measures capable of further improving the city's sewerage – treatment system overall, in terms of both further structural improvements and refinement of management methods.

The situation of the 14 measures is as follows:

<b>Measure</b>	<b>Progress at 31 December 2016</b>	<b>Expected/actual year of completion</b>	<b>Motivation/benefits</b>
1. Doubling of the Santa Giustina waste-water treatment plant	Completed	2016	Treatment process improvement
2. Conversion of the Rimini Marecchiese treatment plant into a collection tank	Construction in progress (first portion completed)	2018	Treatment process improvement
3. Construction of the Dorsale Nord backbone, for drainage of the Bellaria waste-water treatment plant into the S. Giustina WWTP	Completed	2016	Treatment process improvement
4. Completion of the separation of sewer networks in the northern area of Rimini	Construction of first portion, second lot in progress Design of second lot in progress (first portion, second lot concluded)	2021	Conversion of 5 sewer drains into the sea into rainwater drains (including 2 in 2016)
5. Construction of the Dorsale Sud backbone	Construction in progress of second portion Design of third lot in progress (first portion completed)	2020	Reduction in the number of openings of the AUSA and Colonnella drains into the sea
6. Completion of the separation in the Roncasso and Pradella basins	Design in progress	2021	Conversion of 2 sewer drains into the sea into 2 rainwater drains
7. Construction of subsea pipeline and pumping station for the AUSA basin and reservoirs	Construction of first portion in progress Second portion to be designed	2020	Reduction in the number of openings of the AUSA drains into the sea
8. Construction of hospital detention reservoir	Completed	2016	Reduction in the number of openings of the Colonnella I drains into the sea
9. Construction of connecting conduit between Fossa Colonnella I and Fossa Colonnella II; Vasca Colonnella II and Vasca Rodella and subsea discharge conduit	Design in progress	2022	Reduction in the number of openings of the Colonnella I, Colonnella II and Rodella drains into the sea
10. Isola sewer decontamination	Completed	2014	Optimization of the sewer system
11. Filling the AUSA beach stretch	Completed	2016	Improvement of the usability of the area and of its environmental conditions
12. Sewage collector of AUSA backbone	Design in progress	2021	Reduction of hydrological risks

Measure	Progress at 31 December 2016	Expected/actual year of completion	Motivation/benefits
13. Mavone spillway	Construction in progress	2018	Reduction of hydrological risks
14. Sewer pumping in via Santa Chiara	Design in progress	2019	Reduction of hydrological risks

The completion of the works described above have made it possible to enjoy the first significant environmental benefits, reducing the amounts of COD/BOD disposed of at sea.

The progress of the construction work does not lead us to expect any significant issues and makes us expect to achieve our quality objectives, while the date of completion of the measures has not been significantly postponed, also due to the advisability of revising the plan mentioned above.

Rimini Seawater Protection Plan was included among the best practices in the SDG Industry Matrix report published by the Global Compact and KPMG in 2017, which reports on business opportunities linked to the objectives of the UN 2030 Agenda.

*Upgrade work at Trieste's Servola water treatment plant: approaching full resolution of the 2014 EC infringement proceedings*

The construction site for the new Servola (TS) treatment plant has reached its final stages. In fact, the construction of the buildings and the various treatment sections has finished, and the service tunnel, where most of the equipment and machinery serving the plant is housed and connected has been completed. During the year all the monitoring and remote control systems for the entire treatment chain have been wired, tested and commissioned, and the clean tests, using drinking water instead of wastewater, were successful. The works also concerned the existing plant with a series of changes to the pre-treatment works and the water connections, and the road link between the two plants were also built. Over 27,000 man-hours were worked and on several days during the year, over one hundred people worked at the same time on the construction site. This required a considerable organizational and coordination effort (over 120 meetings) to avoid possible risk conditions for the workers. The office building was also completed and interior design operations were started to make it usable from the first quarter of 2018. In terms of production, the yard reached Euro 29 million, monitored by Worksite Management, which organised 75 meetings over the 19 months the yard was active.

Coordination efforts were also intense with local authorities and the Autonomous Region of Friuli Venezia Giulia to solve all the bureaucratic/administrative problems that arose during the work. The site was opened to the public on several days to bring the population and institutions closer together and illustrate the considerable effort made by the company, and the media also positively reported on the work carried out at Servola.

Wastewater treatment started at the new plant in March 2018.

*Electronic noses to check the treatment plants*

During 2017, as planned, a study was carried out on the diffusion and characterization of odours at the Santa Giustina treatment plant in Rimini.

The purpose of the project we carried out in Cesenatico in 2016 was to identify and locate the source of the odour that inhabitants smelled in the areas around the plant and that seemed to be entirely attributed to the plant, but, in reality, the results of the detailed scientific analysis carried out in coordination with the Water Department, the Hera Laboratories and an external specialized supplier, did not find this.

The electronic noses were "digitally trained" to identify, recognize and catalogue the odours coming from the various parts of the treatment plant, in order to compare these odours with those smelled in the area being monitored, during July and August 2017.

Ultimately, the origin of the smell perceived by the residents of Rimini Santa Giustina is marginally attributable to the plant (around 2.7%). The "noses" attributed 1.5% of the odour to other unknown sources (i.e. air containing molecules that can be classified as odours but that are not attributable to the city's sewer and water treatment system), while the remaining 95.8% was classified as "neutral air" and therefore not "contaminated" by odours.

All this represented a gratifying result in relation to the plant engineering and management changes, implemented during the winter and as the summer season approaches, together with passive defense works (planting a dense tree containment perimeter) to reduce the formation of unpleasant odours during maximum operation of the plant in the summer.

#### *Satellite used to search for water network leaks*

There is an innovative solution, based on satellite technology, to fight hidden leaks in the water networks, the leaks that are not visible as visible water leaks and are often present in distribution networks. In 2016 Hera was the first company in Italy to have used this technology, developed in collaboration with the Israeli company Utilis as part of a pilot project in Ferrara, and extended it in 2017 to some areas near Bologna and to Forlì-Cesena in Romagna as a tool to supplement its planned leak research activities, identifying 85 hidden leaks.

The innovative technology is based on the analysis of the subsoil, using an algorithm. The images are acquired by the Alos-2 satellite, managed by the Japanese Aerospace Exploration Agency (JAXA), that orbits about 650 kilometres above ground, and uses electromagnetic signals with a wavelength capable of penetrating the ground.

Distorted information is filtered out of the data obtained by the scan and then cross-referenced with the network diagram, to obtain a map that shows the network points where leaks are present.

The actual search for leaks on the spot is then carried out using traditional methods, but thanks to the precision of the new system, it covers much smaller areas.

#### *With the Acquologo, the entire water service is smartphone-accessible*

The Acquologo (The Waterologist), released in July 2016, is a free application on the local water service for residents who live in the areas served by Hera. It provides many useful features for users, from self-meter reading to checking data on the quality of the water in their municipality, and includes alerts for water network interruptions for ordinary maintenance work and reporting breakage or leakage of water on public land.

In 2017, the application was downloaded 11,159 times for a total of 44,223 accesses. Residents with Hera bills can use the Acquologo to report their actual water consumption by easily reporting their meter reading and in 2017 5,420 readings were sent in using this system.

Hera manages the water service, providing good drinking water for its customers, in compliance with regulatory requirements and carefully monitors the entire drinking water supply chain. To confirm this, users can use the Acquologo to consult the main quality data (average values) of the water supplied for each of the municipalities served by the multiutility, comparing them with the regulatory limits. In addition to this function, the application also shows the savings generated by the drinking tap water instead of bottled water. And to contact experts with questions and inquiries about the local water service or the read answers to frequently asked questions on the subject, see the "Experts answer" section. In 2017 there were 58,823 accesses to the Aquologist pages on quality, 8370 views of specific qualitative data and 23 requests for further information through the "Expert answers" service.

Experimentally, in Bologna, the app can also be used to report major water leaks due to breakage of pipes under the road surface. After taking a picture and adding a brief text, users can send the report directly to Hera's Emergency Service. By using geolocation, the system can rapidly detect the location of the report and provide it to the service personnel who will go to the site. During 2017, 190 reports were made using the app (photographic reports and calls to the toll-free number).

## Innovation and contribution to development

### The objectives and the results

What we said we would do	What we have done	Scope
<ul style="list-style-type: none"> <li>Continue the activities related to the regional protocol on school-work experience: 180 internships by 2019</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, the Hera Group continued to provide structured work-school alternation paths, starting 80 courses. A total of 140 paths were activated at the end of 2017.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Continue to envisage also in 2017 the social clause to guarantee employment in the contracts for emergency services on networks and services relating to customer handling (excluding the cases of insourcing).</li> </ul>	<ul style="list-style-type: none"> <li>We included the clause in 21 of our most significant tenders in 2017.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Continue to promote electronic billing (18% of contracts used electronic billing in 2017 and 23% in 2020) also encouraged by a new, dedicated campaign.</li> </ul>	<ul style="list-style-type: none"> <li>20% of customers are now billed electronically. We launched a new dedicated campaign (Digi e Lode) to support digitalization of schools in the area.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Provide a multi-service app for customers, with functions similar to those of our online services.</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, we launched MyHera, the new multi-service app for residential customers, which includes all the features available as online services.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- further improve online services and increase enrolled customers to 19% in 2017</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- customers enrolled for online services increased to 19% in 2017</li> </ul> </li> </ul>	ER
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- complete the “Nuovo linguaggio” project for customers</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- during 2017, we completed the design of the “Nuovo linguaggio” project, that involved all the front end structures.</li> </ul> </li> </ul>	ER
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- simplify procedures used to accept estimates and subscribe to contracts, by applying digitalization</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- at the end of 2017, the Ravenna and Ferrara branch offices started offering digitally signing for contracts, using tablets. We plan to extend the feature to all branch offices during 2018.</li> </ul> </li> </ul>	ER
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- send SMS reminders to customers for their technical service appointments</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- in the second half of 2017, the SMS sending function was implemented, which reminds customers of the appointment.</li> </ul> </li> </ul>	ER
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- extend online services to AcegasApsAmga</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Improve the customer experience for our customers:                             <ul style="list-style-type: none"> <li>- during 2017, we extended online services to AcegasApsAmga.</li> </ul> </li> </ul>	T
<ul style="list-style-type: none"> <li>Continue to involve the workforce through Heureka: stimulate innovative ideas in two new areas in 2017.</li> </ul>	<ul style="list-style-type: none"> <li>During 2017, workers were involved in three areas (brand communication, energy efficiency and circular economy) through the Heureka tool, and they proposed 79 ideas.</li> </ul>	ER T M

What we said we would do	What we have done	Scope		
<ul style="list-style-type: none"> <li>Extend the protocol that prevents service disconnections for customers assisted by social services to even more municipalities.</li> </ul>	<ul style="list-style-type: none"> <li>85 agreements (up from 63 in 2016) with municipalities to prevent service disconnections for customers experiencing financial hardship.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Update and distribute the SOSstegno Hera guide to tariff concessions in the Triveneto and Marche regions.</li> </ul>	<ul style="list-style-type: none"> <li>Extension of the SOSstegno Hera guide to tariff concessions in the Triveneto and Marche regions slipped to 2018.</li> </ul>		T	M
<ul style="list-style-type: none"> <li>District heating: increase the volume served (+2% compared to 2016) and the share of energy produced from renewable sources and by recovery, by 16% compared to 2016.</li> </ul>	<ul style="list-style-type: none"> <li>District heating: <ul style="list-style-type: none"> <li>- the volume served increased by 2.7% compared to 2016;</li> <li>- the share of energy produced from renewable sources and by recovery increased by 6.2%, compared to 2016.</li> </ul> </li> </ul>	ER		
<ul style="list-style-type: none"> <li>Continue to encourage the purchase of vehicles with low environmental impact (23% in 2020) also by adding the first dual-fuel/electrical vehicles to AcegasApsAmga's fleet</li> </ul>	<ul style="list-style-type: none"> <li>The percentage of vehicles with a low environmental impact purchased in 2018 was 22.1%. 8 natural gas-powered vehicles were added to the fleet of AcegasApsAmga.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue to implement the installation plan for electronic gas meters: to 19% meters installed at end 2017 and 48% in 2020.</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, 22% of the gas meters installed were electronic</li> </ul>	ER	T	M

What we will do	Scope*		
<ul style="list-style-type: none"> <li>Continue with the activities of the regional protocol on work-school alternation paths: offer a further 40 internships in 2018 to reach 180 internships by 2019</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Continue to envisage the social clause to guarantee employment in the contracts for emergency services on networks and services relating to customer handling (excluding insourcing cases).</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue to implement the installation plan for electronic gas meters: to 30% electronic meters installed at end 2018 and 57% in 2021.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue to promote electronic billing (22% of contracts used electronic billing in 2018 and 31% in 2021) also by continuing the DigieLode campaign on digitalization in local schools.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers: <ul style="list-style-type: none"> <li>- increase customers enrolled for online services to 20% in 2018 and to 24% in 2021.</li> </ul> </li> </ul>	ER		
<ul style="list-style-type: none"> <li>Continue the implementation of business intelligence/data analytics projects to: <ul style="list-style-type: none"> <li>- optimize the scheduled gas leak detection work, and the operation and maintenance of gas networks;</li> <li>- optimize waste collection routes, also based on the filling level of bins/containers;</li> <li>- optimize the management of treatment plants (energy consumption and performance) by developing predictive logic.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>Continue to involve the workforce using Heureka: stimulate innovative ideas in three new areas in 2018. Start feasibility for selected employee initiatives.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Improve the customer experience: develop tracking services on the main practices, to inform customers about the progress of their requests and alert services, i.e. reminders that can be set by customer's choice.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Improve the customer experience for our customers: <ul style="list-style-type: none"> <li>- simplify procedures used to accept estimates and subscribe to contracts, by applying digitalization: extend the simplified procedure to all branch offices by 2018</li> </ul> </li> </ul>	ER		

What we will do	Scope*		
<ul style="list-style-type: none"> <li>Continue/start new innovative projects in the circular economy and to improve handling of treatment sludge.</li> </ul>			
<ul style="list-style-type: none"> <li>Promote awareness of tariff concessions in the territories of Triveneto and Marche</li> </ul>		T	M
<ul style="list-style-type: none"> <li>Supplier selection: continue to reward social commitment in the Sustainability Points, also through the inclusion of disadvantaged personnel, in particular in the management of waste management services.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Extend the protocol that prevents service disconnections for customers assisted by social services to even more municipalities. Maintain a rate of avoided disconnections at 80% of the total.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Land consumption: 725 thousand m<sup>2</sup> of land reused between 2018 and 2021 to design infrastructure (2/3 of the total land involved in new projects).</li> </ul>	ER		
<ul style="list-style-type: none"> <li>District heating: increase the volume served (+1% compared to 2017) and the share of energy produced from renewable sources and by recovery, by +5% compared to 2017 to the benefit of air quality in the cities served. Start the project to increase the use of geothermal energy in Ferrara.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Continue to encourage the purchase of vehicles with low environmental impact (29% in 2021)</li> </ul>	ER	T	M

\* ER: Emilia-Romagna; T: Triveneto; M: Marche

## Development of occupation and new expertise

### Scenario and policies

#### Why it is important

Digitisation is transforming our economic processes and corporate business models, including traditional social models. Despite its increasing propensity for innovation, Italy ranks among the last in Europe due to its cultural and digital gap and its lack of infrastructures. From a corporate viewpoint, we face challenges such as consumers' cultural transformation, growing competition and the need to continually update skills. From a social point of view, the opportunity to aim for smart, sustainable and inclusive growth, which is possible thanks to an exceptionally greater ability to exchange data and information, carries with it still unclear effects on employment.

#### € 300 billion

the value of data economy within the European Union. It is expected to reach 739 billion within 2020

#### 8 billion

devices connected to the Internet globally, against 500 million in 2005. This figure is expected to rise to 1 trillion in 2030

#### 65%

the share of children at school today who will be employed in jobs that are yet to be invented

#### 25th

Italy's ranking among the 28 EU countries with regard to digitisation

#### 4%

contribution of the digital sector to Italy's GDP, against 10% in the United Kingdom

#### +528%

the growth in Internet usage between 2000 and 2018

### In Europe and in Italy new policies for digitisation and innovation

In 2015, the EU adopted a strategy for the creation of a single digital market which is built on three pillars: improving online access for consumers and businesses to digital goods and services across Europe; creating the right conditions for digital networks and innovative services to flourish; maximising the growth potential of the digital economy. The 2014-2020 Italian Digital Agenda was developed in Italy, which defined a national ultra broadband strategy, to improve telecommunications networks which are now the nervous system of every modern nation. To achieve this, public measures include facilitations for reducing obstacles due to infrastructure costs and for accessing economic resources, as well as incentives for triggering demand. Digitisation has become an opportunity for transformation, allowing us to pursue major goals of growth, employment, quality of life and democratic regeneration in the country, through cross-cutting infrastructural actions and the creation of enabling platforms.

### **We need growing investments in Research & Development**

	<b>2015</b>	<b>2020</b>
Europe	2.03%	3% of EU's GDP 2020 target
Italy	1.33%	1.53% of Italy's GDP 2020 target

### **The targets set by the Italian Digital Agenda and the Business Plan 4.0 are still a long way off**

Population		
At least 30 Mbps coverage	38.1% in 2017	100% goal in 2020
At least 100 Mbps coverage	4.6% in 2017	85% goal in 2020
Companies		
At least 30 Mbps coverage	10.7% in 2016	100% goal in 2020
At least 100 Mbps coverage	5.8% in 2016	50% goal in 2020

### **Relations held with the Public Administration must also be more digital**

Users connected to the Internet	63% in 2015	90% goal in 2020
Users that have used the Internet over the past 12 months to hold relations with the PA or public service operators	229% in 2017	50% goal in 2020

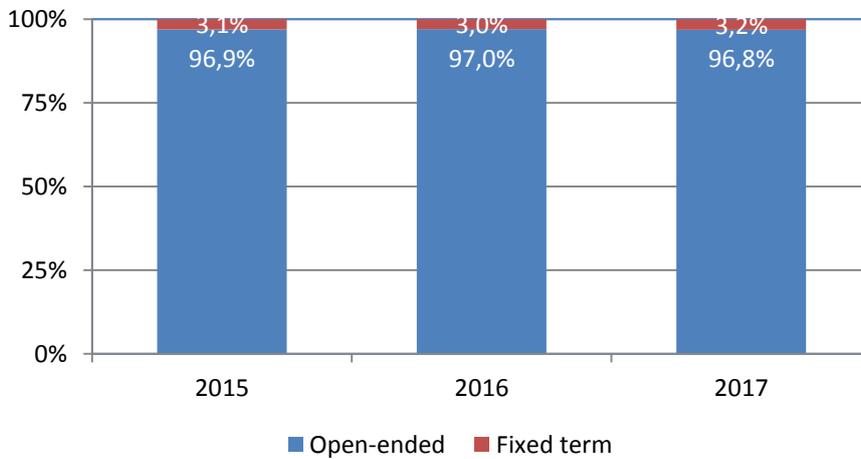
## Hera's contribution to employment development

The importance that the Hera Group attributes to employment development, as highlighted in this paragraph, is not only reflected in the number of employees of the company itself, but also in indirect job creation and the use of the social clause for the continuity of employment in tenders. The Hera Group's impact on employment can also be measured by the workforce employed in the supplier companies, which, together with the average number of workers of the Group, brings the overall impact on employment to approximately 15,500 employees.

### *Employment in the Hera Group*

Of the Group's average of 8,963 workers in 2017, **96.8%** are on open-ended contracts. This percentage is characterized by the entry of Aliplast into the corporate scope, which during the year made greater use of temporary staff for the operational management of its production processes.

### Workforce figures (average)



On a like-for-like basis compared to 2016, the average percentage of workers on open-ended contracts is 97.3%. In detail, compared to 2016, results increased both for both Marche Multiservizi (+1.7% percentage points) and for AcegasApsAmga (+1.6% percentage points), while for the rest of the Group there was a decrease due to the change in Aliplast's scope (-0.9% percentage points).

Employees with fixed-term contracts account for 2.8% of workers on fixed-term contracts on average, while the remaining 0.4% of workers were hired with other flexible contracts (staff leasing contracts). On average, there were 8,930 workers on open-ended and fixed-term contracts, not including non-employee workers.

We hereby reiterate the Group's will to limit the use of flexible contracts only for urgent situations (seasonality, extraordinary and temporary work peaks, substitution of workers who are absent temporarily). However, the employees hired through flexible contracts provide a priority recruitment pool for hiring with open-ended contracts.

Regarding this aspect, in 2017, the average number of workers on staff leasing contracts was 33, 21% lower than in 2016 and 33% lower than in 2015.

In 2016, net of the change of scope due to Aliplast, Teseco, Verducci and Sinergie Ramo south and islands in 2016, 284 workers were **hired with open-ended contracts**. In addition, there were 150 consolidations of fixed-term workers and 111 hires involved people less than 30 years old.

Over the past three years, overall **767 open-ended contract workers were hired**, 418 of which following initial hiring with the Group under a fixed-term contract.

**Personnel hired during the year (by position)**

No.	2015	2016	2017
Managers	1	6	1
Middle managers	2	3	2
White-collar workers	151	142	161
Blue-collar workers	103	75	120
<b>Open-ended contract employees</b>	<b>257</b>	<b>226</b>	<b>284</b>
Fixed-term contract workers	257	250	236
Staff leasing contracts	53	54	53
Job training and entrance contracts	0	0	0
Project based and freelance contract workers	7	1	0
Seasonal workers and apprentices	3	5	2
<b>Non-open-ended contract employees</b>	<b>320</b>	<b>310</b>	<b>291</b>

In 2017, **79 female workers were hired** with open-ended contracts (14 less than in 2016). The percentage of newly hired female managers, middle managers and employees was 47% of the total number of hires. Hires at Hera Spa totalled 24, i.e. 54% of the total for managerial, middle management and office positions.

**Women hired with open-ended contracts during the year (by position)**

No.	2015	2016	2017
Managers	0	0	0
Middle managers	0	1	0
White-collar workers	67	64	77
Blue-collar workers	1	0	2
<b>Total</b>	<b>68</b>	<b>65</b>	<b>79</b>

Among the hires, **111** were for staff **under 30 years of age** (+46 compared to 2016), 150 between 30 and 50 years (+5 compared to 2016) and 23 over 50 years (+7 compared to 2016).

**Personnel hired during the year (by age)**

No.	2015	2016	2017
under 30 years of age	81	65	111
between 30 and 50 years of age	167	145	150
over 50	9	16	23
<b>Open-ended contract employees</b>	<b>257</b>	<b>226</b>	<b>284</b>

In 2017, 331 employment relationships ended (100 at Hera Spa), of which 57% were due to retirement.

### Hires by age and gender (2017)

No.	Men	Women	Total
under 30 years of age	71	40	111
between 30 and 50 years of age	112	38	150
over 50	22	1	23
<b>Total</b>	<b>205</b>	<b>79</b>	<b>284</b>

### Open-ended contract workers leaving, by reason

no.	2015	2016	2017
Resignation	80	78	90
Retirement	195	151	189
Death	12	16	14
Dismissal	9	7	8
Inability	54	32	23
Transfer to other companies/deconsolidations	12	0	7
<b>Total</b>	<b>362</b>	<b>284</b>	<b>331</b>

### Workers leaving by age and gender (2017)

No.	Men	Women	Total
under 30 years of age	7	2	9
between 30 and 50 years of age	50	18	68
over 50	217	37	254
<b>Total</b>	<b>274</b>	<b>57</b>	<b>331</b>

The **turnover rate** is calculated by dividing the number of leaving employees by the number of employees at the end of the year: in 2017, it was 3.7%. The category most subject to turnover is the male workforce over 50 years of age, due to the increase in retirements over the past years.

### Turnover rate for workers, by role

%	2015	2016	2017
Managers	7.5%	5.3%	3.9%
Middle managers	2.8%	2.3%	2.6%
White-collar workers	2.8%	2.6%	3.4%
Blue-collar workers	6.0%	4.6%	4.3%
<b>Average</b>	<b>4.2%</b>	<b>3.4%</b>	<b>3.7%</b>

### Turnover rate for workers, by gender

%	2015	2016	2017
Men	4.6%	3.7%	4.1%
Women	2.8%	2.3%	2.7%
<b>Average</b>	<b>4.2%</b>	<b>3.4%</b>	<b>3.7%</b>

### Turnover rate for workers, by age

%	2015	2016	2017
under 30 years of age	2.0%	3.6%	2.5%
between 31 and 50 years of age	0.9%	1.1%	1.6%
over 50	8.0%	5.7%	5.9%
<b>Average</b>	<b>4.2%</b>	<b>3.4%</b>	<b>3.7%</b>

#### *Lead-on employment*

In order to globally assess Hera Group's social repercussions on Italy, however, we should also take into account the **employment at our suppliers** who supply goods, labour and services or support certain stages of the company process.

Lead-on employment can be estimated as the portion of the workforce of the suppliers which carries out activities on behalf of the Hera Group. In 2017, lead-on employment generated an estimated **6,502 jobs (+7.7% compared to 2016)** of which over 3,811 in Emilia-Romagna, 744 in Triveneto and 116 in Marche and 1,831 in other unmanaged areas.

This figure was obtained by analysing the financial statements of the Group's leading 365 suppliers which cover 80% of the volume purchased in 2017. In order to estimate the lead-on employment generated, the **ratio between the value commissioned by Hera and the total sales turnover of the supplier** was considered; this percentage was multiplied by the number of total employees declared in the suppliers' financial statements.

#### *Further action for social responsibility in tenders*

Hera Group's employment impact is also due to concrete actions of **social responsibility in tenders**, which the Group continued to implement in 2017, so as to effectively implement social responsibility in tenders on a consistent basis with the standards expressed in the Group's Code of Ethics and with the matters required by the SA 8000 standard on attention towards the work conditions in the supply chain.

In 2017, the Memorandum of Understanding regarding tenders of the Hera Group was fully implemented, entered into on 26 October 2016, by the Hera Group and the National Trade Union Organizations. This agreement defined a **system of standard rules** within the Group, in compliance with legislation and regulations on the subject envisaged by the applicable Italian collective labour agreements. More specifically, the main safeguards concern the personnel employed by suppliers, the continuity of their economic and regulatory treatment, the methods used to choose economic operators using a system based on consistency with the regulations on procurement, the Anac guidelines, the Group's Code of Ethics and the SA8000 certification system.

The Procurement Protocol requires the **specific indication of the sector's Italian collective labour agreement** and also deals with **continuity of employment**, requiring application of the **social clause**. In particular, the Protocol establishes that the "voluntary" social clause can be used in regulated and labour-intensive sectors, in labour and services contracts that concern the post-first intervention works on networks and services related to the management of relationships with end customers (meter readings and auxiliary meter-related activities), for new tenders for services that have been already outsourced, and excluding insourcing, in consideration of the objective to saturate and exploit internal resources. In such cases, the new contractor must make a job offer that is consistent with the overall conditions in force at the time of the contract change such as retribution, professional requirements and duration of the contract to the personnel that is employed on a permanent basis and employed directly and mainly in the activities covered by the contract in force at the operator leaving the company in the period of 90 days prior to the start of the new management. In all the other cases of takeover of tenders, a prior meeting must take place

among the outgoing contractor, the new contractor and the local trade unions to assess any possible solution to safeguard employment.

The most important tenders in which the Procurement Protocol rules described above were applied were following 21 (of which 6 related to AcegasApsAmga):

- the **negotiated tender procedure to award a two-year contract for call centre activities**, for a total of Euro 29 million, which applied the provisions of Law 11/2016 on the transfer of personnel in call centre service tenders;
- the **negotiated tender procedure** originating from the qualification system call to award a **two-year contract for the gully sucker service** for maintenance cleaning of sewage networks and systems, sumps, road grates, for a total of Euro 28.4 million, which referenced the requirement to apply the FISE Italian collective labour agreement and, considering that the contract replaces a corresponding expiring contract, referenced the requirement to apply the so-called "social clause" as set out in that agreement;
- the negotiated tender procedure to award a three-year contract for the **bill, document and registered letter sorting, delivery and distribution service** for Hera Group customers, for a total of Euro 24 million, which referenced the requirement to apply the Italian collective labour agreement and, considering that the contract replaces a corresponding expiring contract, referenced the requirement to apply the so-called "social clause" as set out in that agreement, and if that agreement does not include a "social clause", required application of the "voluntary" social clause as set out above;
- the negotiated tender procedure to award a two-year contract for the **ordinary and extraordinary mechanical maintenance** at the waste-to-energy plants and other waste treatment plants of Herambiente and other Hera Group companies, for a total of Euro 22 million, which referenced the requirement to apply the Italian collective labour agreement of the mechanical industry and, considering that the contract replaces a corresponding expiring contract, referenced the requirement to apply the so-called "social clause" as set out in that agreement, and if that agreement did not include a "social clause", required that a prior meeting must take place among the outgoing contractor, the new contractor and the local trade unions to assess any possible solution to safeguard employment;
- **4 restricted procedures** to award **environmental services in the Ravenna area** (collection, automated street sweeping, transport of removable containers, manual sweeping) for a total annual value of Euro 20.5 million. In particular, the two tenders for automated street sweeping referenced the requirement to apply the Italian collective labour agreement for waste management services of FISE Assoambiente and, considering that those tenders replace corresponding expiring contracts, referenced the requirement to apply the so-called "social clause" as set out in the labour agreement of FISE Assoambiente; The tender for transport of removable containers referenced, in compliance with the content of art. 30(4) of Italian Legislative Decree 50/2016 as amended, application of the Italian collective labour agreement, signed by the trade union organizations most representative at national level, whose sphere of application is most closely related to the scope of the tender, as well as any territorial collective bargaining, in force in the area where the tender takes place, and the application of the "voluntary" social clause as set out above. In the tender for manual street sweeping, since it is a contract reserved to social cooperatives, the National Collective Labour Agreement for social cooperation and the above-mentioned "voluntary" social clause were required. In addition, these procedures required a commitment by the new contractor, in the event that additional staff be needed, to give priority to considering workers already employed in the previous management of the activities covered by the contracts;
- the **negotiated procedure** originating from the qualification system tender to award a four year contract for **the activities ancillary to meters**, for a total of Euro 17 million, and the negotiated tender procedure originating from the qualification system to assign a **one year contract for the mass replacement and registration/assignment service of gas meters** for the services provided by InRete Distribuzione Energia, for a total of Euro 5 million, which referenced the requirement to apply the Federgasacqua Collective Labour Agreement and the "voluntary" social clause as set out above;

- the 5 open procedures published by Herambiente, relating to the **award of the waste recycling service** by means of mechanical/manual selection and sorting and mechanical handling at 5 selection and recovery plants (Modena, Ferrara, Voltana, Coriano, Mordano), for a total annual value of Euro 6 million, considering that those tenders replace corresponding expiring contracts, referenced the requirement to apply the so-called "social clause" if envisaged by the Italian collective labour agreement for the sector, as identified on the basis of and according to the above criteria consistently with art. 30(4) of Legislative Decree 50 of 2016, and, if the labour agreements applied do not include a social clause to promote employment continuity, require the application of the "voluntary" social clause as set out above.
- the negotiated tender procedure originating from the Qualification System to award day and night, working day and holiday **emergency support services**, and extraordinary works and maintenance of networks, connections and accessories of water and sewerage services in the area managed by AcegasApsAmga, for the 2018 - 2020 period, with the right to renew, at the sole discretion of the client, year by year, for a further three annual periods, for a total of Euro 24 million, which referenced the requirement for the successful bidder to apply the Italian collective labour agreement for the construction industry and make a job offer that is consistent with professional requirements and duration of the contract with personnel that is employed under open-ended contracts and employed directly and mainly in the activities covered by the contract in force at the outgoing operator in the 90 day period prior to the beginning of the new management period.
- the restricted procedure tender, published by AcegasApsAmga, to award the two-year contract, with the possibility of renewal for one more year, for the **manual and mechanical sweeping service**, including ancillary services for other waste management services, to be carried out in the Municipality of Trieste, divided into two lots for a total of Euro 9.3 million every two years, which referenced the requirement to apply to the personnel employed under the contract, including any partner-workers, in accordance with the provisions of art. 30(4) of Italian Legislative Decree 50/2016 as amended, the Italian collective labour agreement of Utilitalia Servizi Ambientali as well as the related Collective Bargaining Agreement for the Territory in force in the area where the contract is carried out. Moreover, considering that this contract replaces a corresponding expiring contract, it referenced the requirement to apply the so-called "social clause" required by the aforementioned CCNL Utilitalia Servizi Ambientali in art. 6 and the safeguards provided by current legislation, in order to ensure the continuity of employment of personnel employed under the contract;
- the negotiated tender procedure originating from the Qualification System to award **Emergency Services**, and scheduled and ancillary maintenance work on gas in the area managed by AcegasApsAmga, for the 2018 - 2019 period, with the right to renew, at the same contractual conditions year by year at the sole discretion of the client for a further three annual periods, for a total of Euro 6 million, which referenced the requirement for the successful bidder to apply the Italian collective labour agreement for the construction industry and make a job offer that is consistent with professional requirements and duration of the contract with personnel that is employed under open-ended contracts and employed directly and mainly in the activities covered by the contract in force at the outgoing operator in the 90 day period prior to the beginning of the new management period.
- the restricted procedure tender published by AcegasApsAmga to award a two year contract, with the possibility of renewal for one more year, for **manual and mechanised sweeping, door-to-door biomass collection, and bulky waste home collection, selective collection of cardboard packaging, collection of batteries** and ancillary services within the Municipality of Trieste (districts 1, 2 and 6 - Altipiano zone and eastern suburbs), for a total of Euro 3.6 million, reserved pursuant to art. 112 of Legislative Decree 50/2016, to economic operators and social cooperatives and their consortia whose main purpose is the social and professional integration of disabled or disadvantaged people, wherein at least 30% of the workers of the above economic operators are disabled workers or disadvantaged workers, as specified in art. 112(2) of Legislative Decree 50/2016. In particular, it referenced the requirement to apply to the contractors' employees dedicated to the execution of the service the Italian Collective Labour Agreement for workers of Cooperatives in the Social, Health, Assistance and Educational Sector

involved in work induction signed by the signed by the trade union organizations most representative at national level and the relevant Collective Bargaining Agreement for the Territory in force in the area where the contract is being carried out, and, considering that this contract replaces a corresponding expiring contract, it referenced the requirement to apply the so-called "social clause" in order to ensure the continuity of employment of personnel employed under the contract;

- the negotiated tender procedure originating from the Qualification System to award a one year contract, renewable for the same period, to build **connections, limited extensions/expansion and/or small movements of networks and plants** for the Water-Gas-Sewerage Services managed by AcegasApsAmga in the Padua, Trieste, Udine and Gorizia areas, as well as the building preparations needed to build connections, limited extensions/expansion and/or small movements of networks and plants of electricity operated by AcegasApsAmga in the municipalities of Trieste and Gorizia, for a total of Euro 3.1 million;
- the negotiated procedure tender originating from the Qualification System, to **award a three year contract for the technical, administrative and operational management service for the treatment plants** of a vacuum sewerage system and sewerage pumping stations managed by AcegasApsAmga in the Pievese area, for a total of Euro 2.7 million, referenced the requirement to apply the so-called "social clause" if envisaged by the Italian collective labour agreement for the sector, as identified on the basis of and according to the above criteria consistently with art. 30(4) of Legislative Decree 50 of 2016, and, if the labour agreements applied do not include a social clause to promote employment continuity, require the application of the "voluntary" social clause as set out above.
- the restricted procedure tender, published by AcegasApsAmga, to award the two-year contract, with the possibility of renewal for one more year, for the **cemetery services** and maintenance services in all the cemeteries of the Municipality of Trieste and operation and maintenance of the funerary lighting in the cemeteries of the Municipality of Trieste for a total of Euro 1.2 million, which referenced the requirement to apply to the personnel employed under the contract, including any partner-workers, the Italian collective labour agreement and the related Collective Bargaining Agreement for the Territory in compliance with art. 30(4) of Legislative Decree 50/2016. Moreover, considering that this contract replaces a corresponding expiring contract, it referenced the requirement to apply the so-called "social clause", in order to ensure continuity of employment of personnel employed under the contract.

Also, it is indicated that, in the standard specifications for the work and services categories used in the tender procedures, besides the clause for the **request for authorization to use temporary manpower**, a clause by virtue of which "in accordance with the matters envisaged by Article 48(6) of Italian Legislative Decree 81/2015, recourse to accessory work services (so-called vouchers Inps 2017) in the performance of works or service contracts" has also been included.

### **Sustainability among the "new skills" of young people: Hera Group's contribution**

For years the Hera Group has been promoting many environmental education projects, in all the areas, in order to raise awareness in schools on issues related to services and to take part in the disclosure processes, making available a variety of company skills.

The "**La Grande Macchina del Mondo**" project closed the 2016-2017 school year with very successful results that confirm how attentive and interested the school world, from kindergartens to secondary schools, is in the free educational programme that Hera offers throughout the served territory.

The results of the 2016-2017 school year were positive both for the number of students admitted and for the requests met. In **Emilia Romagna**, the part of the project dedicated to the groups from 4 to 13 years of age showed a higher participation by about 2,000 units compared to last year (about 65,000 children in compulsory school levels). The teaching section for **higher** education institutions "**Let's Go. The paths of science**", involved almost 20,000 students compared to 17,000 the previous year.

Among the projects of the past school year are also the projects "Pozzo di Scienza" (Science well), "Society 4.0." and "**Digital Future and Revolution**", of extreme topical interest for high schools.

For the 2017-2018 school year, we plan to organize projects on the environmental issues of Hera's core business, with an important part dedicated to how the circular economy guides the economic and environmental processes that underlie the strategies of Hera Group and not only.

#### Environmental education projects

No.	2015	2016	2017
Schools involved	1,181	1,243	1,213
Participating students	78,127	96,034	99,482
Teachers involved	6,098	7,700	8,169

In 2017, the total number of **students participating** in the initiatives rose further (+3.6% compared to 2016), as did the number of **teachers involved** (+6.1% compared to 2016) while the number of **schools involved** is slightly down (-2.4% compared to 2016).

In line with the guidelines of the Hera Group, the intense activity of free educational proposals to schools continued throughout the **AcegasApsAmga** territory through "La Grande Macchina del mondo" (The Great Engine of the World) and "Un pozzo di scienza" (Science Well) programmes. The number of schools involved remained substantially unchanged (280 compared to 285 in 2016), with a rebalancing of the number of interventions between the territories of Padua and Trieste. The slight decrease in the number of students involved, from 15,039 to 13,930, is mainly due to the didactic choices made by each class.

In the case of **Marche Multiservizi**, 14 schools, 589 students and 49 teachers were involved.

## Spreading innovation and digitalization

### Scenario and policies

#### Why it is important

The global economy is recovering, but not quickly enough. Furthermore, despite average living conditions have improved compared to 30 years ago, the wealth generated ends up in the hands of fewer people, increasing social inequality. Developed countries reveal lower average annual income and minimum growth in GDP per capita, which is evidence of a fall in the spending power of households. To counter this situation, it is important to invest in education and innovation, and to aim for inclusive growth favouring employment and local development.

**757 million**

people who live in absolute poverty across the globe

**43rd**

Italy's position in the 2017 global competitiveness ranking

**9.5 times**

the average income ratio of 10% of the richest population compared to 10% of the poorest population

**1 person out of 4**

in Europe lives in conditions of poverty or exclusion

**4.7 million**

the number of people in 2016 living in conditions of extreme poverty in Italy, around three times more than 2006

**0.2%**

the growth of household spending in the 3rd quarter 2017, against +0.8% of the purchasing power due to uncertainty

#### **Poverty: difficult targets to reach for Italy and Europe**

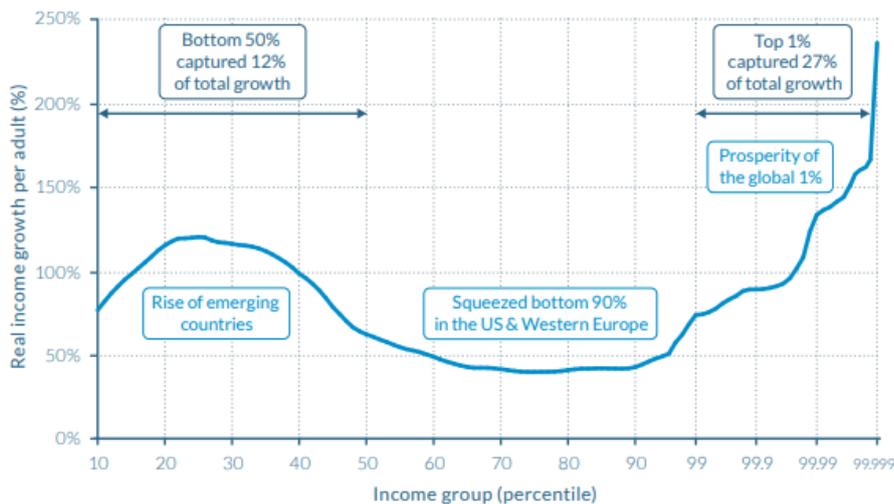
There are growing numbers of poor people or at risk of poverty in Italy and Europe. Our country has been afflicted above all by the recent economic stagnation: almost one in three Italians is at risk of poverty or social exclusion, increasing by 21.5% compared to 2010. Istat reveals that we are quite far from the EU objectives: it is estimated that in 2016 there were 4 million and 742 thousand individuals living in strict poverty. 11.9% of Italians live in financial hardship, up compared to previous years. The index of severe material deprivation increased between 2015 and 2016, especially for older people, followed by young people between the ages of 18 and 35. The situation in Italy and in Europe with regard to poverty and social inclusion is in contrast with the targets.

**The situation in Italy and in Europe with regard to poverty and social inclusion is in contrast with the targets**

	<b>2015 situation</b>	<b>2020 target</b>
Situation compared to EU poverty reduction targets	+3.7% Population at risk of poverty or social exclusion compared to 2010 +433 thousand Increase in people at risk of poverty or exclusion compared to 2010	-25% Number of Europeans living below national poverty lines -20 million people out of poverty compared to 2010
Situation compared to Italian poverty targets	+3.2 million Increase in the number of people at risk or suffering poverty and exclusion	-2.2 million Reduction in the number of people at risk or suffering poverty and exclusion

**Trend of economic inequality between 1980 and 2016**

The elephant curve of global inequality and growth, 1980-2016



The existing gap between the annual income of the rich population and of the poorest population has reached very high levels: between 1980 and 2016, 1% of the global population obtained an incredible 27% of the wealth generated. This growing inequality has a negative impact on overall consumption, causing a spiralling effect that leads to lower revenues for businesses, increased taxation to maintain current welfare levels, a gradual increase in unemployment and, therefore, a further decline in consumption.

## Innovation in the Hera Group

The term innovation traditionally refers to a process that makes an idea turn into a good or service to which a value is assigned. In addition, innovation must be repeatable at an affordable cost and must meet specific needs. Innovating does not mean inventing, nor planning, but seeking, perceiving, discover, progress, improving and knowing how to gain value in the present and future context.

Progress, change and development can take place both as an evolution and an improvement of the current state, both breaking with, or sharply diverging with respect to the present situation. We can therefore talk about two types of innovation:

- evolutionary innovations, which lead to technological, process, product or service advancement;
- revolutionary innovations, where there is a discontinuity with the past, at times leading to new, disruptive technologies.

There is always an element of risk to innovation: it may not prove to be successful or there may be effects and interactions that were not initially foreseen. This requires us to carry out detailed preliminary evaluations to minimize the possible waste of resources or unexpected negative impacts.

### *Innovation for the Hera Group*

Innovation is one of our **Group's 5 strategic cornerstones**. The model we use is based on widespread innovation: each department is responsible for its own individual innovation initiatives, from the review of processes to the identification of new services, from instruments for improving efficiency to the launch of new operating models.

However, there are guidelines, factors and tools that enable the innovation process, such as information technology. This is why Hera has set up a specific **Central Innovation Division**, reporting to the Managing Director, with the goal of analysing the main market trends, identifying the areas of greatest interest, evaluating and proposing projects and solutions to individual departments, and supporting developments with Information and Communication Technology and tools.

The Central Innovation Division includes Information Systems, connectivity and telecommunications (through the subsidiary Acantho) and the Development Department, which identifies scenarios and possible action areas and proposes engineering and technology innovation projects.

### *Action areas*

The main **areas of innovation** in the Hera Group, also in line with the Group's Business Plan, can be summarized as follows:

- **Circular Economy** aimed at environmental sustainability, promotion of the value of materials and maximization of waste and scrap recovery.
- **Customer Experience** aimed at understanding the needs and desired, expressed and not, of consumers in order to shape our actions to improve their level of satisfaction.
- **Utility 4.0** with activities linked to implementing new technologies, particularly in IT, for the digitalization and flexibility of processes, the enhancement of data and the efficient use of resources.
- **Smart City** to introduce technologies in cities to improve their liveability and the services provided to the community

To encourage and boost innovation in the businesses it manages, the Group has also launched **social innovation initiatives**, involving both external stakeholders and employees. With the **HeraLAB** project, detailed in the paragraph "Dialogue with our stakeholders" of this Report, 6 local multi-stakeholder committees have been set up since 2013, which have been assigned the task of suggesting initiatives to improve the sustainability of the services we offer. Since 2013, 29 initiatives have been implemented, most of which are centred on waste management services with innovative features in terms of communication, environmental education, waste prevention and the fight against wastage.

The workers were involved through the **Heureka** project and its evolution **HEureka+** described in the case studies of this chapter.

#### *Investments in innovation and digitalization*

Of the Euro 200 million that the Hera Group invested in "shared value" (see the paragraph on Shared value in the Sustainability, Strategy and Shared Value chapter), Euro 78 million were dedicated to the dissemination of innovation and digitalization in the areas: circular economy, smart city, utility 4.0, customer experience. Specifically, in order of size, the Group invested approximately Euro 31 million in smart cities, Euro 27 million in data analytics and business intelligence, Euro 11 million in Utilities 4.0, Euro 7 million in circular economy and Euro 2 million in customer experience.

The main projects and the related scope of the activities are listed below. For some, a brief description is also given in this paragraph, for others, see other chapters.

<b>Innovation areas:</b>	<b>Main projects</b>	<b>Current phase of project</b>	<b>Phase completion</b>	<b>Territory of implementation</b>
<b>Smart city</b>	Smart drop-off point	Prototype	2018	All
	Sensors for environmental quality	Implementation	2018	All
	Coordination of excavation works in the city	Implementation	2018	All
	Dashboard for municipalities - Dashboard for smart cities	Implementation	2018	All
	City energy map	Implementation	2018	All
<b>Circular economy</b>	Hera biomethane from waste (see p.55)	Implementation	End 2018	Bologna
	Biorefinery 2.0 to produce biomethane from pruning material (see p.55)	Test	2018	All
	Recovery of anaerobic digestion process for biogas recovery (see p.56)	Design	2017	Modena
	Ultrasonic sludge hydrolysis system (see p. 176)	Test	2018	Forlì
	Greenhouses for the drying of treatment sludge	Conception	2018	Ferrara
<b>Utility 4.0</b>	Smart Hera (see p.177)	Ongoing initiatives	Ongoing initiatives	All
	Senseable Dep sewage treatment plants trend dashboard	Installation	2017	Forlì
<b>Customer experience</b>	Customer experience project (see p.175)	Various initiatives	2018	All

#### **Smart drop-off point**

The aim of the project is to gather together in a single point a number of services for the city, to optimize energy, environmental, economic, and IT resources. The services provided include urban waste collection with user identification, environmental quality monitoring, video surveillance, telecommunication services and electrical charging.

The technologies required for these services are grouped in a **Smart totem**, which is scalable depending on needs.

The main innovative aspects of the project are:

- urban quality, by creating a single point that gathers leading city services;
- monitoring of the main environmental parameters to control urban quality;
- communication, through Wi-Fi hotspots, data concentrators and other telecommunication equipment;
- sustainable transport, by developing a city network of charging stations for vehicles and bicycles.
- security, using a video surveillance and video analysis system;
- a high aesthetic standard of the basic drop-off points for waste collection.

After the first indoor prototype in made 2016, the **outdoor prototype** was built in 2017, consisting of a technological totem and two waste containers. This step was decisive for validating the technological choices and the construction details that were preparatory to ensure proper operation. The Wi-Fi, video surveillance, air quality monitoring, electric recharging for cars and waste disposal services are activated through user recognition and opening and closing of the container opening. This prototype will be upgraded in 2018 to a pre-industrial configuration for field testing in a normal operating configuration.

### **Environmental sensors**

The project stems from the aim to develop a network to monitor the main parameters that measure the environmental quality of the city's air.

The environmental sensors are integrated in a station and are able to detect the air parameters in the external environment. The main parameters measured are atmospheric particulate matter (PM 2.5 and PM 10), ozone, nitric dioxide, carbon monoxide, carbon dioxide, temperature and humidity. The station was developed by CNR-Ibimet with the aim to create a device that could support the environmental analyses carried out by control bodies and established by regulation currently in force. The stations are provided with a computer, data acquisition and transmission board and power system supplied by photovoltaic panels or fixed network. The data detected and subsequently transmitted may be viewed in real time and may also displayed in the municipal dashboard platform.

We installed the first 7 control units in the Ferrara area at the beginning of 2017. The data collected were processed and analysed to understand the quality and availability of the data. An additional monitoring network was set up in November 2017. In this case, 6 control units have been installed and data collection is currently under way. Processing the data will help to understand how much each source (residential, traffic) affects the city's air pollution.

### **Excavation coordination system for network businesses**

The **Underground Facility Management (UFM)** project applies a Business Process Management system to the integrated management of work-sites. The system is a real platform for document management and coordination of the Group's excavation work. It will increase the efficiency of measures implemented in local areas and reduce the number of excavations, with positive effects on the city's traffic and on the environment. The project draws upon technologies developed by **Consorzio Futuro in Ricerca** of Ferrara. These technologies had already been applied to several Italian and foreign public administrations and will be supplemented by the current management systems used by Hera Group.

In 2017 we developed the platform and implemented it experimentally, attaining positive results in terms of efficiency of the business processes it addresses.

This system, which we tested at the end of 2017, will be operational from 2018.

### **Dashboards for municipalities**

The dashboard for municipalities provides an analysis of the city. It is an IT platform that integrates various systems such as the smart drop-off point, energy maps, environmental sensors, video analysis and excavation coordination. The smart city challenge involves not only installing sensors throughout the area but also developing integrated data collection and processing systems using a big-data approach. The platform displays the information recorded in the field by the many sensors and links them to create value-added synoptic views.

The tool may be used by public administrations as a management and analysis dashboard for the local community and to provide information to residents.

The dashboard was designed in 2017, will be released in 2018 and will include the following services: environmental sensors, totems and smart waste, energy maps, environmental passport and transportation analysis.

### **City energy maps**

Energy maps are tools that are useful to assess **energy consumption** over time and to carry out **predictive analysis** of future trends. These maps link gas, district heating, electricity, water consumption and TARI waste tax amounts. The analysis extracts added-value information such as: calculating the building's consumption class, assessing the consistency between water consumption and the number of declared residents, and analysing electricity consumption to obtain information about the type of plant and the fuel used for heating.

This tool may be used within the Group to analyse consumption distribution and to identify households that use polluting heating sources such as wood and pellets. Energy maps may also be useful to public administrations to gain more detailed knowledge of their local community, to identify any violations of current regulations and to promote virtuous, energy-saving behaviours.

The project is currently being implemented within the Municipal Dashboard and will be released in 2018.

### **Greenhouses for drying treatment sludge**

The project is part of a study to research treatment sludge recovery systems. In particular, a **feasibility study** measures the environmental and economic aspects of the treatment of de-watered sludge from the treatment plants, in a greenhouse, in which the combined action of solar energy, mechanical energy and, where possible, thermal energy from geothermal energy is used, to promote and accelerate the natural process of water evaporation from the sludge. The aim of this process is to **reduce the amount of sludge to be sent for disposal**.

### **Senseable Dep: Sewage treatment process monitoring dashboard**

The project aims to create a **platform to monitor treatment processes** by using simplified dashboards that show just a few indices to summarize the "state of health" of the treatment process from the biological, hydraulic and energy points of view.

During 2017, probes were installed in various sections of the **Forlì** treatment plant and a platform was created to log the measurement signals, process the data and display indices in simplified dashboards for process control and verification. The Water Business Unit and HERAtech's Remote Control department collaborated to develop the system. We will evaluate extending the platform to other Group wastewater treatment plants during 2018.

### **Internal digitalization**

During 2017, we developed and implemented several projects to **digitalize processes and activities within the Group**, including: **Smartworking Project**, **Smart Hera** and **Her@futura**. Further details on these projects are provided in the "Case Study" section of this chapter in the paragraph on internal digitalization.

In 2017, we also launched a **digital innovation community** that involved 36 people within the Hera Group. Lastly, the work teams on digital innovation met 4 times in 2017 and discussed the progress of **7 projects**

mainly concerning the management and analysis of data in the field of waste management services, the digitalization of our networks, and the implementation of business intelligence platforms and tools.

### Digitalization for our customers

The Hera Group is continuing to help its customers become more digital, both through online services and by providing applications for tablets and smartphones (Rifiutologo, Acquologo, and MyHera).

#### *The online services*

Our On-Line Services, of which we overhauled graphical design and content in January 2017, are a useful tool for customers to view their bills, check their consumption, submit reports, report readings and check the progress of their procedures.

We significantly upgraded our on-line services, leading up to the release, in January 2017 of a completely renovated website.

### Customers subscribed to online services



Excluding AcegasApsAmga and Marche Multiservizi

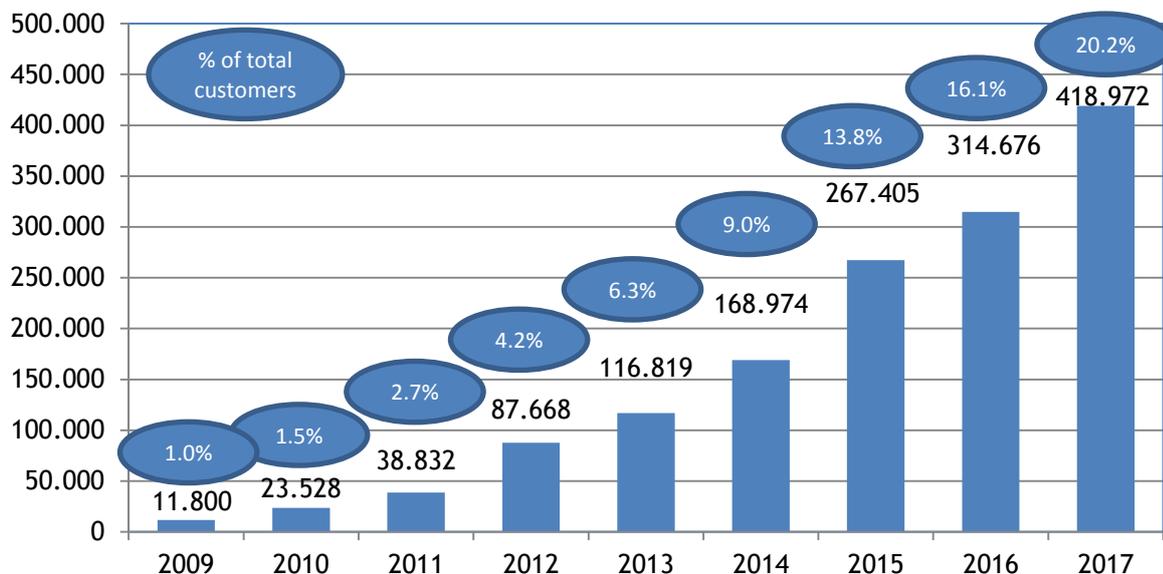
**Hera Comm's** online services proved very popular among customers again in 2017: the growth trend of the past five years is continuing and in 2017, 18.9% of our customers had subscribed to the services. In fact, the number of subscribers has **grown by almost 9%** compared to last year, reaching 296,000 customers.

About 44,000 customers have enrolled in the on-line services of **Estenergy** and **Marche Multiservizi** (12% of the total, up by about three percentage points over last year) while about 27,000 customers have chosen electronic billing (6% of the total, up one percentage point over last year).

In 2017 **AcegasApsAmga** also activated online services, so that customers can manage their contract and payments via the web, increasingly digitalizing the customer interface. The usage of online services is gradually increasing and electronic billing has increased by 23% compared to 2016, thanks to promotion by the call centres and by the branch offices.

After the success of the "Get rid of bills. Give a tree to your city" campaign, in 2017, we launched the **Digi e Lode** project to encourage efficient behaviour, by using Hera Group's digital services. The project finances school digitalization projects for first-degree public and state-authorized primary and secondary schools in the Bologna, Modena, Ferrara, Forlì-Cesena, Ravenna and Rimini areas with Euro 100,000 (Euro 2,500 per school). Rewarding behaviours also included electronic billing, chosen by **over 418 thousand customers** as of the end of 2017 (+57% compared to 2015 and +33% compared to 2016).

### Customers with electronic billing



Excluding AcegasApsAmga and Marche Multiservizi

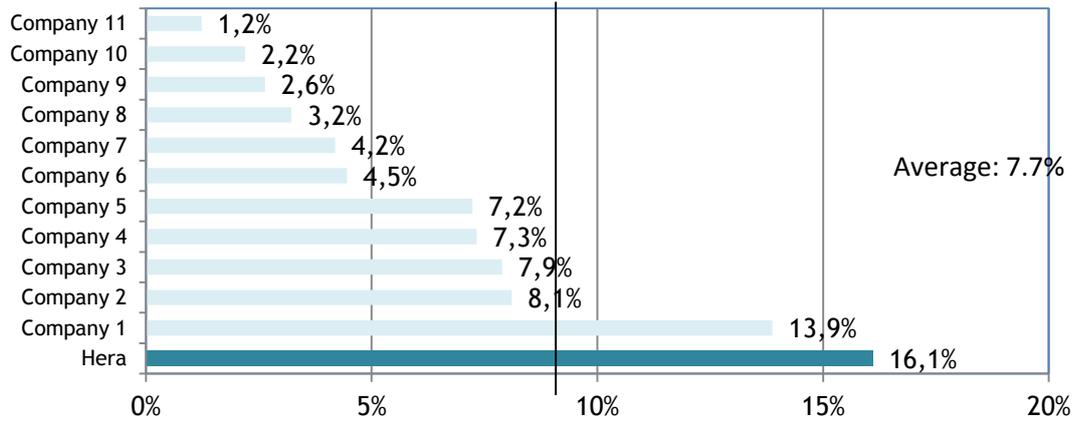
Actions planned for 2017 will continue to promote electronic billing, further improve our on-line services and increase the number of subscribers.

The number of bills based on Hera's customers reading their own meters is steady around two million in 2017, approximately 13% of total bills.

### Electronic billing in the main Italian utilities

According to a comparative analysis carried out among the main Italian utilities by Utilitatis, Hera ranks first among the 12 companies considered, for the percentage of contracts billed electronically. In 2016, 16.1% of Hera's contracts were billed electronically, compared to an average of 7.7%.

### Contracts billed electronically, % (2016)



## **Economic development and social inclusion**

### **Scenario and policies**

#### **Why it is important**

Italy has a lower rate of graduates than the EU average and a higher youth unemployment rate and ranks low for public expenditure on education. There is also misalignment between workers' training and the job they carry out. This leads to an increase in poverty and a gap between social classes. The priorities are: strengthening the education system, promoting access to education and improving quality through the assessment of results. It is also important to implement refresher courses for best use of the current workforce, promote flexibility at work, reduce insecure contracts and provide more support to families.

**264.3 million**

children and teenagers across the globe that were not able to access education in 2015

**850 thousand**

jobs created in Italy with the Jobs Act and social security reforms in 2015

**26%**

the percentage of graduates in Italy between 30 and 34 years of age, compared to a European average of 39%

**31%**

the percentage of Italians who are unemployed and excluded from education and training programmes

**52%**

the female employment rate in Italy compared to a European average of 65%

**61%**

percentage of young females in Italy who would like to be more encouraged into pursuing a STEM profession

#### **Italy lagging behind on employment**

The Europe 2020 strategy has set a number of goals to ensure smart growth, based on knowledge and innovation, and inclusive growth, based on high employment rates and social cohesion. The Entrepreneurship 2020 Action Plan for SMEs identifies the dissemination of entrepreneurial skills and training as an area for immediate intervention for the creation of new jobs. In Italy, the National Industry 4.0 Plan promotes the spreading of Italian industrial culture, both through digital education and the joint school-work programme.

**School dropout rate: Italy in line with the goals, but still far from other European countries**

	<b>2016</b>	<b>2020</b>
Europe	10.7%	<10%
Italy	13.8%	<16%

**Graduates: goal achieved, but Italy far from European average and far from employment rate targets**

	<b>2016</b>	<b>2020</b>
Europe	39.1%	40%
Italy	26.2%	26-27%

**Italia, far from employment rate targets**

	<b>2016</b>	<b>2020</b>
Europe	71.1%	75%
Italy	61.6%	67-69%

**Joint school-work programme and training: figures in Italy**

Joint school-work targets	400 Hours in technical and professional institutes included in the educational plan for the first three-year period (per capita)	200 Hours in secondary schools included in the educational plan for the first three-year period (per capita)
Targets regarding training on Industry 4.0 topics	100% Students enrolled in higher technical education schools trained on Industry 4.0 topics	200 thousand Number of university students trained on Industry 4.0 topics

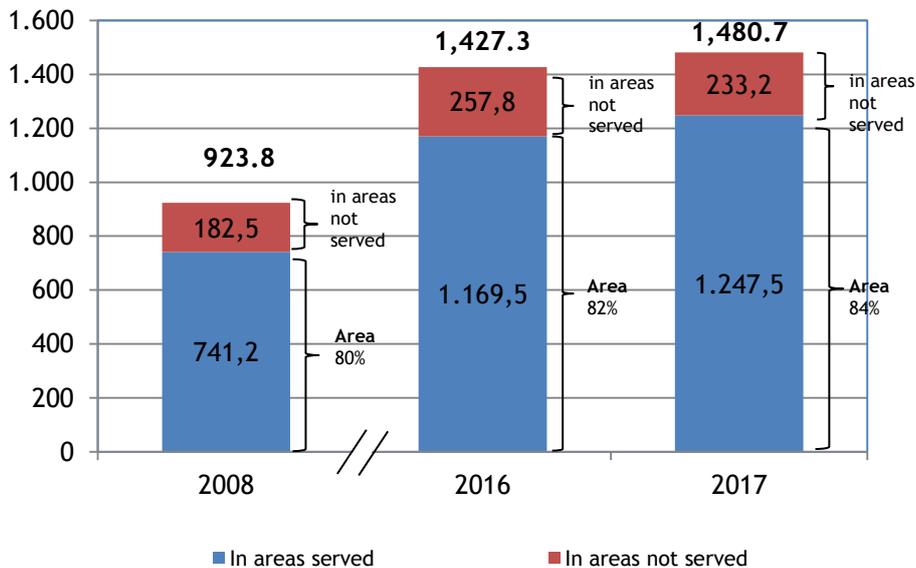
## The economic value for the local area

In 2017, the value added distributed to stakeholders in the local area was Euro 1,247.5 million (+6.8% compared to 2016).

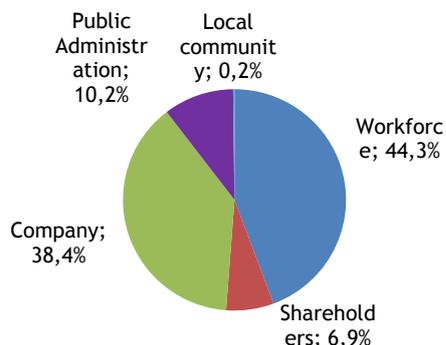
It comprises:

- employee salaries (44.3% of the total);
- dividends to local Hera Spa shareholders (6.9%);
- duties, taxes and fees to local authorities (10.2%);
- charitable donations and sponsorships (0.2%);
- resources re-invested in the company (38.4%).

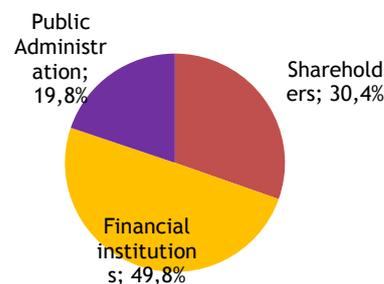
### Value added distributed (in millions of Euro)



### Allocation of value added to local stakeholders (2017)

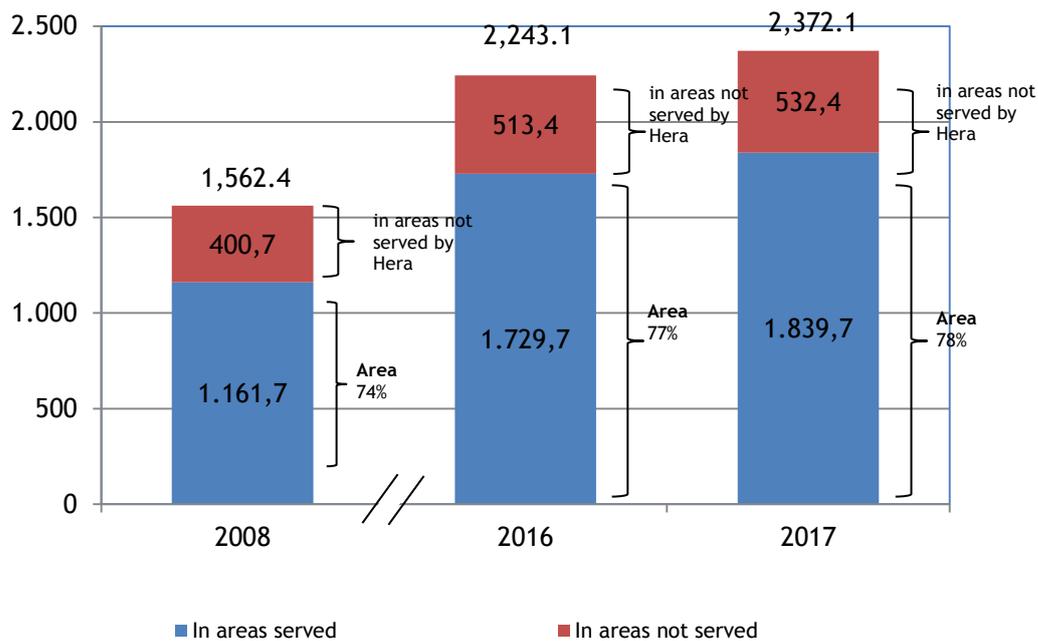


### Allocation of value added to non-local stakeholders (2017)



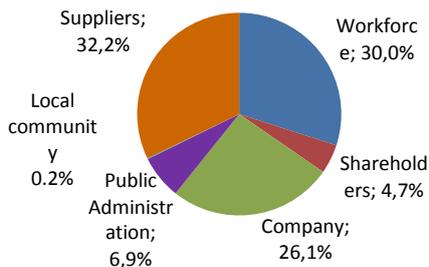
If the added value distributed in the local areas is added to the amount of the supplies from suppliers in the local areas (which account for 66% of total Group supplies at consolidated level and which can be valued as 592.3 million), the economic value distributed to local areas in 2017 in total can therefore be valued as Euro 1,839.7 million (+6.5% compared to 2016), equal to 78% of the total of the wealth produced which was Euro 2,372.1 million.

### Economic value distributed (in millions of Euro)

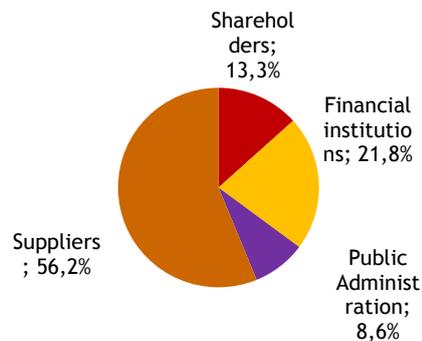


As indicated in the Governance and value creation chapter, for the purposes of greater comparability between the 2016 and 2017 figures, the 2016 financial statement balances have been adjusted for comparison with 2017. This adjustment did not have any effect on the results and as of 31 December 2016 led to greater revenues for Euro 697.9 million and an equivalent increase in costs. This adjustment affects the prospect of production of the added value but does not change the total gross global added value.

#### Allocation of economical value to local stakeholders (2017)



#### Allocation of economical value to non-local stakeholders (2017)



The minority shareholders of the subsidiaries have not been taken into consideration in the calculation of the value added distributed to the local areas; with regard to the distribution of the dividends of Hera Spa, here reference is made to the share composition as of the 2016 dividend payment date.

#### Effects on areas served

All data provided in this section, unless otherwise indicated, refers to the companies Hera Spa, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Hera Comm, Hera Luce, Inrete Distribuzione Energia, Heratech and Uniflotte; intercompany purchases are excluded.

The effects on employment that the Hera Group has created in the local area are linked to the economic effects on the local communities in which it operates.

Over 60% of the companies enrolled in the supplier register are **based in the area we serve** (provinces of Bologna, Ferrara, Forli-Cesena, Modena, Padua, Pesaro-Urbino, Ravenna, Rimini and Trieste).

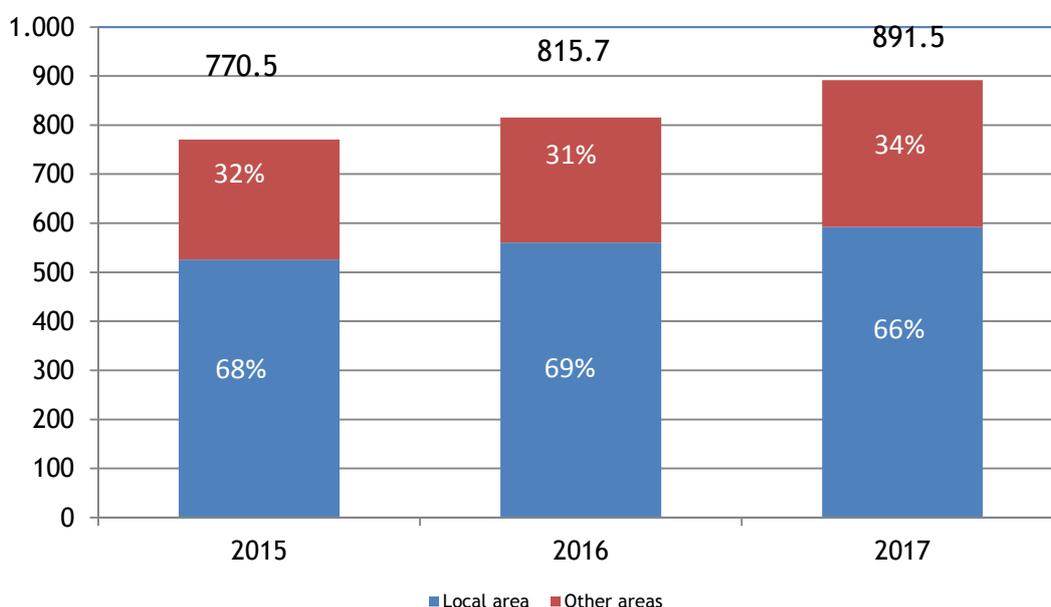
**Marche Multiservizi** had a total of 992 suppliers, of which over 56% based in the local area.

### Suppliers (by geographic area)

No.	2015	2016	2017	% of 2017 total
Bologna area	582	523	461	9.7%
Ferrara area	169	160	143	3.0%
Forli-Cesena area	303	267	237	5.0%
Imola-Faenza area	216	199	172	3.6%
Modena area	329	290	241	5.1%
Ravenna area	265	229	208	4.4%
Rimini area	220	202	170	3.6%
Triveneto	905	1,235	1,187	24.9%
Marche	-	-	101	2.1%
<i>Total local area</i>	<i>2,989</i>	<i>3,105</i>	<i>2,920</i>	<i>61.3%</i>
Other Italian regions	1,777	1,935	1,761	37.0%
Other European Union nations	88	74	56	1.2%
Other	27	25	28	0.6%
<b>Total</b>	<b>4,881</b>	<b>5,139</b>	<b>4,765</b>	<b>100%</b>

Excluding Marche Multiservizi.

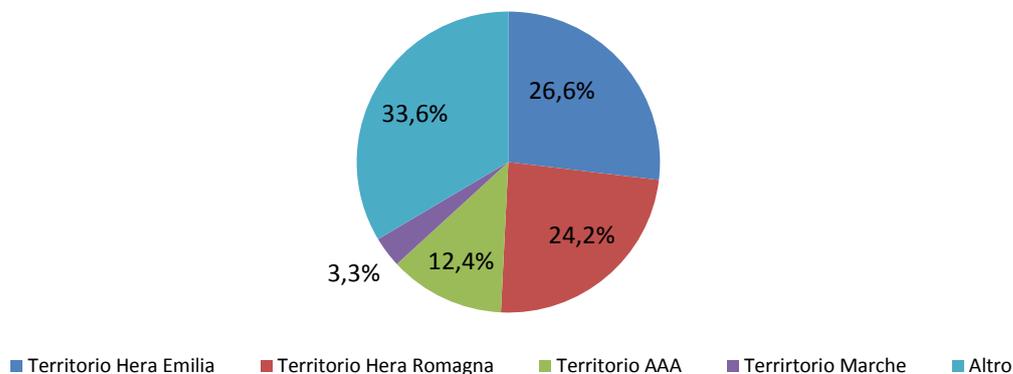
### Value of supplies: breakdown by geographic area (in millions of Euro)



In terms of **economic value**, Hera issued purchase orders for around **Euro 592 million (66% of the total and up by about 6% over 2016)**, to businesses based in the area Hera serves, a percentage essentially in line with previous years.

Purchases outside the European Union were made from suppliers based in Canada, Switzerland, Israel, the Republic of San Marino, and the United States.

## Value of supplies: breakdown by geographic area (2017)



### Sponsorships and donations

Sponsorships and donations are also among the positive effects of the Hera Group in the areas it serves, which make up the added value distributed to stakeholders. Hera Group continues to identify and reward significant partnerships that are in the interest of the area and that stimulate its growth, fostering positive relationships and promoting the proactive role of the Group in the areas it serves.

### Sponsorships

(thousands of Euro)	2015	2016	2017
Recreational activities	74	202	160
Culture	1,111	1,152	1,071
Sports	552	484	297
Social	378	44	31
Environmental	99	421	360
Other	144	209	168
<b>Total</b>	<b>2,358</b>	<b>2,513</b>	<b>2,087</b>
<i>of which to the areas served by Hera</i>	<i>2,289</i>	<i>2,354</i>	<i>2,042</i>
<i>of which in areas not served by Hera</i>	<i>69</i>	<i>159</i>	<i>45</i>

In 2017 the Hera Group contributed to over Euro 2 million of sponsorships that in various fields contributed to enrich the content and the initiatives of the local communities. In fact, of the total of sponsorships, 98% was allocated to the local area.

In this perspective, the Group's commitment to promoting art, music, cinema, theatre, sports and the environment becomes the driver both to convey highly artistic content, and to make it usable and accessible to all.

The Hera Group continued this year to reward important initiatives in the areas served, since caring for the area also means identifying and giving value to initiatives that are capable of stimulating social and cultural growth, to achieve an overall improvement in the quality of people's lives.

In 2017, the Group supported **130** activities in the fields of art, music, cinema, theatre and sports.

**Art.** We supported exhibitions, shows and major projects during 2017. Among the most significant partnerships also in terms of attendance, there was the "Art Decò" exhibition held at the Musei San Domenico of Forlì in the first half of the year. The exhibition presented an artistic movement transformed

into a real lifestyle, flowing into the arts, associating with the emerging languages of advertising and helping to affirm Made in Italy around the world.

Public and clients were also welcomed at the 9 exhibits and meetings with the most important graphic novelists on the national and international scene on the occasion of the eleventh edition of "**Bilbolbul**", the international comic strip festival held in Bologna of which Hera Group is the main partner, as well as founder. In this context, Hera supported the exhibition entitled "**First works**" dedicated to Mattotti, the most important and well-known Italian cartoonist and illustrator. Also in Bologna, Hera's supported Fotoindustria, a biennial photography exhibit dedicated to industry and work, thanks to which many visitors were able to discover places usually not accessible to the public, opening unexpected glimpses of great historical and artistic depth. In addition, the Group supported the **SiFest** of Savignano sul Rubicone, the famous photo contest that in September transforms this town in Romagna into a meeting point for internationally famous artists, enthusiasts and amateur photographers. The collaboration with the renowned International Ceramics Museum of Faenza continues, to promote the exhibition "**Between Symbolism and Liberty: Achille Calzi**", the culmination of an important retrospective work on a pivotal artist of cultural history and of the symbolist and liberty production of our country.

Hera collaborated with the **Modena Philosophy Festival** in 2017, on the theme of the arts, with a focus on artist practices and forms of creation in all areas of production. Our Group highlighted the topic by organizing the "**Scart, the beautiful and useful side of waste**" exhibition, which exhibited works made by students of the Academies of Fine Arts of Bologna and Florence, such as portraits of famous people and sculptures of animals, made by reusing waste materials.

Access to culture and support for the area are clearly evident in the Group's support of **SalaBorsa**, Bologna's most important library which thanks to Hera's support can now stay open on Sundays.

**Theatre.** Our collaboration with the **Festival Internazionale del Teatro in Piazza**, (International Festival of Outdoor Theatre) now at its 47th edition, continues. It is held every July in Santarcangelo di Romagna. With Hera's support, the Festival opens up even more to internationality and continues in the direction of contemporary language and experimentation. The Group also supported **ERT** (Emilia Romagna Teatro fondazione), the permanent public theatre present in 5 cities (Modena, Vignola, Castelfranco, Bologna and Cesena), whose mission is to promote theatre, by organizing shows designed with, and for cities. The Group also contributed to theatres in Romagna: the "Rossini" in Lugo, the network of theatres of Valmarecchia and the Unione Valconca in the Rimini area.

**Music.** Every year, the Hera Group identifies the concert seasons of absolute excellence, that are capable of attracting a diverse audience. Among these were the Fondazione Musica Insieme and the Bologna Festival with the exhibition "**The Great Performers**" and "The New and the Ancient" dedicated to the tenth anniversary of the death of Karlheinz Stockhausen. Hera supported this innovative project that allowed the public to gain more in-depth knowledge of the great German musician, considered one of the most important composers of the 20th and 21st centuries.

Among the theatrical seasons, special mention goes to the collaboration with the **Teatro Comunale di Bologna**, another excellence of the area, confirms the combination of tradition and experimentation in its programme, with new productions supported by Hera, such as the works Aida and Tosca.

Support was also confirmed for the **Ravenna Festival**, one of the most important Italian cultural events. The Hera Group sponsored the project dedicated to Dante's Inferno: the whole city became the stage of a travelling show that started at the Supreme Poet's tomb and ended at the Rasi Theatre.

The historical collaboration with Bilbolbul allowed us to identify Lorenzo Mattiotti as the artist to create the original illustrations for the 2017 edition of the **Bologna Jazz Festival**.

Hera is the main sponsor of the music festival and has supported the customization of two jazz buses that have become travelling works of art, allowing users to learn about the festival's programme. On the occasion of the inauguration, a jam session was held inside one of the buses.

We also confirmed our partnership with the **Ferrara Buskers Festival**, an international festival of street musicians; with the **Porretta Soul Festival** and with the **Verucchio Music Festival** events that present top ranking musicians on the international scene.

**Cinema.** Among the successful partnerships, Hera confirms its support for the promotion of film culture. Among the most prestigious partnerships, we consolidated our support, as main sponsor, of the **Bologna Cineteca**, that by producing the “**Il cinema ritrovato**” (Cinema rediscovered) and “**Sotto le stelle del Cinema**” (Cinema under the stars) reviews, not only offered great masterpieces, but also gave thousands of people free access every evening to the shows projected in Piazza Maggiore during the summer. We also renewed our partnership with Biografilm Festival, which in the 2017 edition introduced the **Biografilm Hera Theatre**, where many screenings were held during the famous festival. We confirmed our interest for theatre and cinema also by supporting initiatives that take place in other areas, such as Sassuolo, with “Cinema Estivo”, and in 10 municipalities near Imola, with “Rassegne itineranti”.

**Sports and Social activities.** In the field of sports, Hera confirmed its collaboration with the fourth **RiminiMarathon** which in spring brought to Romagna thousands of athletes and many families from all over the peninsula. They all helped to finance charitable activities. Hera promotes sport as well-being and as a driver for solidarity by organizing a broad range of events. Among the most important events is the Bologna stage of the **Race for the Cure**, a "pink" race to raise awareness on the importance of breast cancer prevention, and to promote correct information on the matter. In 2017, we renewed our collaboration with the **Diabetes Marathon**, to support the activities of Forlì's diabetics' association and the Laboratori del Benessere, group courses that provide information on healthy lifestyles. In addition, in the Ravenna area, the Group supported the **ItineRA** initiative, an event dedicated to walking, rediscovering the environment, the history and the culture of one's area.

Lastly, Hera is at the side of the world of basketball in Ravenna and Imola by supporting the youth teams of Ravenna Basketball and Andrea Costa Imola Basket, and in Bologna with the under 14-16 and 18 teams of Rugby 1928.

**Environment.** The partnerships set up throughout the area we serve were further supported by attentive provision of the services. This sensitivity is quite evident in the **Trashware** project, the initiative that, thanks to Hera, has made it possible to donate materials recovered from old PCs to associations or to individuals in need. In many initiatives, in addition, Hera has provided distribution of mains water by installing mobile Urban Springs.

At the national level, the Group participated in the **Water Festival**, which took place in Bari, an important event dedicated to the state of the planet's water resources. The engineers of our Group presented the best practices used in the water sector in the area we serve.

In 2017, the Hera Group also continued to cooperate with over 80 local associations which can thus benefit from innovative services and advantageous supply conditions. In 2017, we started collaboration with FIGC Umbria, in which Hera Comm is among the association's official relations: the agreement is not only an opportunity for savings for all the affiliated companies but also an important opportunity to make Hera Comm and the Hera Group well-known across the region.

Support for the local areas, in particular for those affected by the recent earthquakes, has always been one of the Group's key principles and our agreement with Confcommercio of L'Aquila intends to be a concrete gesture in this direction. Another initiative that promotes the area and autumn culinary traditions is the Gastronomic Week End: the initiative was organized by Ascom Confcommercio of Pesaro and Urbino with the collaboration of Hera Comm and was attended by over 60 restaurants in the surrounding region.

Hera Comm also contributed to the second edition of the national **Cambiamenti** award organized by CNA Parma: the event awards start-ups that have been able to promote their local areas, also through technological innovation, bringing positive change in economic, social or cultural terms. In 2017, two important collaborations also continued: the first with Ascom Confcommercio Bologna which, by providing the Gold Card, offers dedicated consultancy from Hera Comm and exclusive bonuses with the services. The second is the one with the Arci of Reggio Emilia, under which Hera Comm set up a sales and information corner at the summer cinema evenings organized by the association.

## Donations

(thousands of Euro)	2015	2016	2017
Recreational activities	20	4	5
Culture	100	100	159
Sports	9	7	9
Social	100	147	134
Environmental	58	5	38
Other	23	-	17
<b>Total</b>	<b>310</b>	<b>272</b>	<b>361</b>
<i>of which to the areas served by Hera</i>	<i>299</i>	<i>259</i>	<i>268</i>
<i>of which in areas not served by Hera</i>	<i>11</i>	<i>14</i>	<i>93</i>

Donations are a further opportunity for supporting the area, an action in which Hera Group actively supports the weakest social categories.

In 2017, the Group donated over Euro 361,000, 74% of which to the local area. About 81% of donations are for cultural and social purposes.

That kindness is extended also thanks to the HeraSolidale that supports eleven associations (one for each area) by monthly donations debited directly to the employee's pay-checks. In 2017, Hera contributed to the initiative by doubling the overall amount donated by workers in 2016.

Also, in 2017, Hera renewed its membership in organizations and associations involved in both disease prevention (through scientific research) and patient care. Some examples among many are our support for the LILT association which finances research projects in the field of cancer, and for the ASPHI not-for-profit organization, which in Bologna, through new technologies, promotes the integration of disabled people in schools, work and society, as well as other Emilia-Romagna organizations that continue to implement valuable projects.

On this topic, it is worth remembering the support - since its creation in 2010 - provided to the Cesena-based Fondazione Romagna Solidale which thanks to the will of 50 businesses brings together the forces of the area to improve the quality of life of weaker categories by supporting non-profit organizations in fields such as healthcare, disabilities, care for the elderly, training for youngsters. The Foundation also worked in the areas affected by the earthquake, donating housing modules.

Further on the social front, the Group is also a partner of the Mantello, based in Ferrara, which provides income support by distributing basic necessities, and also by offering training opportunities, work orientation and social and health services, family budget management, education for responsible consumption and promotion of active citizenship.

Hera also directed part of its donations to the cultural sector, supporting for example the Muse Association, involved in promoting educational activities and the Casa Natale Enzo Ferrari Museum in Modena, which houses an important part of the sports and technological heritage of Made in Italy.

Lastly, in the environmental field, the Group collaborates with the Fondazione Cetacea, the Centro di Recupero Cura e Riabilitazione di Riccione, which is active in the rescue of animals in distress, especially sea turtles and cetaceans.

The company policy, unchanged for 2017, does not provide, in accordance with what is defined in the Code of Ethics, the provision of contributions of any kind to parties or politicians.

## The investments

During 2017, the Group's investments amounted to Euro 396.2 million, with the benefit of Euro 44.3 million in capital grants of which 8.2 million for Fondo Nuovi Investimenti (FoNI), as envisaged by the tariff method for the integrated water service.

Gross of the capital grants, total Group investments amounted to Euro 440.5 million. Net investments rose by Euro 29.8 million, from Euro 366.4 million in 2016 to Euro 396.2 million in 2017.

Operating investments, amounting to Euro 440.0 million, were up 14.0% compared to the previous year and mainly refer to works on plants, networks and infrastructures. In addition, regulatory adjustments were made, particularly with regard to gas distribution for the mass replacement of meters and the treatment and sewerage sectors.

## Investments

in millions of Euro	2016	2017
Gas area	94.8	101.5
Electricity area	25.2	23.6
Integrated water cycle area	131.8	156.6
Waste management area	50.7	67.2
Other services area	15.9	18.7
Central structure	67.6	72.4
<b>Total operating investments</b>	<b>386.1</b>	<b>440.0</b>
Financial investments	0.6	0.5
<b>Total gross investments</b>	<b>386.7</b>	<b>440.5</b>
Capital grants	20.3	44.3
<i>of which for FoNI (Fondo Nuovi Investimenti)</i>	<i>7.3</i>	<i>8.2</i>
<b>Total net investments</b>	<b>366.4</b>	<b>396.2</b>

in millions of Euro	Hera		AcegasApsAmga		Marche Multiservizi	
	2016	2017	2016	2017	2016	2017
Gas area	65.0	67.8	27.9	31.8	1.9	1.9
Electricity area	18.8	15.8	6.4	7.8	0.0	0.0
Integrated water cycle area	90.9	95.9	31.3	50.0	9.7	10.7
Waste management area	41.4	60.6	5.4	4.2	3.9	2.3
Other services area	12.4	12.7	3.4	4.7	0.2	1.4
Central structure	58.6	67.0	7.1	4.0	1.9	1.4
<b>Total operating investments</b>	<b>287.1</b>	<b>319.8</b>	<b>81.5</b>	<b>102.5</b>	<b>17.6</b>	<b>17.7</b>
Financial investments	0.6	0.5	0.0	0.0	0.0	0.0
<b>Total gross investments</b>	<b>287.7</b>	<b>320.3</b>	<b>81.5</b>	<b>102.5</b>	<b>17.6</b>	<b>17.7</b>

In 2017, the net investments in the gas area were Euro 101.0 million, up by Euro 6.2 million compared to 2016. The distribution of natural gas increased by Euro 9.6 million, due mainly to the impact of the regulatory changes introduced by Resolution 554/15 (formerly Resolution 631/2013) for the mass replacement of meters, which also concerned lower class devices (G4-G6) and also to greater extraordinary maintenance work on networks and plants, while the demand for new connections was substantially in line with the previous year.

Investments decreased by Euro 2.9 million in district heating and heat management, mainly due to the substantial work carried out the previous year in district heating at the Barca di Bologna and Campus di Forlì plants, while the work carried out in the heat management sector by Sinergie (now AcegasApsAmga Servizi Energetici Spa), in the AcegasApsAmga Group areas, increased. The new district heating connections are in line with the previous year's figures.

Investments in the **electricity area** for 2017 amounted to Euro 23.6 million, resulting in a Euro 1.5 million decrease when compared with the Euro 25.1 million of the previous year. The measures carried out mainly concerned the extraordinary maintenance of plants and distribution networks in the Modena, Imola,

Trieste and Gorizia areas. Compared to the previous year, there were fewer extraordinary maintenance operations, mainly due to the greater work carried out in 2016 on the Imola cogeneration plant. Requests for new connections are up on the previous year.

Net investments in the **integrated water cycle area** amounted to Euro 113.1 million and were down compared to the previous year (Euro 1.3 million). Before capital grants received, which rose by Euro 23.5 million, investments made rose by Euro 24.8 million, or Euro 156.6 million more than the Euro 131.8 million of the previous year. The investments mainly concern extensions, enhancements and upgrades of networks and facilities, and regulatory compliance, mostly for water and sewage treatment. Investments were made for Euro 63.8 million in the aqueduct area, Euro 42.0 million in the sewage area and Euro 50.8 million in the treatment area. The main changes included: in the aqueduct, the strengthening of the interconnections of the water system of Modena, the important strengthening of a supply pipeline in the Ferrara area and measures for seismic upgrading of water systems and renovation of hanging tanks; in the sewerage system, progress continues on the important works of the plan to safeguard Rimini's bathing water, as well as upgrading the sewerage network in other areas; in the treatment system, the greater investments compared to the previous year depend mainly on the continuation of the significant upgrades of the Servola treatment plant, in the AcegasApsAmga Group's area. Demand for new water and sewerage connections has decreased compared to the previous year.

Capital grants for Euro 43.5 million include Euro 8.2 million relating to the tariff component envisaged by the tariff method for the Fondo Nuovi Investimenti (FoNI), and were up in with respect to the previous year mainly due to the portion of the works at the Servola treatment plant.

Net investments in the **environment area** concerned maintenance and enhancement measures on plants and amounted to Euro 66.9 million, up Euro 16.3 million compared to the previous year. Investments in the composting/digesters sector significantly increased, by Euro 11.5 million, mainly due to the work on the Sant'Agata composting plant for activities related to the construction of the biomethane plant, as well as plant upgrades at the Cesena and Tre Monti sites. The Euro 7.1 million decrease in investments in landfills is mainly due to the work carried out in 2016 to build the ninth sector of the Ravenna landfill and the 5th lot of the Sommacampagna landfill, to the new interventions carried out this year on the Tre Monti landfill (reclamation of reservoirs and new energy recovery system), Loria (construction of the fourth sector) and Ravenna (biogas management system), which have a lower overall value.

WTE operations increased by 0.9 million, compared with the previous year, due mainly to work on upgrading the steam generator at the Pozzilli plant and minor maintenance work on other WTE plants.

Investments in the special waste plants sector decreased by Euro 0.5 million due to the greater work carried out in the previous year on the Ravenna plants.

Investments in drop-off point and collection equipment sector were down by Euro 1.0 million, mainly due to the implementation in 2016 of the Hergo Ambiente in the Triveneto region, the innovative information system that provides integrated management of the all of Hera Group's Environmental Services, and to lower investments in collection equipment in the Marche Multiservizi area.

The Euro 12.8 million increase in the selection and recovery plants sector is mainly due to the consolidation of the Aliplast Group, including the construction of the new PET washing line launched by Alimpet. In addition, Waste Recycling is implementing the I-Waste project management platform capable of gathering and processing information from a range of sensors that collect analytical data on the performance of treatment equipment and plants, and relating them to production activities in order to improve the efficiency of the management, technical and energy processes, introducing IoT extended throughout the company's business:

Investments in the **other services area** amounted to Euro 18.7 million, up Euro 2.9 million with respect to the same period of the previous year.

In the **telecommunications area**, Euro 9.2 million in investments were made on the network and with regard to TLC and IDC (Internet Data Center) services, up compared to 2016.

With regard to the **public lighting service**, the investments for Euro 9.5 million were related to maintenance, upgrading and modernization measures of the lighting systems, involving an overall increase of Euro 2.5 million which concerned mainly the management of the service within the AcegasApsAmga Group and the Marche Multiservizi for interventions in the Municipality of Pesaro.

In the **central structure**, the investments concerned measures on the buildings of company premises, on information systems, on the vehicle fleet, as well as the laboratories and the remote-control structures. Overall, the structure investments increased by Euro 4.8 million when compared with the previous year.

#### *The environmental investments*

The measurement of the environmental investments makes it possible to quantify in economic terms the measures carried out in order to improve the environmental sustainability of the Group and the territory in which it operates, thereby showing how much of the activity translates into environmental improvement.

Any investment connected to measures which resulted in a significant environmental benefit was defined as an environmental investment. Taking account of the activities operated by Hera, several characteristic activities carried out by the company such as separate waste collection, the operation of composting plants or the expansion of treatment plants were also taken into consideration.

Recognition of these investments was carried out for the following companies: Hera Spa, Herambiente, Hera Comm, Uniflotte, AcegasApsAmga, Hera Luce and Marche Multiservizi.

#### **Environmental investments**

<b>in millions of Euro</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Energy services	67.9	77.2	84.7
Integrated water service	106.5	107.3	111.0
Waste management services	17.2	22.9	35.3
Central structure	0.9	1.2	1.2
<b>Total</b>	<b>192.5</b>	<b>208.6</b>	<b>232.3</b>

The data applies to AcegasApsAmga, Hera Spa, Herambiente, Hera Comm, Hera Luce, Marche Multiservizi and Uniflotte.

With regard to investments, in relation to **energy services**, the activities considered were those aimed at the extraordinary maintenance of the gas networks, the construction or upkeep of plants for the generation of electricity from renewable sources or similar sources and the management of district heating systems. The investments related to industrial cogeneration and the energy efficiency measures in the public lighting area made by Hera Luce were also considered.

For the **water service**, the interventions aimed at reducing losses within the water networks, the extensions of the sewage network and treatment plants and the interventions to improve the environmental performance of the plants themselves were counted.

For the **waste management services**, the activities related to separate waste collection, e.g. investments in equipped drop-off points, the construction or upkeep of the waste selection, separation and composting and biomethane production plants, the reduction of atmospheric emissions from waste-to-energy plants, and the generation of electricity in waste-to-energy plants were considered. Also considered were the investments for the disposal of waste produced by the company (e.g. landfill leachate collection facilities in landfills) and separate waste collection containers.

With regard to the **central structure**, investments for the purchase of vehicles with a lower environmental impact (methane, LPG, etc.) and of skips and "igloo" bins for separate waste collection were considered.

Total environmental investments amounted to Euro 232.3 million, up by 11% with compared to 2016 and amounting to around Euro 23 million more. This change was made up as follows:

- increase in investments in the **energy services** (+10% compared to last year corresponding to around Euro 7.6 million) in particular on the gas networks and plants and energy efficiency measures on public lighting systems;
- investments in **water services** increased (+4% compared to last year reaching around Euro 4 million), in particular for investments in improvements to the water and sewerage network;
- investments in waste management services increased (+54% compared to last year, i.e. around Euro 12.4 million), mainly due to the investment in the biomethane plant at Sant'Agata Bolognese;

Environmental investments accounted for 53% of non-financial operating investments.

## Hera's contribution to social inclusion

### *The tariffs for families facing financial and physical hardship*

Social bonuses are aids that **reduce the expense sustained by certain categories of residential customers, for the electricity and gas they use**. Residential customers with an **ISEE** (Equivalent economic status indicator) **under Euro 8107.5** can apply for the electricity bonus, and customers whose household includes a **seriously ill person** that relies on electrical medical devices can also apply for it (physical hardship). The bonuses are granted to families that support more than three children if their ISEE indicator is under Euro 20,000, as decided by the Italian Government and set out by Interministerial Decree 28/12/2007. For families facing financial hardship, the electricity bonus provides annual savings ranging from Euro 80 to 153, while for families facing physical hardship, the electricity bonus provides **annual savings of Euro 175 to 628**. The amounts of the gas bonuses are determined each year by the Regulatory Authority, and depend on the climate areas. They provide savings ranging from Euro 31 to 274. Bonuses can be requested by all residential customers who use natural gas on their own contracts or within a condominium.

### Gas and electricity bonuses issued

	2015	2016	2017
Number of bonuses issued	55,484	54,942	57,702
Value of bonuses issued (thousands of Euro)	5,735	4,995	5,255

In 2017, **gas and electricity bonuses** issued to Hera Group customers amounted to 57,702 (+5.2% compared to 2016) for a total of over Euro 5 million. As regards Hera Comm, 49,627 disbursements were made for a total of approximately Euro 4.5 million (+6.3% compared to 2016).

As regards **water services**, in some of the areas served by the Group, the local regulatory authorities have set tariff concessions for large families. In 2017, Hera SpA granted 553 tariff concessions to large families in the Bologna (only in municipalities where the per capita tariff is not applied), Ferrara, Ravenna and Rimini areas. As regards AcegasApsAmga, in 2017, 171 tariff concessions were granted to large families in the Padua area.

In addition, in the area served by Hera SpA, in 2014 Atersir approved the "Regulation for the allocation of tariff benefits for vulnerable users of the integrated water service", and extended it to 2017 (resolution 40 of 26 July 2016). It sets out how to calculate and provide financial aid to help customers facing financial hardship pay their bills for the integrated water service. During 2017, tariff concessions were granted for Euro 2.3 million.

Regarding **waste management services**, parties experiencing serious social/assistance hardship may be totally or partially exempt from paying the TARI waste tax. The municipalities allocate the funds for these tariff concessions according to the income of the applicants. Furthermore, in some areas, discounts apply to individuals living alone, that are affected by over 60% of permanent invalidity. TARI reductions are

available for residents experiencing social/assistance hardship for the areas served by AcegasApsAmga and Marche Multiservizi, and they are governed by the individual municipalities in those areas.

#### *Hera's initiatives to support users facing financial hardship*

**Hera** allows households facing financial hardship (that are not behind with any payments, including instalments previously granted) to pay their bills in three instalments, and applies the main refinancing interest rate (the official reference rate at which the European Central Bank grants loans to other banks has been zero since 10 March 2016), increased by 3.5%. For amounts over Euro 2000, **Hera** reserves the right to carry out more accurate checks before granting the instalment plan. In certain cases of financial hardship (e.g. customers using the temporary state lay-off fund, or on unemployment benefits, beneficiaries of the income support fund of the Emilia-Romagna Bilateral Agency or customers who are unemployed as a result of the reduction or termination of their employment) the number of instalments is increased to 6, interest-free. In addition, subject to approval of social assistants, the instalments may be increased to nine. The procedure also applies to professionals and small condominiums, businesses can also request to pay by instalments which Hera grants on similar conditions following checks on their level of solvency.

As regards **Marche Multiservizi**, requests for payment by instalments for the water service were accepted from 1682 customers with financial difficulties.

Payment by instalments for domestic customers concerns only bills over Euro 100, with an interest rate equal to the TUR increased by 3.00%. The instalments are agreed with the users in proportion to the amounts of the bills issued and up to 4 instalments may be allowed. In special cases, agreed with the social services of the municipalities, the number of instalments can be extended, also exempting from payment of interest.

Payment by instalments, also for Marche Multiservizi, applies to professionals and small condominiums; for businesses, payments in instalments is authorized following checks on their level of solvency.

In addition to payment by instalments, with 3 or 6 instalments, **AcegasApsAmga** grants postponement of the due date of the bills. An interest rate equal to the TUR applies to instalments. Customers in particularly difficult economic circumstances and supported by public assistance agencies may be granted additional advantageous extensions.

Throughout 2017, over **195,000 instalment plans** were granted to **residential customers**. On a like-for-like basis as compared to 2015 (excluding AcegasApsAmga), over 191,000 instalment plans were granted, an increase of 5.6% compared to the previous year. Over 6000 **business customers** were granted payment by instalments (+2.2% compared to 2016), and the respective value amounted to Euro 31,317 thousands (+8.2% compared to 2016).

Considering only **Hera SpA**, approximately 91,000 mass market customers (families and professionals) requested payment by instalments of at least one bill in 2017, (+7.5% compared to 2016), while the business customers were 3185 (+5.4% compared to 2016).

#### **Number and value of bills paid in instalments**

	<b>2015*</b>	<b>2016</b>	<b>2017</b>
Number of bills paid in instalments	164,346	186,476	195,723
Value of bills paid in instalments (thousands of Euro)	119,429	112,470	112,143

\* Excluding AcegasApsAmga

The Group's attention to the weaker social groups is also confirmed by its **collaboration** over many years with the **Social Services of the municipalities and with the organizations that provide services to citizens**. This collaboration is a **distinctive element of Hera** among multi-utility and commercial companies and consists of a dedicated channel with operators who offer counselling to social workers and structured

forms of relief that often make it possible to restore a disconnected service, avoid disconnection and allow municipalities to optimize the management of economic contributions.

In 2017 the Hera Group managed over 15,000 contacts with social services.

The number of municipalities that have joined to the Protocol has also increased, with two new Protocols approved and more municipalities joining the existing Protocols.

The **new protocols** that were approved in 2017 relate to the municipalities of:

- Bologna (ASP Bologna);
- Castelnuovo Rangone, Castelvetro di Modena, Guiglia, Marano sul Panaro, Savignano sul Panaro, Spilamberto, Vignola, Zocca and Montese (Unione Terre di Castelli).

Specifically, the **following municipalities have been added** to the protocols already signed in previous years

- San Giorgio di Piano (Unione Reno Galliera);
- Bertinoro, Castrocara and Terra del Sole, Civitella di Romagna, Dovadola, Galeata, Meldola Modigliana, Portico and San Benedetto, Predappio, Premilcuore, Rocca San Casciano, Santa Sofia and Tredozio (Unione di comuni della Romagna Forlivese - Unione Montana).

The activity carried out in 2017 achieved 82% of service disconnections avoided thanks to the protocols.

Lastly, during the year, **the operating protocols with the municipalities of Trieste and Padua were reviewed to facilitate the provision** of water, electricity, and gas for customers in financial distress. The protocols signed envisage the intervention of the municipality for each individual bill of each individual customer, therefore the protocols are activated for granting payment by instalments, payment of subsidies and prevention of disconnection procedures.

In 2010, on its own initiative, Hera Group introduced a bonus to offset expenses for the district heating service, to be attributed to customers who have the income requirements with the same procedures as those used for gas and electricity expense compensation. In particular, the requirements to access the 2017 bonus have eliminated the need for the holder of the contract to facilitate to be a resident, as established by AEEGSI with Resolution 94/2017/R/COM for electricity and gas bonuses.

The bonus for 2017 is worth Euro 115 per year for households up to 4 members, and Euro 159 per year for households with a greater number of members. In 2017, 1070 applications had been submitted (968 in 2016) amounting to about Euro 130,000. This figure shows that applications increased by approximately 10%, and that the total amount paid to customers rose by approximately 8.5% compared to the previous year.

As regards Hera, the contracts state that if the bill is not paid the service may be disconnected. In these cases, a first reminder is sent approximately 20 days after the bill's expiry (only for reliable payers and debts of up to Euro 150) and a subsequent reminder (after an additional 20 days) is sent by registered mail, to inform the customer that the service may be disconnected. For amounts due under Euro 150, if payment is not made the service is disconnected, on average two months after the bill's due date. If the bill is for more than Euro 150, a single reminder is sent by registered mail, warning the customer that their service may be disconnected. In this case, the service can be disconnected about one month after the bill's due date. The customer may request to pay the bill in instalments, up to the time the supply is disconnected. If the suspension involves condominium users, Hera informs residents individually before suspending the service.

If it is not possible to disconnect the service (e.g. the meter cannot be accessed) an additional notice is sent to the customer to inform that the service will be disconnected (connection cut off) should they fail to pay their bill in the set timeframe. For energy services, if the disconnection is not technically feasible, the selling party may terminate the contract and activate the last resort services.

In the areas served by **Marche Multiservizi**, the company grants payment of the bills by instalments to customers experiencing financial hardship provided that they have always paid instalments previously granted.

Payment by instalments for residential customers concerns only bills over Euro 100. The instalments are agreed with the users in proportion to the amounts of the bills issued and up to 4 instalments may be allowed, except in special cases agreed with the social services of the municipalities, where multiple instalments can be agreed. In these latter cases of financial hardship (customers using the temporary state lay-off fund, or on unemployment benefits, beneficiaries of the income support from municipalities or customers who are unemployed as a result of the reduction or termination of their employment and assisted by social services) the instalments are interest-free. For users that fall within the above procedure, an interest rate equal to the FCA is granted (the official reference rate at which the European Central Bank grants loans to other banks - 0.05% at the end of 2015) increased by 3%. This procedure is also applied to professionals and small condominiums. In particular, for businesses, payment by instalments is authorized following checks on their level of solvency.

Regarding the supply of water, until February 2014 Hera limited or disconnected its supply in compliance with the provisions of the Integrated Water Service Charter and with the regulations of competent authorities in force. In March 2014 Hera decided, on a voluntary basis, that in the event of late payment by domestic customers or mixed customers, it would limit the supply in all the Emilia-Romagna areas served but never suspend it. This procedure will also be taken up in the Padua and Trieste areas in 2015.

In addition, the updated **SOSTegno Hera** guide is available on the Group's website, and it contains all the information necessary on the opportunities of reducing expenses for energy and water services, reserved for customers in difficult economic and/or physical conditions. It also provides information on how to pay bills in instalments and what to do in the event of late payments. The guide also explains how users can benefit from the social bonuses for electricity, gas, water and district heating, and who to contact in the event of water leaks. Lastly, advice is provided on good practices for reducing consumption, actively contributing to the responsible use of environmental resources.

#### *Job placement under supply contracts with social cooperatives*

In 2017, consistently with the provisions of the Protocol signed in 2009 with associations representing social cooperatives, we continued to hold periodic meetings to monitor the use of **disadvantaged personnel** which the type B social cooperatives use in the management of the work contracts awarded by Hera Group companies. Monitoring observes an operating instruction in accordance with the Protocol signed and follows the Hera procurement guidelines and covers all Group contracts in which social cooperation personnel operate. The total number of job placements made, the type of disadvantages of the individual operators employed in the supply and their qualification within the single contract are checked quarterly. It is thus possible to check the compliance of the job placement project presented at the time of the tender by the supplier and assess it.

#### **Supplies from social cooperatives**

	<b>2015</b>	<b>2016</b>	<b>2017</b>
Social cooperatives or consortia (number)	44	50	48
Value of supplied goods/serv. (in thousands of Euro)	46,527	57,180	62,654
Persons facing hardship hired (number)	686	748	807

Workers employed for less than one year were also counted among the hired persons facing hardship.

In 2017, the **value of supplies** by types of work or services requested by the Hera Group to social cooperatives was over **Euro 62 million**, up 9.5% compared to the previous year.

Out of the total of the services provided by social co-operatives, over Euro 61 million was assigned for **waste management services**, amounting to **29.2%** of the Group's total awards for these services. Supplies involved 44 cooperatives or consortia of social cooperatives, hiring 807 persons facing hardship (pursuant to Article 4 of Italian Law 381/91): 528 under permanent contracts and 365 under full-time contracts. At geographic level, the individuals employed were 325 in the Emilia area, and 370 in the Romagna area, leading to an 8% increase at overall level with respect to 2016, 76 in the Triveneto region and 106 in the Marche region.

Hera contributed to the inclusion in the national collective agreement for waste management services (renewed in July 2016) of a specific protection clause for outsourcing in favour of social cooperation. This clause sets forth that a portion of outsourcing for the sweeping, collection, waste transportation activities, cleaning of septic tanks and cleaning of bins, is excluded from the requirement to apply the waste management services Italian collective labour agreement, via the definition of socially inclusive projects. This portion is 5% and can be raised to 15% at company level. Hera applies 15% on the basis of an agreement entered into in March 2012 with the trade union organizations and with the Group's union co-ordination.

The Valoris economic evaluation model developed by the University of Brescia enables the measurement of the value created by social enterprises for job placement, based on the results of empirical research. In particular, the model makes it possible to quantify the economic **impact for the Public Administration** of the social integration of type B social cooperatives. The research showed that the benefits essentially derive from lower welfare costs and greater tax revenues due to the payment of income tax on the employment of disadvantaged persons. The lower revenues for the Government deriving from tax and contributions exemptions which type B social cooperative benefit from have been deducted from the benefits. All of this ends up being a benefit for the Public Administration equal, on average, to Euro 4209 in the year for each able-bodied individual facing hardship. The economic benefit for Public Administrations deriving from Hera awarding contracts to social cooperatives can therefore be considered around Euro 3.4 million for 2017.

#### *Protected recruitment categories among Hera's workforce*

In all the provinces it serves, Hera complies with the requirements of Law 68/1999, which requires that **personnel belonging to protected recruitment categories be hired** in the proportion set forth in that law. Fulfilling those requirements involves the use of the regional compensations and agreements, the objective of which is to gradually fulfil employment requirements. This regulation, that promotes the recruitment and integration into the working world of certain categories of people (disabled, orphans etc.), also requires that the worker's employment placement must abide by solutions agreed among the company, the regional employment office and the worker.

At the end of 2017, there were **379 persons belonging to the categories protected by Law 68/1999** working in Group companies (141 in Hera Spa and 18 in Heratech): **316** (117 in Hera Spa) were classified under Article 3 of the law (disabled). Overall, the persons belonging to protected categories are: 140 blue-collar workers, 234 white-collar workers and 5 managers/middle managers.

#### **Persons belonging to the categories set forth by Law 68/1999**

no.	2015	2016	2017
Persons belonging to the categories set forth by Law 68/1999	400	387	379

The data refer to 31 December and to the following companies: The data refer to the following companies: Hera Spa, Acantho, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Hera Servizi Energia, Heratech, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi, Medea, Sinergie (now AcegasApsAmga Servizi Energetici Spa), Uniflotte and Waste Recycling.

## **Air and soil protection**

### **Scenario and policies**

#### **Why it is important**

Biodiversity is our universal heritage and is at the basis of human life: it guarantees water, raw materials, food, soil formation and climate regulation. Over the last 50 years, human activities have changed our ecosystems with unprecedented speed and intensity. The deterioration of air and soil quality due to human activities is one of the main causes and intensifies the negative effects of climate change. The consequences for man vary: serious health risks, primarily related to respiratory diseases, the loss of productive farmland and the growing risk of flooding and landslides due to soil sealing. It is essential to preserve the quality of air and soil because they are key to survival and fundamental for the economic-social wellbeing of nations.

**1,000 km<sup>2</sup>**

soil area lost every year in Europe following the construction of new infrastructures (surface area of Berlin)

**>60%**

the impact of carbon dioxide emissions on the global Ecological Footprint in 2012 (41% in 1961)

**184%**

the growth in soil consumption between the Fifties and 2016

**3 m<sup>2</sup>**

soil area irreversibly lost every second in the first months of 2016 in Italy

**58%**

the loss of global biodiversity over the past 30 years

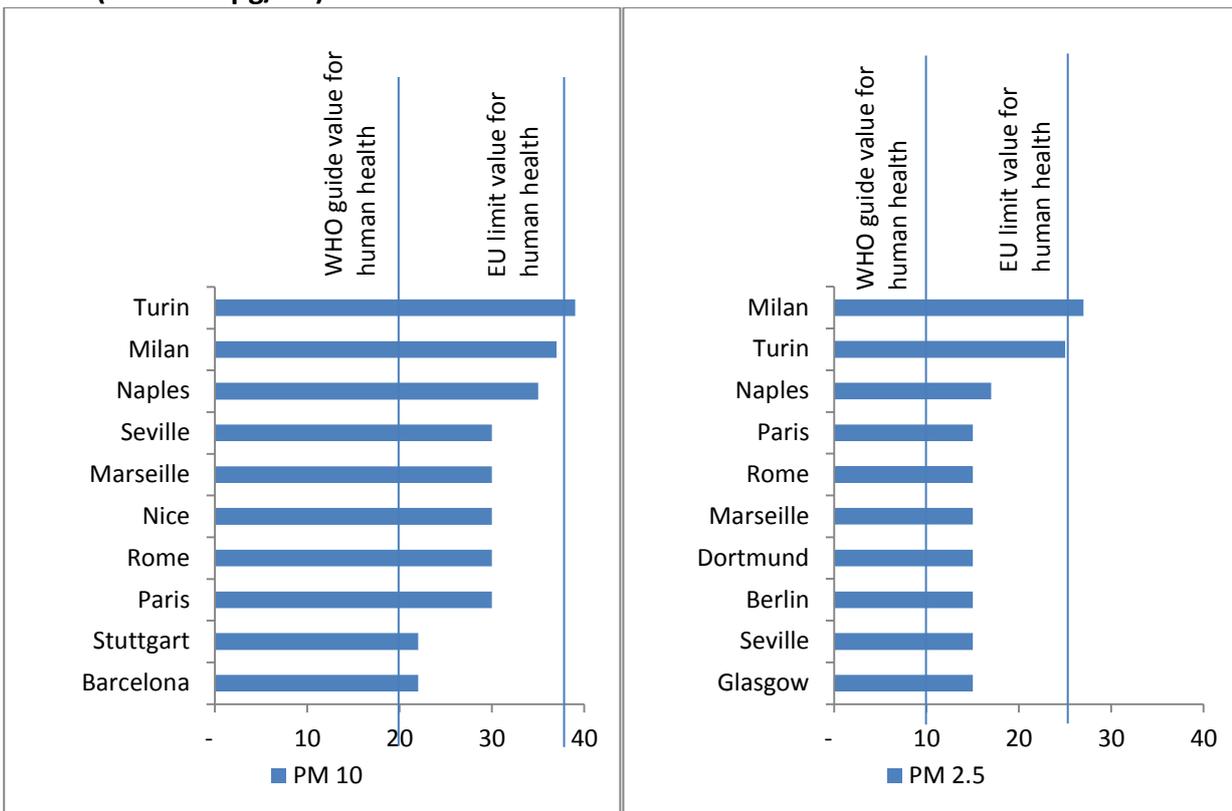
**7%**

the percentage of deaths in Italy caused by atmospheric pollution

#### **Europe and Italy committed to protecting air**

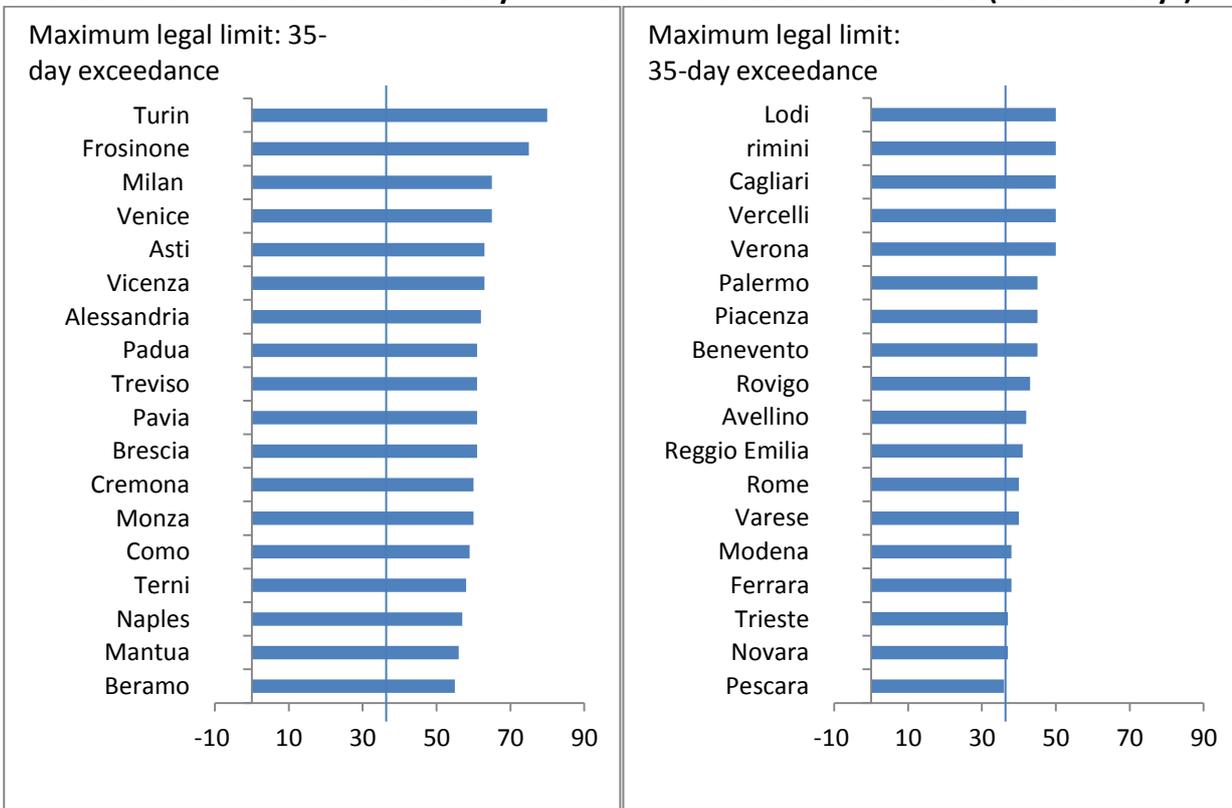
The Po Valley is the most polluted area in Italy and in Europe, along with the most industrialised areas of Germany, Poland and Great Britain. Traffic is responsible for 40% of PM10 and NOx emissions in Europe. A significant contribution also comes from the combustion of wood biomass (wood, wood chip and pellet). In February 2017, the European Union reinitiated the two proceedings brought against Italy seeing that the daily limits of PM10 had been exceeded in 30 zones of many regions, including Piedmont, Lombardy, Emilia-Romagna and Veneto.

**Four of the first ten European cities by annual average concentrations of PM10 and PM2.5 are Italian (values in  $\mu\text{g}/\text{m}^3$ )**



Source: Legambiente processing on Who data (Ambient Air Pollution Database, Who, May 2016)

**Over 30 Italian cities broke the 35-day limit for PM10 exceedance in 2016 (values in days)**



## Atmospheric emissions generated by waste-to-energy plants

All of Hera Group's waste-to-energy plants are equipped with **fume treatment and process and emission control systems**, designed and built so as to attain:

- elevated fume treatment performances in all process conditions;
- elevated management versatility;
- elevated reliability of emission control systems.

In order to meet these goals, the new plants and those that have been renovated (Modena, Bologna, Ferrara, Forlì, Rimini) are equipped with the following systems:

- double reaction and filtration system to lower the concentrations of particulate, hydrochloric acid, hydrofluoric acid, sulphur dioxide, heavy metals, dioxins and furans and aromatic polycyclic hydrocarbons (the Modena plant has a bag filter and an electrostatic precipitator);
- double reaction system (catalytic and non-catalytic) to reduce concentrations of nitrogen oxides;
- double fume monitoring system for process control: the two systems measure the concentrations of the main pollutants emanating from the oven and downstream of the first reaction and filtration phase, on the basis of which a calculation is made of the volume of reactants required to ensure treatment levels that guarantee respect for legal emission limits and which are, on average, 80-90% below these;
- continuous double monitoring system for chimney emissions: one as a reserve for the other in order to guarantee the continuity of the analysis of concentrations in atmospheric emissions.

The possibility of using **double treatment and monitoring systems in series** (in parallel as regards chimney monitoring) allows the above objectives to be successfully pursued.

This paragraph also contains data on the Faenza (operated by Enomondo, 50% owned by Herambiente and not consolidated using the line-by-line method), equipped with a double reaction system (catalytic and non-catalytic) to reduce concentrations of nitrogen oxides.

The Padua, Pozzilli and Trieste plants have a single reaction and filtration system to lower the concentrations of particulate, hydrochloric acid, hydrofluoric acid, sulphur dioxide, heavy metals, dioxins and furans and aromatic polycyclic hydrocarbons, a single reaction system for reducing nitric oxide concentrations (double for Padua) and a single fume monitoring system.

In addition to the aforementioned activities, the following operations are carried out on an annual basis to monitor emissions and environmental impact:

- **timely controls of the chimneys**, at a frequency set by the Integrated Environmental Authorization, for those parameters which cannot be continuously monitored, using certified inspectors;
- **checks on soil fallout** of pollutants: through external monitoring programmes in collaboration with the University and research agencies, deposition analyses are performed on soil, ground and vegetation etc., in order to ascertain that the emissions, in addition to being within the legally established limits, do not have any significant impact on the surrounding environment.

### Atmospheric emissions generated by waste-to-energy plants

t	2015	2016	2017
Particulates	7.3	6.4	6.2
Hydrochloric acid	17.0	15.6	17.4
Nitrogen oxides	744.4	703.7	705.3
Sulphur oxides	13.7	11.7	14.9
Carbon monoxide	75.6	72.7	83.0
Hydrofluoric acid	0.8	0.7	0.6
Total Organic Carbon	8.9	9.4	10.4
<i>Waste treated in the plants (thousands of t)</i>	<i>1,425</i>	<i>1,439</i>	<i>1,403</i>
<i>Net electricity generated (MWh)</i>	<i>871,786</i>	<i>828,906</i>	<i>802,675</i>
<i>Thermal energy produced (MWh)</i>	<i>219,864</i>	<i>239,282</i>	<i>265,920</i>

The data are calculated using continuous measurement systems which are subject to the approval of the supervisory bodies at the time of authorization for operation of the plant. The procedures used by individual plant systems to collect and calculate the volume of substances released are not completely standardized. Including the Enomondo waste-to-energy plant.

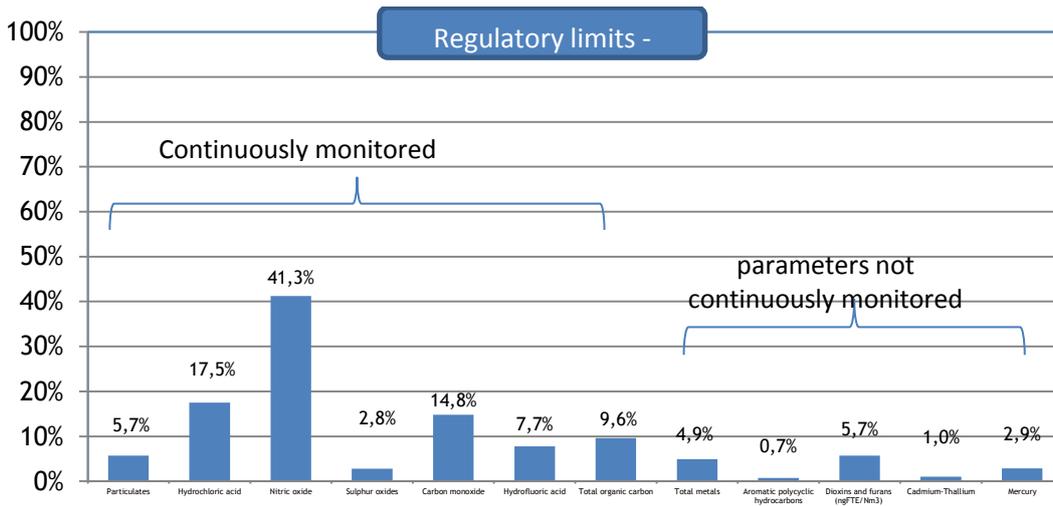
Mass flow analysis shows an improvement with respect to hydrofluoric acid emissions (-7.2% compared to 2016) and total dust emissions (-2.6% compared to 2016), while the other substances analysed increased. Note, furthermore, that for all continuously monitored pollutants, the concentrations at the chimney, in 2017 were once again much lower than the regulatory limits: from a maximum of 97% below the regulatory limits for sulphur oxides to a minimum of 59% for nitrogen oxides.

With regard to pollutants not monitored continuously, total emissions can be estimated on the basis of the results of the analyses performed during the year. In 2017, 154 kg of metals were emitted (200 in 2016), along with 0.55 kg of aromatic polycyclic hydrocarbons (0.66 in 2016) and 40.9 mg of dioxins (24.3 in 2016). All values are at least 94% below regulations.

The results of the emission measurements at Hera Group's waste-to-energy plants confirm that, since they are equipped with the best technologies available and run in the most efficient manner possible, these plants emit levels of particulate, dioxins and furans, aromatic polycyclic hydrocarbons and metals that are **far below the emission limits**. Compared with the other parameters, subject to continuous monitoring, at plants equipped with the double reaction sulphur oxide reduction system (Bologna, Ferrara, Forlì, Modena, and Rimini) the **concentrations were not only well below** the regulatory limits, but **also below the limits set by local authorities**, which are much more stringent than national regulations.

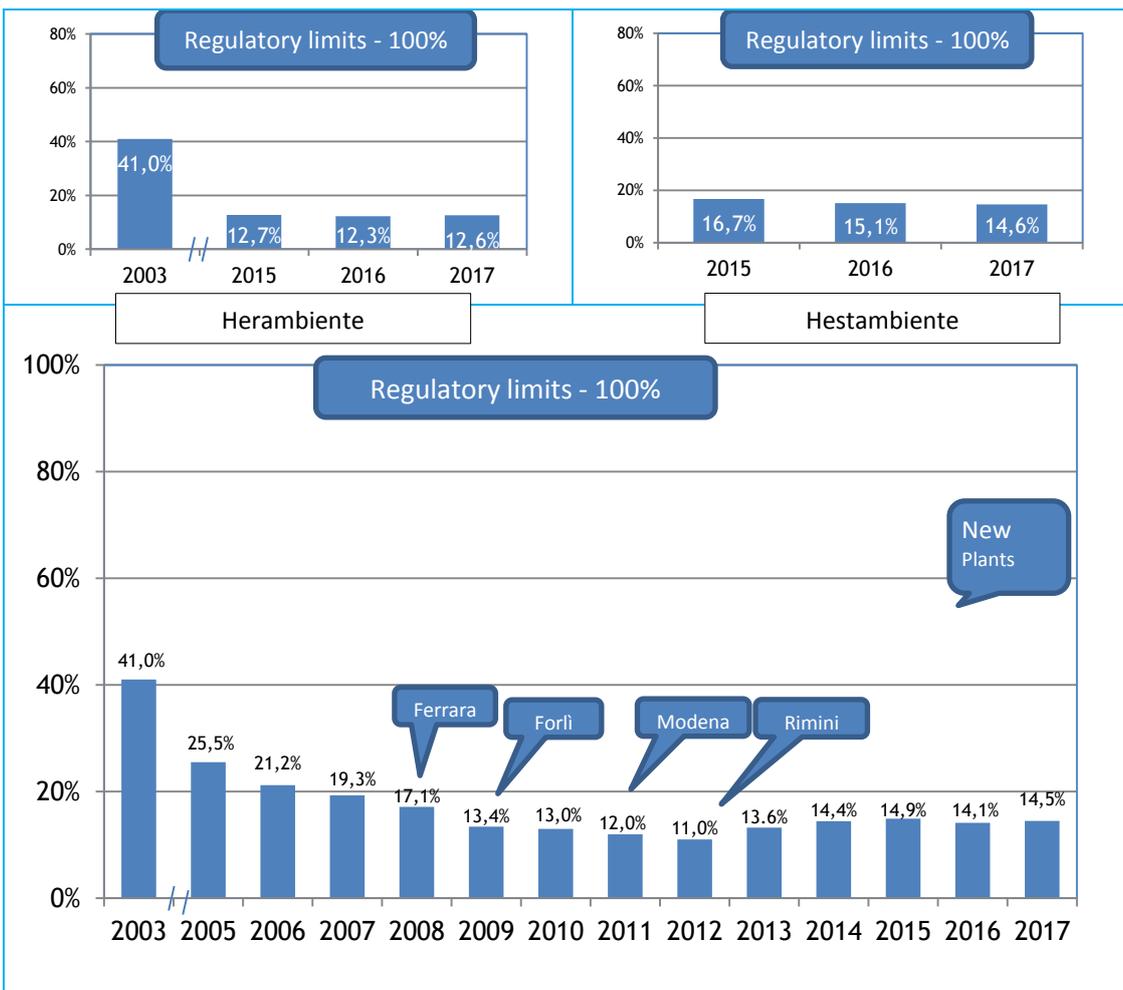
Legislative Decree 133/2005 requires continuous monitoring of flue emissions for seven parameters. In addition, in the Ferrara, Forlì, Modena and Rimini plants, mercury is also continuously monitored.

Compliance of waste-to-energy plant atmospheric emissions with regulations pursuant to Legislative Decree 133/2005 - (optimal values <100%), 2017



Including the Enomondo waste-to-energy plant.

**Compliance of waste-to-energy plant atmospheric emissions with regulations pursuant to Legislative Decree 133/2005- continuously monitored parameters (optimal values<100%), weighted average on the volumes of waste treated in the plants**

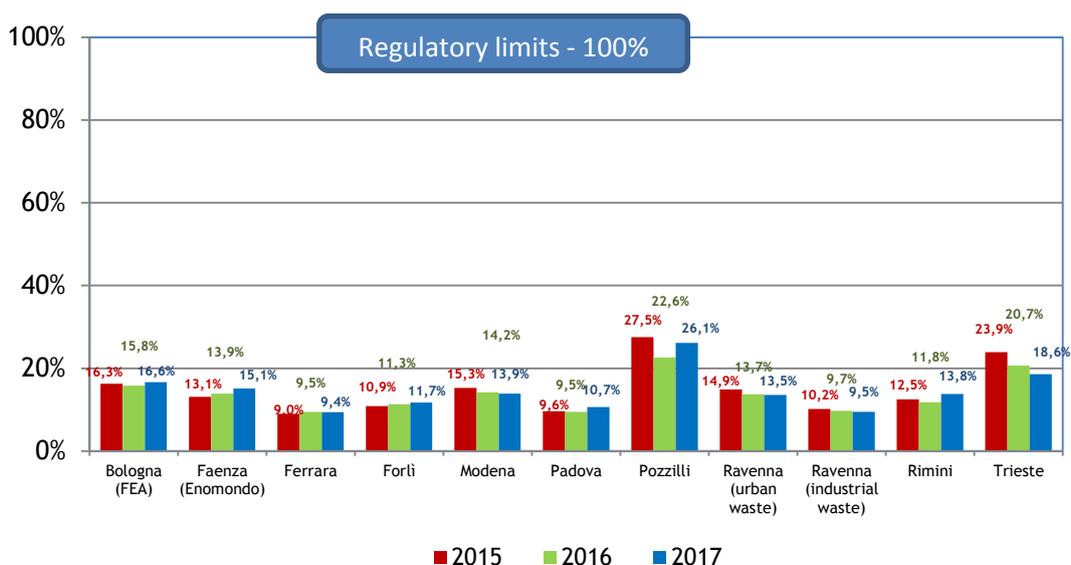


The plant renovation process has resulted in a significant improvement in the abatement percentages of pollutant emissions:

- in January 2008 two new lines of the Ferrara waste-to-energy plant became fully operational;
- since the beginning of 2009 the new Forlì plant is fully operational;
- in April 2010, the new line 4 of the Modena waste-to-energy plant became operational;
- in October 2010, the new line 4 of the Rimini waste-to-energy plant became operational;

In 2017, the **average concentrations of the atmospheric emissions of the waste-to-energy plants were 14.5% of the regulatory limit**. This means that in 2017, emissions were 85.5% below the limit, while in 2003 the percentage stood at 59%. **The levels of parameters that do not require continuous monitoring (total metals, polycyclic aromatic hydrocarbons, dioxins and furans, cadmium and thallium, mercury) are also below regulatory limits: between -94% and -99%**. Excluding the two AcegasApsAmga plants and the Pozzilli and Enomondo plants, the values in 2017 (13.4% of regulatory limits) are slightly higher than they were in 2016 (12.9%), in line with 2015 (13.4%) and almost halved compared to 2005 (25.5%).

**Compliance of waste-to-energy plant atmospheric emissions with regulations pursuant to Legislative Decree 133/2005 - continuously monitored parameters (optimal values <100%), detail by plant**



**Atmospheric emissions from waste-to-energy treatment plants compared to authorization limits – continuously monitored parameters (optimal values <100%)**

%	2015	2016	2017
Bologna (FEA) waste-to-energy plant	27.3%	27.1%	28.3%
Ferrara waste-to-energy plant	10.2%	10.7%	10.2%
Forlì waste-to-energy plant	20.8%	21.3%	22.2%
Modena waste-to-energy plant	19.5%	17.4%	16.7%
Ravenna waste-to-energy plant (special waste)	12.2%	11.6%	11.4%
Faenza (Enomondo) waste-to-energy plant	15.9%	16.9%	20.7%
<b>Average</b>	<b>17.6%</b>	<b>17.5%</b>	<b>18.2%</b>

The Integrated Environmental Authorizations relating to the plants in Ferrara, Forlì and Modena also require the continuous monitoring of mercury.

The same indicator was calculated for the six plants with authorization limits that are more stringent than Italian regulations for 2017 (for the eight continuously-monitored parameters on average the limits set by the authorizations are 73% of the limits laid down in Legislative Decree 133/2005); the data are shown in the table above. The results are excellent also in this case: the concentrations are, on average, 81% below the most restrictive limits. That the limits set by the individual authorizations are different depending on the plant, meaning that it is not possible to compare the n.

As to parameters for which Legislative Decree 133/2005 does not require continual monitoring (total metals, aromatic polycyclic hydrocarbons, dioxins and furans, cadmium and thallium, and mercury), in 2017 the Hera Group took a total of **708 samples**, a considerably higher number than the 225 required by national regulations. In the 6 plants for which the IEAs require a higher number of samplings than required by law, 658 samplings were made (up compared to 8 samplings in 2016) compared to the 524 required. In 2017, as in previous years, Hera plants complied with the authorization limits for amounts of waste treated, their type and, where present, their geographical origin.

#### Thermal capacity saturation percentage of the plant

%	2015	2016	2017
Bologna (FEA) waste-to-energy plant	93%	93%	93%
Ferrara waste-to-energy plant	95%	97%	98%
Forlì waste-to-energy plant	87%	95%	94%
Modena waste-to-energy plant	95%	94%	95%
Ravenna waste-to-energy plant	100%	100%	98%
Rimini waste-to-energy plant	99%	100%	99%
Pozzilli waste-to-energy plant	100%	98%	95%
Faenza (Enomondo) waste-to-energy plant	93%	100%	100%
<b>Weighted average on thermal power</b>	<b>95%</b>	<b>97%</b>	<b>96%</b>

Excluding AcegasApsAmga.

Given that in 2017 the waste-to-energy plants indicated in the table treated quantities of waste substantially in line with the authorized quantities, and given the calorific value of this waste, the average percentage of the thermal capacity was 96%. This means that in 2017 the plants were used at 96% of their potential.

**Natural gas** is used by the waste-to-energy plants during start-up and shut-down and to support combustion if the calorific value of the waste being treated is low: the overall consumption of 2017, excluding Hestambiente and the Enomondo plant, was over 8 million m<sup>3</sup>. Compared with 2016 there was an increase in methane consumption by over 860,000 m<sup>3</sup> despite the 2% decrease in waste treated. This increase is mainly due to an increase in methane consumption at the plants at Ravenna, Forlì, Bologna and Ferrara, in part compensated by the decrease of consumption in the Ravenna incinerator and in the Modena waste-to-energy plant.

#### Electricity generated in relation to waste disposed of

kWh/t	before revamping	2016	2017	2017 Delta (before revamping)
Ferrara waste-to-energy plant	251	484	395	57%
Forlì waste-to-energy plant	295	528	513	74%
Modena waste-to-energy plant	282	542	588	109%
Rimini waste-to-energy plant	351	478	468	33%
Weighted average on volumes of waste treated	290	511	503	73%

The performance of some plants is expressed here as the ratio between electricity generated and waste disposed of, highlighting the improvement resulting from their revamping. After revamping the waste-to-energy plants, electricity generation performance improved by 73%.

### District heating: a response to safeguarding air quality

District heating is a service involving the sale of heat for customer home heating and domestic hot water. It is an alternative system to traditional autonomous or condominium-based boilers which makes it possible to concentrate the production of heat in central installations, which are more efficient and better controlled than home boilers. From these installations, the heat, in the form of hot water, is brought to customer homes through a distribution network made of insulated piping. The heat then feeds the heating systems of homes via non-polluting heat exchangers.

District heating provides a **solution to air pollution problems** in cities by replacing home boilers, which are sometimes fuelled by gas-oil or fuel oil, with high-efficiency heat production methods that use renewable energy, or energy recovered from other production processes. Besides providing an **advantage for the environment**, district heating allows customers to have **greater safety** and **lower operation and maintenance costs**, while maintaining the freedom to independently adjust the temperature of their home.

Furthermore, by continuing to replace fossil fuels with renewable energy or recovered energy, significant energy-environmental improvements have been achieved in the Group's district heating plants.

During 2017, there were two new factors:

- the cogeneration of Forlì Centro Logistico entered the scope of the production plants of the TLR Directorate;
- the TLR WTE Forlì network was connected to the thermal energy supplier FCS (Forlì Città Solare).

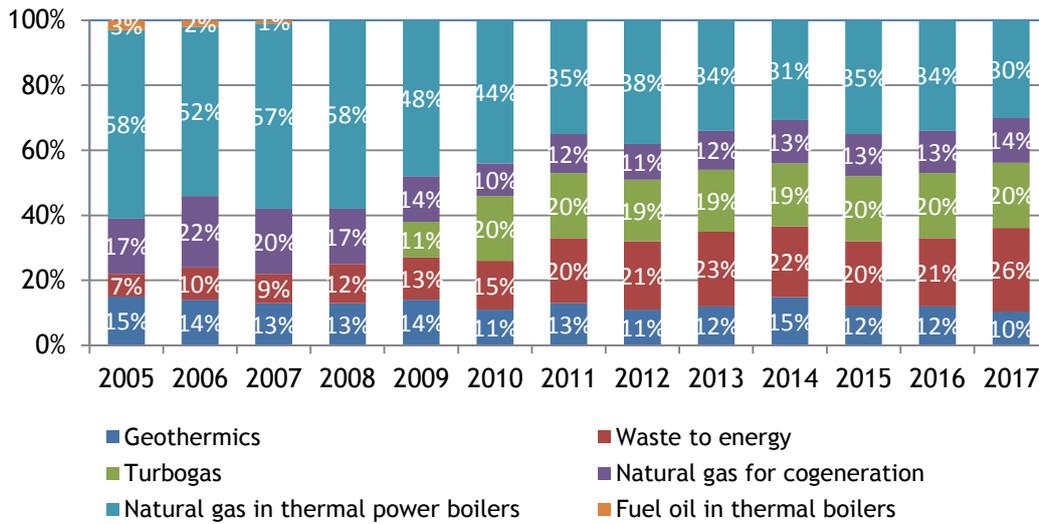
### Environmental advantages of district heating

	2015	2016	2017
Primary energy saved (toe)	33,031	33,776	37,450
Nitric oxide avoided (t)	309.5	296.4	300.9
Carbon dioxide avoided (t)	156,407	129,153	125,684
Sulphur oxide avoided (t)	289.9	278.2	295.6

Calculated as the difference between a traditional system (existing boiler park comprising 65% natural gas-powered boilers and 35% diesel boilers with an average seasonal yield of 75% (source: Comitato Termotecnico Italiano, 2009), and the national electricity grid) and Hera's district heating systems for the quantities of energy (thermal and electric) produced by Hera. Excluding AcegasApsAmga. The emissions factors of the national electricity and thermal grid were updated in 2016.

In 2017 the plants operated by Hera achieved a **primary energy savings of 37,450 tonnes of oil equivalent**, an increase of 11% compared to the savings of 2016, (+3,673% toe).

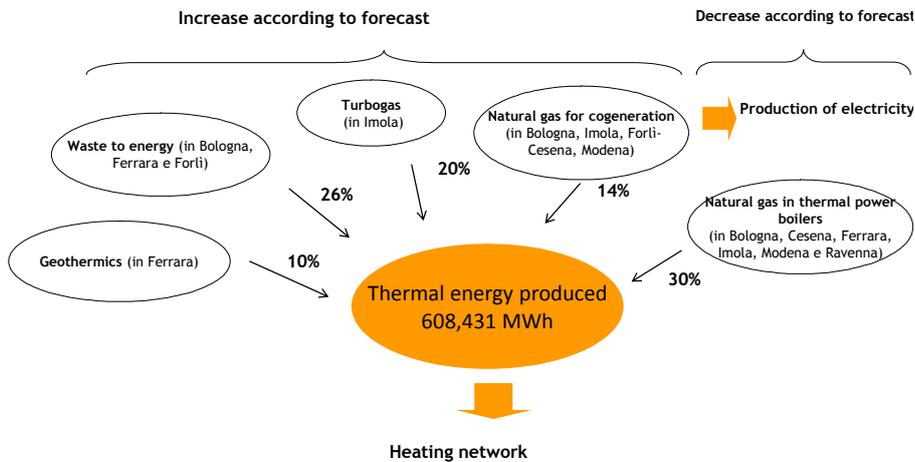
### Sources used for district heating (2005-2017)



Excluding AcegasApsAmga.

As for the sources used for district heating, the percentage of **thermal energy** produced with gas boilers has gone down from 58% in 2005 to 30% in 2017.

### Sources used for district heating (2017)



Excluding AcegasApsAmga.

As for the sources used for district heating, the percentage of thermal energy produced with gas boilers has gone down from 9.5% compared to 2016.

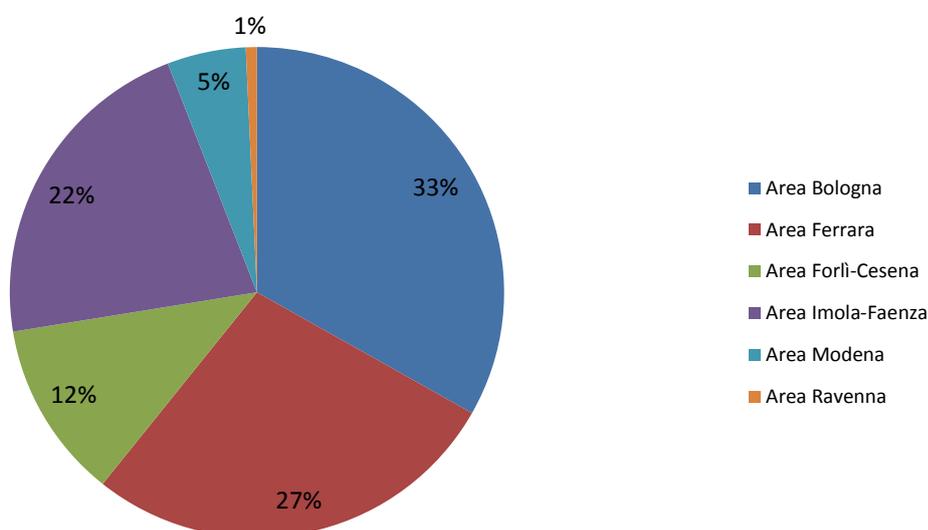
## District heating data

	2015	2016	2017
Thermal energy sold (MWh)	490,085	487,896	499,144
Volumes served (thousands of m <sup>3</sup> )	20,127	20,396	20,935
Housing unit equivalents served (no.)	83,861	84,987	87,231

The housing unit equivalents served were calculated on the basis of an average apartment volume of 240 m<sup>3</sup>. Excluding AcegasApsAmga.

The **thermal energy sold** increased by 2.3% in terms of volume compared to 2016, while the volume served increased by 2.6% compared to 2016. The results for 2017 confirm the strategy pursued to strengthen and develop district heating with an increasing share of renewable and assimilated sources: in fact, in 2017 the supply of thermal energy from renewable or assimilated sources increased significantly, reaching a portfolio value of 70% of the energy used.

## Housing unit equivalents served per area (2017)



Excluding AcegasApsAmga.

## Cogeneration for district heating

The term cogeneration identifies the combined production of electricity and thermal energy starting from a single source, whether fossil fuel or renewable, implemented in a single integrated system. This is done in specially-designed thermoelectric power plants, which recover heat from the flue gas produced by an engine powered by any fuel: thus, obtaining a significant energy savings (about 40%) compared to separate electricity and thermal energy production.

Thanks to their connection with district heating networks, Hera Group's cogeneration plants help improve the air quality of the towns where they are located: thanks to them many boilers have been replaced with modern, efficient systems to heat and supply hot water to buildings. With district heating, systems are monitored continuously, both in terms of combustion processes and atmospheric emissions.

Hera Spa operates 12 cogeneration plants for an overall nominal electric capacity of 107.80 MW which in 2017 produced 198,635 MWh of thermal energy for district heating in all areas, up 5.1% compared to 2016.

### Atmospheric emissions generated by district heating

Emissions of nitrogen oxides and carbon dioxide from the 12 district heating plants, increased by 7.7% and 10.2% respectively compared to 2016, due to the **higher production at the Barca plant in Bologna**, which has been renovated and became operational again at the beginning of 2017.

In 2017, the district heating plants produced a total of 687 GWh of electricity and thermal energy, up 3.5% compared to 2016. Plant maintenance, production and network management optimization, as well as integrated management of the source portfolio, enabled savings of 3,588 toe, 10.6% more than in 2016. In one of the major systems such as Ferrara, for example, a 20% saving in terms of nitrogen oxides and tons of CO<sub>2</sub> emissions was achieved compared to 2016, as more use was made of WTE renewable energy sources rather than traditional boilers due to the upgrade measures on the exchange section within the WTE (installation of second exchanger, in collaboration with HeraTech s.r.l.).

The ratio between emissions and the energy produced provides a measure of specific emissions. In 2017, 179 grams of nitrogen oxides were emitted for each MWh of electricity generated (-4.1% compared to 2016) and 184 grams of carbon dioxide for each kWh (-0.4% compared to 2016).

### Atmospheric emissions generated by district heating

t	2015	2016	2017
Nitrogen oxides	106.4	114.2	123.0

The data refer to the thermoelectric power and cogeneration stations that power district heating (source of emission factors for NO<sub>x</sub>: Corinair 2004 for boilers and data from manufacturers for cogenerators). Data does not include Imola's power plant shown below.

Considering the concentrations of nitrogen oxides, carbon monoxide and particulates, the concentrations of the atmospheric emissions of the cogeneration plants for district heating were 55% of the limits set by the plant authorizations (67% of the limits for nitrogen oxides, 31% for carbon monoxide and 3.0% for particulate).

### Atmospheric emissions generated by district heating (2017)

t	Nitrogen oxides
Bologna	65.0
Ferrara	5.9
Forlì-Cesena	29.5
Imola-Faenza	2.2
Modena	19.0
Ravenna	1.3
<b>Total</b>	<b>123.04</b>

The data refer to the thermoelectric power and cogeneration stations that power district heating (source of emission factors for NO<sub>x</sub>: Corinair 2004 for boilers and data from manufacturers for cogenerators). Data does not include Imola's power plant shown below.

### Emissions of the Imola cogeneration plant

Again in 2017, the **absolute specific emissions** of the Imola cogeneration plant **remained extremely low**: However, in 2017, a small increase in NO<sub>x</sub> and CO emissions was noted due to some problems with the combustion of a gas turbine (which were promptly solved), while still remaining within the authorized emission limits. It should also be noted that the environmental authorization for the Imola plant requires limits that are 75%/80% lower than national regulations for the pollutants most present in the fumes (NO<sub>x</sub> and CO).

In 2017, 202,789 m<sup>3</sup> of water were used to replenish the cooling tower, in compliance with the 220,000 m<sup>3</sup> authorized by the IEA for that year, saving 3.6% compared to the previous year.

- The year 2017 was marked by the extraordinary maintenance of the steam turbine for its extraordinary overhaul.

### Atmospheric emissions from the Imola cogeneration plant

mg/Nm <sup>3</sup>	National limit	Authorized limit	2015	2016	2017
Nitric oxide	60	15	9.0	8.2	9.3
Carbon monoxide	50	10	1.7	1.2	1.0
Ammonia slip	not required	2.5	0.2	0.4	0.4
Total particulate matter	not required	5	0.02	0.01	0.011
PM <sub>10</sub>	not required	1	<0.04	<0.04	<0.04

The authorized emission limits are those set by the environmental compatibility decree issued by the Ministry for the Environment and Protection of Local Areas DEC/DAS/2006/00142 of 15 February 2006 (only NO<sub>x</sub>, CO and NH<sub>3</sub>) and the Integrated Environmental Authorization of the Province of Bologna of 11 April 2007, reference no. 124043, as amended. The values are the average continuously measured values (for PM<sub>10</sub> the values are the average of the 8 analyses carried out). The limits reflect the hourly average (except for PM<sub>10</sub>).

The Imola plant, used for district heating, not only confirms its excellent performance in terms of energy production but also from an environmental perspective since its low atmospheric emissions have been achieved with significant energy savings.

In 2017 the energy saving index was 21.1%, while the primary energy saved was 109,125 MWh, with a 9.5% worsening compared to the previous year.

In 2017, in collaboration with Heratech, a project was launched to **recover the waste water** from waste boilers to be used as make-up water for the cooling tower in order to comply with the increasingly stringent emission limits set for future years and reduce withdrawals from industrial aqueducts. This is expected to be carried out in spring 2018.

### Corporate vehicle fleet and transportation management

#### Fleet (no. of vehicles)

No.	2015	2016	2017
Diesel	2,784	2,821	2,785
Petrol	533	429	376
Natural gas	528	501	503
LPG	286	336	373
Electric powered	22	25	19
<b>Total with reduced environmental impact</b>	<b>836</b>	<b>862</b>	<b>895</b>
<b>Total</b>	<b>4,153</b>	<b>4,112</b>	<b>4,056</b>

Non-circulating vehicles being disposed of were not included.

The strategy of streamlining the use of the vehicles continued, beginning with the purchase of technologically advanced vehicles powered by **fuels with reduced environmental impact** to replace obsolete vehicles.

The Group owns 4,056 vehicles, of which 503 are methane powered, 373 are powered by LPG and 19 are electric, amounting to 22% of the total. In 2017, 266 **vehicles** were sold and/or scrapped, while 224 vehicles were registered, of which 150 diesel vehicles, 18 petrol vehicles, 36 methane vehicles, and 20 LPG vehicles. Currently, excluding AcegasApsAmga and Marche Multiservizi, the Hera Group uses 4 methane powered automatic waste compactors out of an overall total of 160.

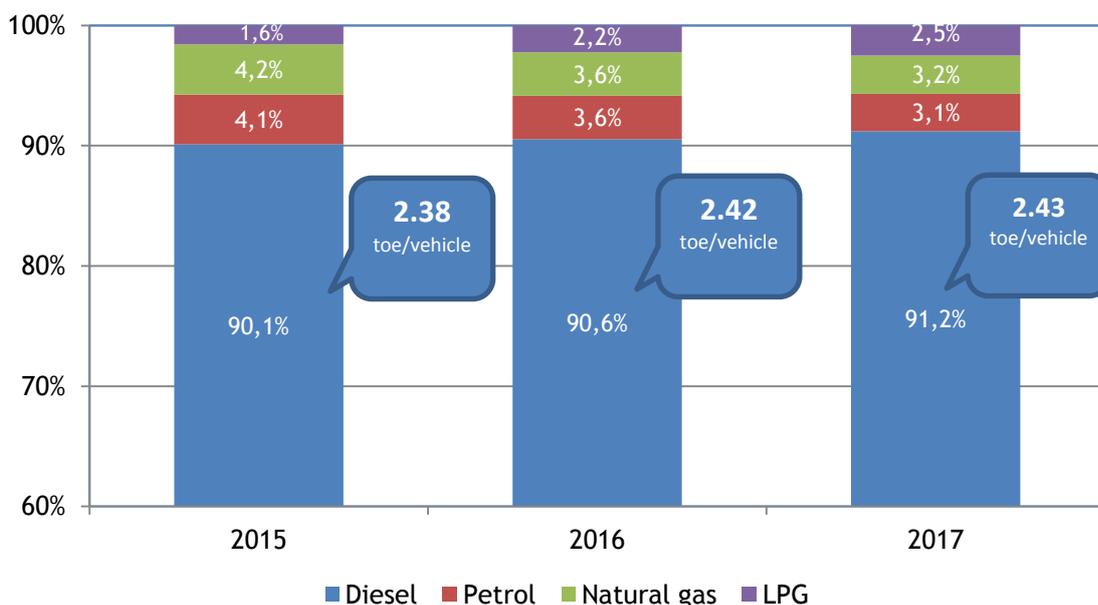
The Group's commitment to reducing the environmental impact of its fleet was further consolidated by the release, in 2013, of an operating instruction that prioritizes vehicles with reduced environmental impact (methane, LPG) when purchasing light commercial vehicles. Drafted in accordance with the principles laid down by EU legislation, the aim of this instruction is to reduce environmental impact through the identification of more environmentally friendly fuels and close attention to the different local contexts in which the vehicles have to be used. The benefits of the entry into force of the operating instruction are shown in the above table. In fact, the number of light commercial vehicles powered by low environmental impact fuel grew by 3.8% compared to 2016.

Also, in order to reduce consumption and improve safety on the waste collection vehicles, in 2013 Hera added the **Drive System Tool (DST)** device. The device is a measurement box that records the driving styles of drivers of side-loading waste compactors, and since 2015 has been standard equipment on all of Hera's vehicles. It has helped to improve their mileage to 1.65 km/l, saving 514 toe in the three years since the device has been installed on our vehicles. A further reduction in the amount of repairs due to accidents and neglect was reported (-13% compared to 2013), following similar decreases in the previous years (-10% compared to 2015). The drop in fuel consumption also reduced environmental impact, given the lower amount of CO<sub>2</sub> released into the atmosphere.

Furthermore, this new system:

- allows safer driving: waste collection vehicles in fact are subject to continuous stop-and-go driving under heavy load conditions;
- reduces maintenance costs, due to lower wear of the vehicles.

#### Fuel consumed by vehicles

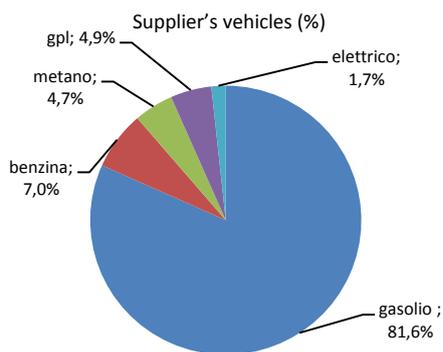


A comparison between the several types of fuel was made considering the primary energy present in the single fuels.

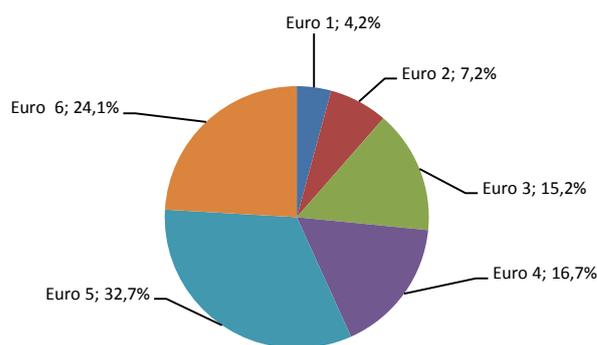
At Group level there was a reduction of 1.2% in fuel consumption. This decrease is distributed among the various fuel types but there was mainly a decrease in consumption of petrol (-14.6% compared to 2016) and methane (-13.4% compared to 2016), while consumption of LPG increased (+9.4% compared to 2016).

Despite the overall increase in vehicles with a low environmental impact, total fuel consumption is stable.

Comparing the total amount of fuel consumed by the Group's vehicles to the total number of vehicles shows that the average consumption per vehicle decreased slightly in 2017, at 2.43 toe/vehicle.



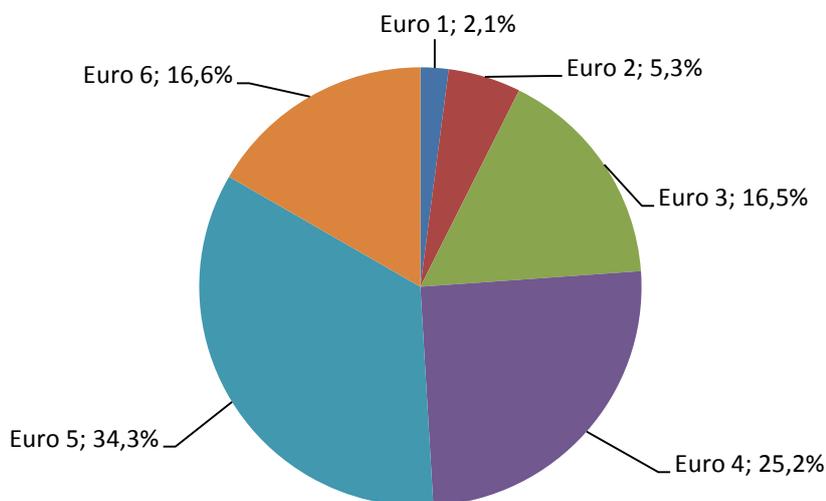
Breakdown of vehicles by anti-pollution directive class (%)



### Fuel consumed by vehicles (toe)

	2015	2016	2017
Diesel	8,903	9,022	8,977
Petrol	410	358	305
<i>of which petrol for bi-fuel vehicles</i>	0	107	120
Natural gas	411	360	312
LPG	156	224	245
<b>Total</b>	<b>9,879</b>	<b>9,964</b>	<b>9,839</b>
Consumption per vehicle (toe/vehicle)	2.38	2.42	2.43

### Breakdown of vehicles for anti-pollution directive (2017)



The average age of the Group's fleet of vehicles is 7.5 years, while for Hera SpA, it is 7.2 years, and continues to decrease compared to the 2013 when the value was 8 years. These results are the consequence of the investments made by the company, aimed at renewing its fleet of vehicles.

Hera's commitment to sustainability and energy efficiency also has effects on the **supply chain** and in particular on the criteria used to choose suppliers. Given the high environmental impact of municipal sanitation services, especially in terms of atmospheric emissions, the Group has decided to reward the best-performing suppliers in this field, favouring those who use low environmental impact vehicles.

In 2017, excluding Marche Multiservizi waste management service providers used approximately 2200 vehicles for waste collection. Of these, over 11% has low environmental impact (4.9% use LPG, 4.7% use methane and 1.7% are electric) and over half are classified as Euro 5/6.

In 2017 **actions continued to reduce the environmental impact of Group employee commutes**. These included the continuation of the shuttle bus service in **Bologna** that connects Stazione Centrale (Central Station) with the offices in Viale Berti Pichat, Via Tdel Frullo/Via Cristina Campo and to the **Imola** Station to the offices in Via Molino Rosso e Via Casalegno. To encourage sustainable transport Hera has joined the **Bella Mossa initiative**, organized by the Municipality of Bologna, which aims to promote sustainable ways for workers to go to their workplaces, by rewarding those who travel on foot, by bike, by bus, by train or by car sharing and car pooling.

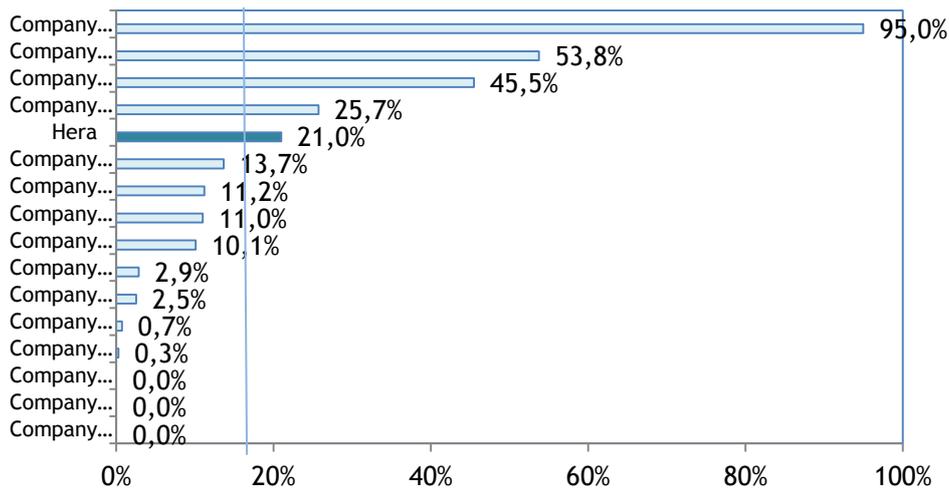
In 2017 the possibility of using pedal-assisted bicycles at the Viale Berti Pichat headquarters in Bologna was particularly successful and more than 200 staff members took advantage of special discounts on annual public transport passes, 50% for services managed by T-per and 45% for those of Trenitalia.

During the year, the Group joined to the participatory **PUMS** (Urban Sustainable Transport Plan) programmes of some cities in Emilia Romagna. These plans contribute significantly to achieving the climate and energy objectives set by the EU Member States, aimed at reducing greenhouse gas emissions by 40% by 2030.

In October, Hera participated in the "**Climathon - sustainable transport**" initiative, an event that aimed to reward the most innovative ideas on sustainable transport, to be implemented in the Ferrara area, among those proposed. There were over 40 participants of all ages and with different experiences, with a prevalence of university students from different faculties, including Engineering, Economics, Architecture, Medicine, Design, Computer Science, Communication.

*Low environmental impact vehicles in the leading Italian utilities*

According to a comparative analysis carried out among the leading Italian utilities by Utilitatis, Hera ranks fifth among the 16 Italian utilities considered, for the percentage of low environmental impact vehicles.



## Hera for electric transportation

In the area of electric transportation, Hera Group's **first fast charge charging station** was inaugurated in Udine in November 2017. It offers 4 charging technologies (2 in direct current and 2 in alternating current) with different charging speeds. This station is part of a real "regional network" of **Friuli Venezia-Giulia** that includes the 10 "traditional" recharging stations already installed in Trieste and the latest one installed in October in Gorizia. Hera Group has also developed a public recharging network in collaboration with Enel. Overall, the Hera Group in 2017 has **49 recharging stations** in the local areas where manage the electricity distribution network, of which 35 are public and 14 private. During the year, **7,603 recharges** were carried out (+65% compared to 2016), with approximately **50,837 kWh** of energy supplied (20 thousand kWh more than the previous year), for a total of **41.6 tonnes of CO<sub>2</sub> avoided**.

In addition, the Group is extending the commercial offer aimed at encouraging electric transportation, called "**I drive electrically**". For residential customers, there is a "flat", all inclusive, package, which allows customers to use a card to recharge their electric car without limits, at all compatible public charge stations, while for business customers there is no limit to the number of charges, but the offer is consumption-based.

**Infrastructure developments** accompany the **constant growth of contracts**, which total 88 in 2017 and are expected to accelerate significantly in the coming years, driven by stricter regulatory constraints on CO<sub>2</sub> emissions from transport and the resulting evolution of the vehicle market.

In order to support and anticipate this change, in 2017 the **institutional promotion of electric transportation** continued, which, thanks to Hera's contribution, led to some of the major Italian municipalities signing the **Metropolitan Charter on Electromobility**, a document in which those municipalities undertake to gradually implement the guidelines and actions it envisages, to participate in sharing common methods and languages to promote sustainable transportation and to involve the State and the Regions in the development of a comprehensive plan of support actions.

## Hera for land protection

### *Land reuse in Group projects and re-use of excavated earth*

In the **2016-2017 period**, the network and plant works we completed **used over 100,000 m<sup>2</sup> of land, 75% of which was already occupied by existing infrastructure**.

The **Integrated Water Service**, which has **recovered almost 70,000 m<sup>2</sup> of land**, represents the most significant contribution, in relation to the number of interventions carried out in the period under examination.

From the preliminary analyses to the design of works, the Hera Group identifies **technical solutions** aimed at **reusing areas that have already been urbanized** and/or **preserving the natural context** of the land subject to intervention, in line with the objectives of the UN Agenda for 2030.

The following are among the main **design criteria**:

- in the **network area**: extensions carried out using existing roads and/or urban fabric, improvement of the network layout by upgrading or reclaiming of existing pipelines, laying of new pipelines adjacent to existing services;
- in the **plant area**: reuse of existing/occupied areas and infrastructures; disposal of infrastructure and restoration/return of the area at the end of its life cycle, use of technological solutions to reduce the overall size of the infrastructure.

Among the **most important measures**, it is worth mentioning the demolition of the roof tanks at the service of the water networks, **recovering about 3,900 m<sup>2</sup>** and the upgrade of the Cesenatico treatment plant, which has enabled increase in treatment capacity and improvement of conditions for **2,500 m<sup>2</sup>**. Another important measure is the renovation of the Rimini coastline, which is discussed more specifically in the case studies in this chapter.

In the **2018-2021 period** we expect to re-use approximately **725,000 m<sup>2</sup>** of land for infrastructure, i.e. 2/3 of the total land involved in new projects.

### *Biodiversity*

As regards the **protection and conservation of habitats and wild species**, the EU issued two directives, Directive 409/79, adopted in April 1979, regarding the conservation of wild birds (the “Birds Directive”) and Council Directive 43/92, adopted in May 1992, regarding the conservation of natural habitats and wild flora and fauna (“Habitats Directive”). These directives created a consistent ecological network of protected areas in the European Union, known as **Natura 2000**.

In the province of Ferrara, the two largest water collection plants, Pontelagoscuro and Stellata, on the Po river, are located within the Special Protection Area called “**Fiume Po da Stellata a Mesola e Cavo Napoleonico**”. In the Province of Ravenna, the Marina di Ravenna treatment plant is located within the EU Conservation Area “**Piallassa Piombone**” and discharges the treated wastewater into the “**Piallassa Baiona**” special protection area.

At these two plants, in order to protect biodiversity, Hera Group carries out **acute toxicity tests** on the treatment plants. In the 2005-2017 period, these tests showed that the water disposed of had no toxicity.

## **Case study**

### **Development of occupation and new expertise**

#### *Hera Educational and the joint school-work experience courses*

In 2017, the Hera Group strengthened its structured action with the “**Hera Educational**” system. It implemented a model for managing school-work experience courses. This system is based on the integration of corporate and school skills, also by signing a memorandum of understanding with the Regional School Office for Emilia-Romagna. During the year the total number of courses was increased to 80, and the scope was extended to high schools.

Moreover, based on the system we implemented, the Group joined the programme promoted by CSR Europe “**European Pact for Youth**” with particular reference to the “Promotion of school-work patterns” forum.

Lastly, the “**Hera teaches you a trade... at school**” initiative continued, representing a development of the Scuola dei Mestieri, and focused on jointly designing and developing educational activities, with the participation of Group employees acting also as teachers, at technical institutes based in the local area of reference (currently in: Forlì, Modena and Ravenna).

#### *Dissemination of an ecologically responsible mentality*

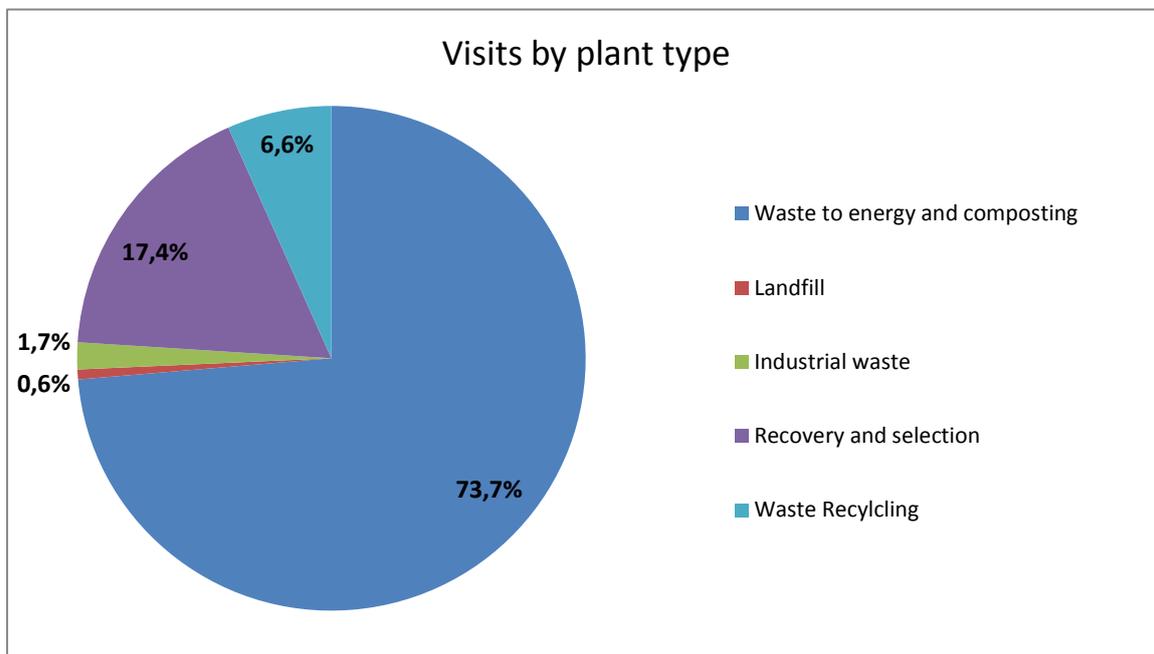
The Hera Group, through its subsidiary Herambiente SpA, proves its attention to **environmental issues** and the **diffusion of an ecologically responsible mentality**, offering the possibility of guided tours of waste treatment and wastewater treatment plants.

Such visits provide stakeholders with insight into **the way installations are operated and work**. Our waste treatment plants are **among the most advanced in Europe** in terms of operating and quality standards and visits enable visitors to understand how they properly handle waste in the most environmentally friendly manner possible, using solutions with the lowest possible overall impact on the environment.

Starting in 2016, in addition to offering "traditional" guided tours (on site), Herambiente has activated "**virtual**" **visits for schools**, especially with a view to stimulating greater interest in the "new generations". By doing so, directly from their school desks, students can listen to an environmental educator that illustrates the various phases of operation of the plant.

Furthermore, the possibility of booking visits online directly from the website, introduced during 2017 in order to facilitate potentially interested parties, has been met with a positive response, particularly for waste to energy plants.

In 2017, a total of **3,948 visitors** visited Herambiente group's plants over **241 days**, besides the 521 students who visited our plants during 11 days of "virtual" visits that, through video calls, directly listened from their "school desks" to an environmental educator who illustrated the various phases of plant operation.



Analysing the data, the visits involved 2,908 visitors to the waste to energy plants and composting plants, 25 were able to learn about landfills, 68 industrial waste treatment plants, 685 selection and recovery plants, 262 visited Waste Recycling (a company that has joined the Herambiente group).

There were 1,168 visitors to the **treatment plants** in 2017, of which about 82% were students, over about one hundred days.

## Spreading innovation and digitalization

### *Innovation in the Hera Group*

#### **The customer experience project to improve customer relations**

The activities relating to the customer experience project, launched in 2015, are nearing completion. The project aims to **reduce the gap between the service provided by the Hera Group and customer expectations**.

Many important projects were implemented in 2017. The most noteworthy are:

- implementation of **digital signing** at counters, to support the digitalization of documentation: customers can already sign contracts digitally on tablets at the Ravenna and Ferrara branches, in 2018 it will be extended to other branches;
- completion of the "**new language**" project, aimed at improving customer relations, which involved all front-end structures, both inside and outside the company. The project will continue in 2018 by involving back office structures and the reviewing the current knowledge management tool.
- the launch of the new "**My Hera**" app to manage supplies on the go, and the update of the On-Line Services, now also available for the Triveneto region. In 2018, we plan to integrate the information systems of the companies acquired in Abruzzo, to further extend the number of customers who can benefit from them;
- implemented a **text messaging function that reminds customers of appointments** for gas, water and electricity services.

#### **Social innovation: The Heureka+ Project**

Heureka+, launched at the end of 2016, is a **social innovation platform** in which all employees can forward their proposals and also jointly develop an idea with their colleagues, contribute to ideas or vote on the proposals of others. Ultimately, the Heureka+ platform permits direct and immediate interaction among employees to contribute to the Group's development and innovation.

To fine-tune the focus of the proposals, the Heureka+ platform has been organised into areas or "challenges". During 2017, 3 challenges were launched, for which a total of 79 ideas were proposed:

- the first challenge started in 2016 and ended in 2017 and concerned the communication/promotion of the Hera brand towards external stakeholders and employees (36 ideas);
- the second challenge concerned the reduction of Hera Group's consumption by implementing energy efficiency improvement initiatives (26 ideas);
- the third challenge concerned the circular economy (17 ideas).

In total, 381 comments were received and 1,439 votes were cast for the three challenges.

At the date of approval of this Sustainability Report, **6 proposals had already been implemented:**

- **PattumiHerapop**: transformation of waste bins into "street furniture" objects through decorations made by artists;
- **The market in Hera**: organization of a market with stalls of producers from our area (hosted at Hera's offices);
- **Time to go to school**: creation of teaching materials with the Hera logo made of recycled material to give to schools;
- **Skype**: use of Skype for meetings and document sharing;
- **Electronic payroll**: pat slips sent electronically;
- **Hera social**: New profile Hera social network.

In addition, **8 other proposals** are currently **being implemented:**

- **Data steward**: introduction of the Data Steward figure for data management;
- **Customer app**: Creation of an app to allow customers to photograph their meter for self-reading;
- **Hybrid cars**: renewal of the car fleet with hybrid cars;

- **Car sharing app:** A web application similar to Blablacar for publishing or viewing car sharing opportunities between Hera locations;
- **Office 365 in the Cloud:** Install Office 365 to manage email in the cloud;
- **Signature of contracts:** introduce a system that allows customers to sign contracts immediately;
- **Smart working:** possibility to work at a location other than the assigned one;
- **Heracover:** making covers for mobile phones with environmentally sustainable materials.

Lastly, **one other idea** is being **examined further or undergoing** a feasibility study:

- **A coat for water meters:** design, creation of a thermal insulation to cover water meters to prevent breakage from frost.

Three new challenges will be launched during 2018, including one on health and safety.

### **Innovative projects in the integrated water service**

The "**Ultrasonic sludge hydrolysis system**" project was developed after research carried out in 2017 to identify new technologies to optimize the water cycle and dispose of the sludge from urban wastewater treatment.

The ultrasonic sludge hydrolysis system requires that a part of the thickened sludge from the sewage treatment process (20-50%) is subjected to sound waves which, by cavitation of the liquid to be treated generate a cellular breakdown which makes more of volatile solids available for biodegradation, increasing biogas production and reducing the final dry matter in the sludge and thus reducing its volume.

During 2018, the aim is to test the applicability of technology in the Group's treatment plants.

### *Internal digitalization*

#### **Smart working project**

In 2017, following an in-depth benchmark with other companies and the enactment of Law 81/2017 on agile work, we launched the "**Smart Working**" project, which brings together four different aspects: behaviours and organizational culture, technologies, time and workspaces. The project's objective is to promote productivity and work effectiveness, to use new approaches to work, rethink collaborative and teamwork methods, seize the opportunities that technologies and the layout of spaces can offer people, finding a better balance between work and private life and privileging flexibility, autonomy, trust and accountability (of people and also of their managers).

The project focused on **several aspects**:

- Remote Working;
- working in places other than the usual place of work (for eligible employees);
- rethinking workspaces to make them more usable and better suited to working requirements;
- information and training provided on technological tools in relation to the activities to be carried out.

Under the project, the approach chosen to implement the **Remote Working** initiatives, included the activation of **6 pilot projects** in several business areas to monitor their application in view of a subsequent broader wider application.

The trial (from October 2017 to March 2018) was started in the following areas:

- Quality, Safety and Environment Directorate of Hera SpA;
- Commercial and Marketing Directorate of Hera Comm;
- Sales Directorate of Herambiente;
- Information Systems Directorate of Hera SpA;
- Information systems of AcegasApsAmga;
- Information systems of MarcheMultiservizi;

At the start of the project, several in-depth **training sessions** were held on Smart Working issues, to raise a correct awareness of the matter and present the model and application methods that Hera has chosen to adopt. Specific training sessions were also held on IT tools, with voluntary participation.

As part of the pilot projects, a **survey** was carried out to launch the initiatives, which will be repeated in the first quarter of 2018, in order to identify the differences in terms of expected benefits and expectations. In addition, as part of the listening initiatives, in February 2018 specific focus groups (for managers and collaborators) will be organised to identify indications and good practices following the application of Remote Working, which took place during the months of the pilot project.

The project has encouraged the "smart" redesign of some spaces within the Group's facilities, as well as setting up temporary offices in the main areas.

### **Smart Hera**

Since 2015, some Hera employees have been meeting periodically to study and develop small projects to improve and increase the efficiency of working tools, and to introduce innovations. They have already carried out a series of activities, while others are ongoing.

The **initiatives carried out in 2017** include:

- completing the project to provide Wi-Fi coverage at all of the Group's main sites;
- the creation and launch of an internal app for employees to facilitate the use of a series of services for employees (booking of meeting rooms, purchase request approval, reporting of near misses, voice communication requests...);

Ongoing initiatives include:

- virtual receptions for managing visitor access to Hera sites through remotely connected operators;
  - the implementation of new technologies applied to company badges;
- the introduction of highly reliable systems that ensure operational communications in the event of emergencies that make regular voice transmission networks unavailable.

### **Her@futura**

With **HER@futura**, the Group has started a process to develop a **culture favourable to digital technology** and **widespread know-how** on these issues, also strengthening vertical and cross-functional skills.

The first phase of the project involved creating a survey, based on an online gaming path and aimed at exploring the Group's propensity for Digital, Data Analytics, Smart Working and ICT topics.

The level of participation in the initiative was approximately 60% of the entire company population, 76% considering the resources with company email. Initial evidence shows enthusiasm and willingness to embrace digital innovation and the benefits it will bring to the world of work. There is also a widespread propensity to work with **flexibility, agility and adaptability**, which are essential to encourage smarter working methods.

The next steps include a training and application programme differentiated by channel, target and content, aimed at strengthening basic skills and managerial approach, and increasing the speed and effectiveness of corporate projects in the digital environment.

### **Hera, Iren, and Smat together to improve the integrated water service**

In 2014 Hera, Iren and Smat signed a **5-year partnership agreement** to carry out applied research to develop joint research, innovation and training projects in the sectors and activities related to the integrated water service.

Subsequently, the activities were regulated and the first projects for the 2015-2016 period were identified, within the following subject areas:

- potable water treatment and purification treatment processes;

- analysis by specialist laboratories, online measurement systems, innovative sensors;
- development of remote control systems, expert systems and modelling.

Three projects were defined and then implemented for each area, each of which coordinated by one of the three companies but jointly developed by all.

The common denominator each of the projects had, was the **industrial development of techniques and systems to optimize the efficiency of networks and plants**, so as to reduce their management costs, and/or to improve their operational performance.

The last activities related to these projects were completed in 2017. The **topics of interest for the projects of the 2017-2018 period** were also defined and started. The three projects concern:

- breakage of aqueduct networks: analysis and decision support systems;
- integrated environmental modelling used to assess the impact of intense weather events to support the management of urban drainage networks;
- recovery of material from the urban wastewater treatment cycle: struvite.

Besides in-depth examination of the specific issues of each project, sharing the diverse experiences and approaches helps the Hera Group critically analyse the methods used, with reference to its own *modus operandi* and to structure a network of relationships - both within the companies and with the relevant external qualified partners - that will surely be very useful even after the end of the projects.

#### **Waste Management Services System: Information technology for waste management services**

In 2017 the **Hergo Waste Management System** was extended to the areas served by AcegasApsAmga (January 2017) and Marche Multiservizi (March 2017). Furthermore, its functions were further consolidated through some system evolutions requested by the Group, and the process of continuous improvement in terms of use and quality of the data entered into the system continued.

During the year, the "**Hergo CDR**" project was implemented, thus completing the scope of services managed under an integrated approach, and anticipating some functions in view of the "Quantity-Based Tariff" project. The roll-out of the 130 CDRs managed by Hera SpA will be completed by April 2018.

The **Location Business Intelligence** project has been designed and is now available for use by the Group. According to the analyses carried out, this project will evolve further in 2018.

#### *Digitalization for our customers*

##### **Il Rifiutologo (the Wasteologist), an app for separate waste collection and more: 95,000 residents use it!**

Il Rifiutologo is a free app with several features, available both online on Hera's website and as apps for smartphones and tablets. As of 31 December 2017, the number of downloads reached over 184,200 and there are almost 95,600 active users, proving the usefulness of the tool. In 2017, internal work was carried out to make the Rifiutologo an increasingly interactive tool, able to provide residents with the real time status of waste management services, geolocalised for each territorial area. It is a great change for the service information that will be made available to residents through the new customer site, as well as with the new release of the app, planned for spring of 2018. The breakdown of all each service information within the new system will make it possible to find out about the individual services offered (e.g. eco-mobiles, cooking oil collection stations, location of mini underground islands...) and to view the door-to-door collection schedules, so as to be always updated on the individual services in real time. In addition, the "environmental reporting" feature is expected to be even easier to use. Residents will be able to use it to send customized messages or real time georeferenced pictures to Hera's staff to point out problems with the waste management services and/or request action, and correspondingly receive a report when the issue has been dealt with.

In 2017, 29,840 (+51% compared to 2016) reports were sent concerning emptying bins, cleaning roads and removing abandoned waste; 5,660 suggestions were sent on new types of waste to be added to the database (+34% compared to 2016). The "Scan barcode" feature is also quite popular. It helps the user recognize materials by scanning the barcode printed on products and shows how to properly dispose of each package, by accessing an archive that as of 31 December 2017 includes 1,300,000 barcodes of the most widely used products. For packages made of multiple materials, the app can provide instructions on where to dispose of each component. If a code is not recognized, or a type of waste is missing, the resident can report it via the Rifiutologo so that it can be added to the system: in 2017 there were 7,529 reports of bar codes sent by residents to update the database compared to 11,850 in 2016. The searches carried out by scanning barcodes grew from 104,081 in 2016 to 282,804 in 2017.

### **With the Acquologo, the entire water service is smartphone-accessible**

The Acquologo (The Waterologist), released in July 2016, is a free application on the local water service for residents who live in the areas served by Hera. It provides many useful features for users, from self-meter reading to checking data on the quality of the water in their municipality, and includes alerts for water network interruptions for ordinary maintenance work and reporting breakage or leakage of water on public land.

In 2017, the application was downloaded 11,159 times for a total of 44,223 accesses. Residents with Hera bills can use the Acquologo to report their actual water consumption by easily reporting their meter reading and in 2017 5,420 readings were sent in using this system.

Hera manages the water service, providing good drinking water for its customers, that is compliant with regulatory requirements and carefully monitors the entire drinking water supply chain. To confirm this, users can use the Acquologo to consult the main quality data (average values) of the water supplied for each of the municipalities served by the multiutility, comparing them with the regulatory limits. In addition to this function, the application also shows the savings generated by the drinking tap water instead of bottled water. And to contact experts with questions and inquiries about the local water service or the read answers to frequently asked questions on the subject, see the "Experts answer" section. In 2017 there were 58,823 accesses to the Aquologist pages on quality, 8370 views of specific qualitative data and 23 requests for further information through the "Expert answers" service.

Experimentally, in Bologna, the app can also be used to report major water leaks due to breakage of pipes under the road surface. After taking a picture and adding a brief text, users can send the report directly to Hera's Emergency Service. By using geolocation, the system can rapidly detect the location of the report and provide it to the service personnel who will go to the site. During 2017, 190 reports were made using the app (photographic reports and calls to the toll-free number).

### **My Hera**

**My Hera** is a new, completely free, app dedicated to residential customers to enable them to **manage all their services**, as well as to access information on the services offered by the company. My Hera was designed to be an easy and immediate tool for customers to use. Users can also customize the content by deciding which parts to focus on.

All the **functions** can be accessed from the My Hera homepage:

- pay bills online and consult the bills archive;
- perform self-meter reading;
- monitor the trend and detail of consumption;
- display the nearest drop-off points and Hera Points on the map;
- access the "Rifiutologo" and "Acquologo" apps;
- discover commercial offers and new initiatives;
- request electronic billing;
- activate direct debit payment;

My Hera is also an additional **channel to contact** the company, since customers can:

- receive contract, bill and payment assistance;
- activate the bulky waste collection service;
- make environmental reports;
- alert emergency services operators if a network problem occurs.

### **Digi e lode**

For the Hera Group it is important to prioritize innovation and digitalization, starting with its own services: development of On-Line Services, creation of interactive apps for customers and residents, and promotion of dedicated digital channels and services.

Digi e Lode is the project that brings together customers and the company to digitize schools in the area by promoting Hera's digital services under the patronage of municipalities. The Group wants to make this contribution to the development of the territory, in continuity with the company's strategies that identify innovation as one of the key points and in line with the objectives set by the UN Global Agenda in 2030.

Specifically, the project finances school digitalization projects for first-degree public and state-authorized primary and secondary schools in the Bologna, Modena, Ferrara, Forlì-Cesena, Ravenna and Rimini areas with Euro 100,000 for their digitalization projects. Every time a customer activates one of the digital services offered by the Hera Group, it donates 1 point that can be assigned to a specific school (in this case multiplied by 5) or distributed among the schools of the customer's Municipality. During the 2017/18 school year, the Hera Group will award the 40 schools (with Euro 2500 per school) in the territory that has reached the highest score.

The digital services of the Hera Group that contribute to the project are:

- On-line services, to manage services on the website;
- Information and support apps for virtuous behaviours (Acquologo and Rifiutologo);
- Service app (My Hera) for fast and easy management of contracts;
- Electronic billing, to receive it quickly and ecologically;
- Direct debit, to pay bills easily and on time;
- Digital self-meter reading (using On Line Services, the app, SMS or on the phone with automatic answering system);
- Hera Fast Check Up, to be supported in reducing gas and electricity waste.

### **The evolution of the gas meter with Hera**

The innovation proposed by Hera involves a piece of equipment for measuring the consumption of residential gas customers. The current devices, introduced by AEEGSI resolution 554/2015, makes it possible to stop the supply of gas but cannot be used to identify potentially dangerous conditions.

The innovation proposed by Hera is a device for measuring the consumption of gas customers which, as well as the regular monitoring of consumption, also makes it possible to check the working conditions of the gas supply system and to intervene autonomously in the event of anomalies, both automatically and controlled by the customer. Anomalies can be caused by earthquakes or by irregular network conditions in the user's internal system or in the public distribution system.

By checking the gas pressure and flow data, the device can intervene, blocking the supply of gas using the solenoid valve. Once corrective action has been taken it can perform a test to check that the user system is intact.

### **Multi-service smart metering: remote management solutions to serve our customers**

In 2017, the **multi-service smart metering** test launched by AEEGSI (now ARERA, Regulating Authority for Energy Networks and Environment) was completed with Resolution 393/2013/R/gas. In the corresponding

economic/qualitative ranking, **Hera's project** was first among those that were actually implemented. To do this, the Group has built a **remote reading infrastructure** for over 13,000 points of supply for gas, drinking water, electricity, district heating and waste collection services in the city of Modena. Particular attention is focused on the role of users, who were provided with a website, which is also accessible from mobile devices, that makes it possible to monitor their daily consumption and, in the event of anomalies, to be notified via a text message.

The technical experience obtained with this project has helped us acquire the know-how required to implement large-scale remote measurement services. In addition to remote gas readings, that are fully developed throughout Hera Group's area, the same technologies have been used to develop the infrastructure of the new quantity-based tariff for waste collection in Ferrara.

## Economic development and social inclusion

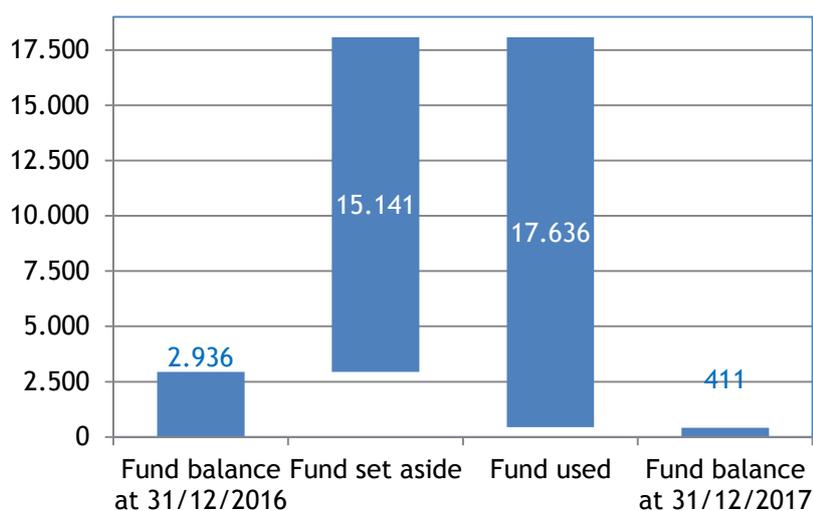
### *The "water leak fund"*

In July 2014, Hera Spa defined a joint regulation across all the areas it serves that sets up a **"leak fund"** to protect customers in the event of water leaks in their plumbing system, i.e. downstream from the meter. This voluntary instrument partially covers bills of even very high amounts that are due to accidental and unknown leaks within a customer's own plumbing system. Paying Euro 15 per year in their bill, participating customers can receive, for hidden water leaks within their system, a reimbursement for the entire amount for the volumes that exceed their usual average consumption by 80%, up to a maximum of Euro 10,000.

Participation in the fund is not compulsory and customers may withdraw at any time by simply asking to do so.

The "leak fund" is exclusively designed to cover the additional costs incurred by customers that have a water leak.

### Water leak fund (thousands of Euro)



### Leak fund and beneficiary customers

	2015	2016	2017
Funds disbursed (thousands of Euro)	14,555	14,990	17,636
Number of beneficiary customers	11,033	10,902	12,539
Average reimbursement (Euro)	1,319	1,375	1,407

The fund's balance at 31 December 2017 is about Euro 0.44 million, (including interest income). The balance, relating to 2017 alone, is negative by Euro 2.5 million. During 2017, coinciding with a prolonged and unusual dry period, which clearly has a direct effect not only on breakage of pipes for which the operator is responsible but also on the internal plumbing systems owned by users, the number of requests to access the fund has significantly increased compared to the previous year (up about 28%). This led to a significant reduction in the reserve, the balance of which, at 31/12, was however still positive.

Since the fund is exclusively for the benefit of the participating customers, interest of Euro 2734 was calculated on the monthly balances set aside at the legal rate in force. Since being introduced, the fund has reimbursed around 40 families and businesses, 12,539 of which in 2017, for an average reimbursement of Euro 1407. Less than 4% of customers is not covered by the "Leak fund". In 2017, about 1000 requests for withdrawals from the fund were received.

#### *The per capita tariff rewards water savings and helps large households*

The per capita tariff was introduced by the former Water and Waste Regulatory Authorities of Bologna, Modena and Ravenna (only for the Faenza municipality) to encourage water savings and help large households. In fact, the number of family members is one of the parameters taken into consideration when calculating the bill with the per capita tariff. The tariffs favour low levels of consumption and penalize consumption that exceeds the amount set for each person based on the water-saving goals of the **Water Protection Plan of the Regional Government of Emilia-Romagna**. The Plan established a basic supply of 150 litres per day per capita, equal to 55 m<sup>3</sup> per year. The per-capita supply and the consumption bands vary according to the number of family members, thereby favouring large households which necessarily have a greater requirement.

In 2017, the AEEGSI (now ARERA), through the provision on tariff articulation, adopted this methodology as compulsory and to be applied in all municipalities with a gradual criterion starting in 2018 and to be completed by 2022.

The per capita tariff is applied only to residential users and, in 2017, was applied in 52 municipalities in the Province of Bologna (including the city of Bologna), in 26 municipalities in the Province of Modena (including the city of Modena) and in one municipality in the Province of Ravenna. 53% of the population served by the Group resides in the municipalities that apply the per capita tariff.

#### When environmental and social sustainability go hand-in-hand

In 2017, Hera SpA continued its commitment to supporting projects such as "Manolibera", "WEEE in prison", "RAEEbilitando", aimed at the social and labour inclusion of many categories of people in unfavourable situations, serving a prison term, just out of prison or who are in a situation of obvious physical and mental disadvantage.

The "**Manolibera**" project came to light in 2011 thanks to the will of Hera, the Techne Training Institute and the contribution of the Comieco Consortium, with the creation of a craft paper mill at the Forlì Penitentiary. An important role is played by monitoring and verifying the activities carried out by the social cooperative CILS and by the Istituto Techne for the training (developed on three courses) of the participating prisoners, which allows a continuous and concrete job opportunity.

The commercial and marketing part is managed by the Berti Editorial Bindery of Forlì. The exclusivity of the production methods and the artistic, social and ecological value of the creations made in the paper mill have made the products unique in their field.

The promotion of the products takes place on the main platforms for the organization of events and wedding planners. In addition, promotion and sales activities continued through the national prison economy network "Freedhome".

The recent contribution of the Regional Government of Emilia-Romagna will lead to the future creation of specific courses on hand or machine binding for the prisoners themselves, to be held directly in the laboratory.

In 2017, the "**RAEEbilitando**" project fully resumed operation after a period of inactivity due to the renovation of the laboratory premises. In July 2017, the project partners (Hera SpA, Consorzio Remedia, Opera dell'Immacolata and Tred Carpi Srl) agreed to renew the memorandum of understanding, thus enabling the project to continue. Under the project, disabled children and people in difficult situations working in the Bologna laboratory were able to resume their work, dismantling WEEE (about 19 tonnes of small electrical and electronic equipment).

During 2017, a total of 8 people were involved in the project, one of whom came from external internships. 125 tonnes of material have been treated since the project was launched, and precious materials have been recovered, including copper, aluminium, plastics and glass.

The long-standing experience of the "**WEEE in prison**" project continued, an example of collaboration between institutions and territorial networks, in an alliance between social economy, training and profit system, pursuing the value of dedication and social responsibility of companies. The project started in 2008 in the Bologna, Ferrara and Forlì prisons, and is the outcome of research, organization and coordination of Hera SpA and Techne. Later, the Regional Government of Emilia-Romagna joined to support the project, as did many other bodies and organizations among which there are the Ecolight, Ecodom and ERP recovery and recycling consortia.

**The three workshops were** set up directly inside the prisons and **have become** stable and operational production sites. Starting with a training course, **the prisoners learned and became familiar** with all the operating procedures required for disassembly of large and small WEEE waste provided by Hera's waste collection centres. After being treated, these devices are sent to recovery plants to obtain the raw and second materials of which they are composed.

From the start of the project to 2017, 97 prisoners have been involved in the training and then employed in the numerous activities of the workshops, no fewer than 33 of them have been hired or a job has been found for them in the area by the social cooperatives that manage the workshops.

Since the project's inception the total quantity of electric and electronic equipment processed in the workshop is over 4653 tonnes.

## **Air and soil protection**

### *Studies on the environmental impacts of waste-to-energy plants*

For many years, activities related to the incineration of waste have been the subject of many studies and monitoring, as well as of important technical improvements also related to the introduction of increasingly stringent plant and management criteria by European and Italian legislation. The technology has reached very high performance in terms of reducing emissions and environmental impact.

As a result of the changes of the legislation, there has been a 98% reduction in waste incineration emissions if we consider the total annual atmospheric emissions of dioxins as the sum of all waste incineration in Italy between 1990 and 2013 (Source: Sinanet-Ispra-SNAP databanks).

Placing this analysis in the context of the various production segments, since 2001 waste incineration has been the least representative source in terms of emissions of dioxins and furans, contrary to the iron industry, the steel industry and the entire residential segment (e.g. domestic heating).

The trend in terms of total annual PM10 emissions shows a significant decrease of around 55% in waste incineration emissions (between 1990 and 2011), also due to the evolution of legislation. The PM10 emissions by Italy's incinerators are around three magnitudes lower than those of the residential segment. The main sources of PM10 at national level are the residential segment, vehicular traffic, combustion processes with contact (e.g. foundries) and animal rearing.

#### *Environmental supervision and air quality monitoring projects*

According to the Authorizations regarding the waste-to-energy plants in Ferrara, Modena, Forlì and Rimini, the Hera Group must carry out studies on the potential impact that its plants have on the surrounding environment.

In 2008, in accordance with the provisions of the Integrated Environmental Authorization of the **Rimini incinerator**, the **air quality was monitored** by ARPAE (pre-operational monitoring). This study was designed to determine the quality of the air in the areas around the incinerator, potentially affected by the plant's emissions. In 2013, with the new line 4 fully functional, the monitoring process was repeated in the same way in order to assess any differences or impacts on air quality that could be attributed to the new plant (post-construction monitoring). The monitoring results have been prepared by the regional agency for prevention and environment of Rimini in 2014 and have been made available in 2015. The study shows that there is no significant impact on air quality, post-construction vs. pre-construction.

In the industrial area in which the **Forlì plant** is located, Hera has installed an air quality monitoring station, run by ARPAE Forlì. This station has been operational since 2009, and provides a continuous stream of data that are validated by ARPAE and published on their website. Periodical campaigns are also carried out at the station to search for micropollutants and metals in the particulate matter. The results show that there is no substantial difference between a public area and the area around the plant, indicating the presence of a uniform environment, influenced significantly by the town rather than the presence/contribution of the plant. These results were confirmed in 2017, when ARPAE Forlì made available the data of the air and soil quality monitoring of the previous year.

For over a decade, environmental monitoring tests have been carried out at the **Modena plant** on several environmental compartments: air and soil quality, biomonitoring, total depositions. Since 2013, the monitoring network has been operated by the local ARPA (now ARPAE), which carries out all the analyses required by the waste-to-energy plant's IEA. In addition, in Modena in accordance with the IEA, a health monitoring study was carried out in 2003 to assess health risks for the population that lives near the incinerator and the workers at industrial sites near it. Two reproduction indicators are analysed: teratogenic risk, i.e. congenital malformations, and spontaneous abortion risk. The program ended in 2014 with the processing of the data collected in 2013 and showed no dose-response relationships between exposure and relative risk of miscarriage and birth defects.

Between 2010 and 2012, a genuine environmental and health monitoring protocol was carried out at the **Ferrara waste-to-energy plant**. Its details were defined by ARPA (now ARPAE), AUSL and the Province of Ferrara and it examined a number of environmental compartments. The scientific coordination for these studies was entrusted to institutions with proven experience in the sector (CNR and Universities). The results of the first study, which ended in October 2012, confirmed the preliminary evaluations made when the Integrated Environmental Authorization was granted and showed that the plant's contribution, in terms of air quality, cannot be distinguished from the environmental background levels. In the light of the results that have been obtained, a subset of the monitoring has been extended for a second period (2013-2015), that only studies the aspects that are considered most significant: air quality and studies of soil pollutants. Air quality monitoring activities ended in early 2015, confirming the results of the two previous years. In particular, the study of the soil, repeated in the autumn of 2013, showed no accumulation of

metals and micropollutants in the areas surrounding the plant, thereby confirming that the incinerator's emissions cannot be distinguished from the baseline of the environment. In 2015, the guidelines to carry out monitoring in coming years were also agreed with regulators. In particular, in 2016, we signed a convention to continue the three-year soil monitoring project with ARPAE.

The **Padua waste-to-energy plant**, in line with the requirements of the "Memorandum of understanding on the assessment of the health impact in the city of Padua and in its metropolitan area" signed by the municipalities of Padua and Noventa Padovana, with Arpav, ULSS 16 of Padua, and the University of Padua was the subject of a study that was completed in December 2015, with the presentation of the "Report on the pilot project of population health monitoring assisted by ASL 16 of Padua, particularly on potential health effects from air pollution - a longitudinal study in Padua (SLPD)". The conclusions showed on one hand insufficient statistical evidence to identify statistical effects on people's health related to the plant's emissions, on the other the differential of the concentration estimates (with three decimal digits precision) is not compatible with measurable health effects, i.e. the effect of PM<sub>10</sub> emissions from the waste-to-energy plant on the background pollution levels.

The same system is the subject of the Voluntary agreement to monitor the effects of the San Lazzaro waste-to-energy plant near Padua, which lasts three years. HestAmbiente and Arpav have carried out some environmental studies in addition to those required by the legislation in force and by the authorizations.

In greater detail, we managed the operation of two of HestAmbiente's fixed air quality monitoring stations (to monitor SO<sub>2</sub>, CO, O<sub>3</sub>, NO<sub>x</sub>, PM<sub>10</sub> e PM<sub>2,5</sub> with automatic equipment and publish on Arpav's website a page dedicated to waste-to-energy plant data, validated by Arpav itself). An annual air quality monitoring campaign was carried out using a mobile lab provided to Arpav by HestAmbiente. We sampled the soil at 5 sites near the waste-to-energy plant, and performed laboratory analyses on it for the metals: Pb, As, Cd, Ni, and Hg, for aromatic polycyclic hydrocarbons, dioxins, furans and PCBs and we measured the sound pressure levels around the plant. All the surveys summarized above highlighted negligible environmental impacts of the plant. HestAmbiente has already expressed its willingness to sign a three-year extension of the agreement that will soon expire, and to continue its activities even while awaiting the formalization of the new agreement.

#### *Transparency of waste-to-energy plant emissions*

Since 2008, the Group's website has provided the previous day's average emission values and "half-hourly averages" of the Group's **waste-to-energy plants** (every half hour the online data are updated with the average value recorded over the past 30 minutes). The data are automatically sent by the **detection systems, operational on a 24/7 basis** in all the Group's plants, located in the provinces of Bologna, Ferrara, Forlì-Cesena, Modena, Ravenna, Rimini and Isernia.

As a further guarantee of **transparency**, Hera commits to:

- daily or weekly reporting of the half-hour and daily averages to the control agency (Arpa);
- yearly reporting on the plant's operations, by 30 April every year, to the competent authorities (Provinces) and control agency (Arpa);
- if the plant is EMAS registered, the control results are published upon formalization of the "Environmental Declaration";
- publishing annual data compared to legally established limits and regulatory limits in the Group's Sustainability Report.

Since 2015 the website also provides the data of Padua and Trieste, in the same format (half hour average updated in real time).

Lastly, **from 2018 on**, average annual data on periodic self-checks on metals and organic micropollutants will also be available for all plants.

### *Increasing usage of telepresence*

A further increase in terms of sessions and hours of use of the Hera Group's telepresence rooms is confirmed for 2017, for the same selection of rooms. Telepresence is increasingly proving to be a facilitating tool to manage meetings, saving time, risk and fatigue, also allowing considerable energy savings and, last but not least, helping to reduce Hera Group's ecological footprint. At Group level there was an **increase, compared to 2016**, in fact their use increased, reaching a total use of approximately 24,000 hours in the entire Group. On a like-for-like basis, the usage increased by 3.6%, rising from 9292 sessions in 2016 to 9630 hours in 2017.

### *Excavation land reuse for beaches in Rimini*

The Hera Group is responsible for recovering sand to sustain the beaches of Rimini's coastline, as part of the progress of the plan for seawater protection plan (PSBO), the largest sewer decontamination project in Italy.

In total it will be possible to recover 25 thousand m<sup>3</sup> of sand, 8 thousand of which have already been deposited mainly on the beaches in the northern part of Rimini and in those between the southern part of the provincial capital and Riccione, as envisaged by Arpa and by the River Basin Technical Service.

The PSBO was built by Hera and the Municipality of Rimini, together with Romagna Acque and Amir, and consists of 11 measures on sewerage pipes and treatment systems, 5 of which have already been completed. Taken as a whole, this is essential to upgrading and upgrading existing installations and networks, while at the same time ensuring the sustainability of a water service which, on the coast, now has to cope with 16 million visitor nights every year. Through the PSBO, Hera therefore continues to create so-called "shared value", generating benefits for the environment, local communities and their economies.

The works will lead to the construction of a water storage tank by summer 2018, which will improve water safety and bathing quality. In addition to these benefits, there is also the complete renovation of urban spaces to promote the promenade and sustainment of the beaches, which will result in an important operation of soil recovery and coastal conservation. All this is made possible by an accurate geological survey, with which Hera thoroughly studied the characteristics of the material excavated on site, processing so as to obtain the highest possible levels of quantity and quality of sand.

The site will therefore be able to exploit all the stages of its process, in the priority interest of the area, the protection of its natural resources and the quality of the tourist offer in the area.

### *Renovation of the viale Berti Pichat area in Bologna*

In May 2017, work was completed on the **new management building** at the Hera SpA headquarters, which allowed staff to be transferred from the SACEP office building and other buildings in the same area (for approximately 360 people) and the canteen and bars to be used.

Following the completion of the building and the relocations, it was possible to demolish the old structures used previously, leading to the **environmental remediation** and functional redevelopment of the entire sector according to the indications of the variant to the urban renewal agreement for the area signed on 3 May 2016 and the new operational renovation project authorized by the Municipality of Bologna with deed dated 13 April 2016.

The operational reclamation project is enabling the environmental remediation of the area consistently with timing set out in the planning agreement, simultaneously ensuring the accessibility and the usability of the entire sector. In particular, in 2017, the worksites for reclamation of the site's groundwater were completed and, in addition, reclamation measures were completed in most of the areas north of the sector, by excavating and removing the historical landfill and contaminated soil, as well as, where envisaged, by ISCO treatment of soil and groundwater. For each phase of reclamation, ARPAE verified compliance with the reclamation objectives set by the project with reference to the work carried out and, as a result of

these checks, it was possible to start the urban planning works for the construction of green areas, new roads and new internal parking lots.

In early 2018, reclamation work began on the areas currently designated as car parks, which will be largely upgraded to green areas for use by Company personnel. The completion of these last areas, expected for the end of 2018, will represent the completion of the requalification of the entire area of Viale Berti Pichat (about 70,000 m<sup>2</sup> of total surface area).

Monitoring of air and water compartments for the site, over the entire area continued, with the frequency agreed with the regulators. At the same time, in addition to the analyses currently performed by companies at the job-sites, the Quality, Safety and Environment Department continued monitoring, focusing on the impacts that the job-sites could have on the health of workers at the corporate office.

The environmental remediation of the site will continue, by functional phases until completion, expected by 2018, of all the other activities on the entire sector, and the cost will be borne fully by Hera even if it is not the party responsible for polluting the area.

In 2017, 4 meetings were held with Health and Safety Representatives (RLS) to report and agree both the progress, the scheduling of the work, and the monitoring results.

Hera has always worked in full and complete respect of the law, for the protection of workers and residents, and under the control of the supervisory bodies.

In December 2017, the renovation works on the 1st and 2nd floors of the building located at the corner of Viale Berti Pichat and Via Ranzani were completed, which Herambiente personnel to be transferred from the headquarters in Via Trattati Comunitari (Bologna). The building's redevelopment has included upgrading its systems with renovation of its façades to accommodate Herambiente's commercial and reception structures. The works on the ground floor, the external renovation work and the construction of a new dedicated reception area will be integrated in the completion of all the external upgrade of the area, which will be completed by December 2018.

Remaining on the subject of our office buildings and other properties of the Group, in 2017 we continued a major plan to replace and decontaminate asbestos roofs of buildings located in all the areas we served. At the end of 2017, approximately 20 thousand m<sup>2</sup> of asbestos roofs were removed, equal to 70% of the total amount (100% of those on office buildings). The renovation measures are expected to end in 2018.

# The bases and the organisational levers

## Governance and creation of value

### The objectives and the results

What we said we would do	What we have done	Area*
<ul style="list-style-type: none"> <li>Value added to stakeholders: Euro 1,692 million as of 2020 (+18% compared to 2016).</li> </ul>	<ul style="list-style-type: none"> <li>Value added to stakeholders: Euro 1,481 million in 2017 (+4% compared to 2016).</li> </ul>	
<ul style="list-style-type: none"> <li>Achieve investments for Euro 2.1 billion in the period 2017-2020.</li> </ul>	<ul style="list-style-type: none"> <li>Euro 440 million of investments made in 2017.</li> </ul>	
<ul style="list-style-type: none"> <li>Continue the HeraLab meetings in the served areas and in 2017 implement the 12 initiatives proposed and approved by Hera. Start the new HeraLAB model.</li> </ul>	<ul style="list-style-type: none"> <li>14 meetings of the HeraLabs held and 9 initiatives proposed and approved by Hera implemented. During 2017, a new HeraLab model was launched and new labs were set up in Ferrara and Ravenna.</li> </ul>	ER T
<ul style="list-style-type: none"> <li>2017 Climate Survey: reach a 64/100 employee satisfaction index and complete the internal climate improvement actions defined after the 2015 survey</li> </ul>	<ul style="list-style-type: none"> <li>The 2017 climate survey revealed worker satisfaction of 64/100. All the climate improvement action defined as a result of the 2015 survey was achieved.</li> </ul>	ER T M

What we will do	Scope*
<ul style="list-style-type: none"> <li>Value added to stakeholders: Euro 1,764 million as of 2021 (+19% compared to 2017).</li> </ul>	
<ul style="list-style-type: none"> <li>Achieve investments for Euro 2.3 billion in the period 2018-2021.</li> </ul>	
<ul style="list-style-type: none"> <li>Dialogue with the local communities: continue the meetings of the HeraLabs active in the areas and define the Plan of the local initiatives in Ravenna and Ferrara. Extend the new HeraLAB model in three additional areas in 2019.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Implement the internal climate improvement actions defined on the basis of the results of the survey carried out in 2017.</li> </ul>	ER T M

\* Geographic scope of the ER improvement objectives: Emilia-Romagna T: Triveneto M: Marche.

## Sustainability and risk management

### Corporate governance

Hera is a multi-utility company with public sector majority shareholders and a markedly diversified shareholder base. Regarding corporate governance, the Group has adopted statutory procedures, with specific attention to the implementation of the principles contained in the code of conduct prepared by Borsa Italiana.

The main governance bodies of Hera are the Board of Directors, the Executive Committee, the Board of Statutory Auditors, the internal committees and the Shareholders' Meeting. The Board of Directors is supported in its duties by two committees: The Remuneration Committee and the Control and Risks Committee. The Board of Directors has also established a Supervisory Body pursuant to Legislative Decree no. 231/2001, as well as an Ethics Committee to monitor the dissemination and implementation of the principles in Hera Group's Code of Ethics.

### The Board of Directors

The articles of association currently in force establish that the Board of Directors be comprised of 15 members elected on the basis of lists. Specifically, they provide that 11 members be selected from a

majority list while the remaining 4 members be selected from a minority list. Composition by gender complies with the provisions of Italian Law 120/2011 whereby at least one third of the members must be women, for the renewals after the first renewal after entry into force of the law.

The new voting trust and share transfer rules agreement has been in force as from 1 July 2015. It was entered into by 118 local authorities holding shares on 26 June 2015. The agreement provides clauses on the method of forming the majority list and has a duration of three years, until 30 June 2018. Another agreement between the Modena public shareholders became effective as of the same date and with the same duration, with the aim of governing the presentation modalities of the candidates on the majority list proposed by the Modena public shareholders. There is an additional agreement entered into by 33 public shareholders belonging to the Bologna area on 20 November 2017, expiring on 30 June 2018, concerning - with reference to those entering into it - the discipline of the methods for consulting and joint adoption of the decisions relating to their participation in Hera, as well as the formalities for the circulation of the shares granted to the agreement.

According to the articles of association, the Board of Directors is to meet **at least on a quarterly basis**, or every time the Chairman deems it necessary or when requested by at least one third of its members or by the Board of Statutory Auditors. The articles of association also provide that the Board of Directors be endowed with broad and unrestricted powers for ordinary and extraordinary administration of the company. It is empowered to carry out all such actions as it deems necessary for and conducive to achieving the company purpose except for those expressly reserved to the Shareholders' Meeting by law or according to the articles of association.

The Board of Directors met ten times in 2017.

The current Board of Directors, renewed on 27 April 2017, will remain in office until the Shareholders' Meeting for approval of the financial statements as at 31 December 2019.

Among the 15 members of the Board of Directors of Hera Spa, eight directors (53%) are aged between 30 and 50, five directors (33%) are aged between 50 and 60, and two directors (13%) are over 60 years of age. 5 members of the Board of Directors are women.

As set forth in the Code of Conduct of Borsa Italiana, the annual report on corporate governance sets out the requisites for the non-executive, independent directors of Hera Spa. The remuneration paid to Hera Spa directors is illustrated in the remuneration report.

## Hera Spa Board of Directors

Office	Name and Surname	Executive Director	Independent Director	Committees*
<b>Chairman</b>	Tomaso Tommasi di Vignano (1)	X		<b>EXEC</b>
<b>Managing Director</b>	Stefano Venier (1)	X		<b>EXEC</b>
<b>Vice Chairman</b>	Giovanni Basile (1)		X	<b>EXEC, REM, CONT</b>
<b>Director</b>	Francesca Fiore (2)		X	<b>REM</b>
	Giorgia Gagliardi (1)		X	
	Massimo Giusti (3)		X	<b>REM, ET</b>
	Sara Lorenzon (1)		X	<b>CONT</b>
	Stefano Manara (1)		X	<b>REM</b>
	Danilo Manfredi (1)		X	
	Alessandro Melcarne (1)		X	
	Erwin P.W. Rauhe (2)		X	<b>CONT</b>
	Duccio Regoli (2)		X	<b>CONT</b>
	Federica Seganti (1)		X	<b>EXEC</b>
	Marina Vignola (1)		X	
	<b>Giovanni Xilo (1)</b>		<b>X</b>	

\* EXEC: Executive Committee; REM: Remuneration Committee; CONT: Control and Risks Committee; ET: Ethics Committee (1) Name taken from list presented by the majority shareholders

(2) Name taken from list presented by the minority shareholders which obtained the greatest number of votes

(3) Name taken from list presented by the minority shareholders which obtained the second greatest number of votes

### The Board of Statutory Auditors

The Board of Statutory Auditors is **the corporate body that monitors correct administration**, especially insofar as the adequacy of the organisational, administrative and accounting structure adopted by the directors and its operation. The Board of Statutory Auditors, appointed by the Shareholders' Meeting held on 27 April 2017, will remain in office until the Shareholders' Meeting for approval of the financial statements for the year ended 31 December 2019.

The Articles of Association establish that the members of the Board of Statutory Auditors are appointed on the basis of the lists submitted by the shareholders in order to ensure that the minority appoints the Chairman and an alternate auditor, and that the majority appoints the remaining two permanent members and one alternate member. Members are appointed in compliance with the equal balance of gender required by current laws and regulations.

### The Executive Committee

The Executive Committee has the duty to express to the Board of Directors an opinion prior to submission of the yearly definition of the Group's business plan and the proposed appointments of top level managers. Furthermore, it adopts resolutions concerning contracts and agreements related to the corporate purpose by specific amount brackets. It also resolves on consultancy relationships with outside professional experts and on the company's membership in organisations, associations and other bodies, as well as on the settlement of disputes and releases of creditor claims. Further acts subject to resolution by the Board of Statutory Auditors regard those that amend or terminate contracts for credit lines and loans; acts that launch tenders and/or the stipulation, amendment and termination of investment contracts; and lastly, the quarterly review of the reports for the analysis and monitoring of financial risks.

The Executive Committee is composed of the Chairman, Vice Chairman and Managing Director, as well as a director appointed together by the Municipalities of Padua and Trieste: The Committee was appointed by the Board of Directors on 10 May 2017, pursuant to art. 23.3 of the articles of association. The Executive Committee met four times in 2017.

## The Remuneration Committee

The task of this committee is to make proposals to the Board of Directors with regard to remuneration of the Chairman, the Managing Director and directors who cover specific roles; it also puts forward proposals to define the general remuneration criteria for senior management and managers.

The Committee is made up of four non-executive independent directors; upon invitation by the Committee Chairman, the Managing Director and the Chairman of the Board of Directors may participate in its meetings. It was appointed by the Board of Directors on 10 May 2017 and met three times in 2017.

## The Ethics Committee

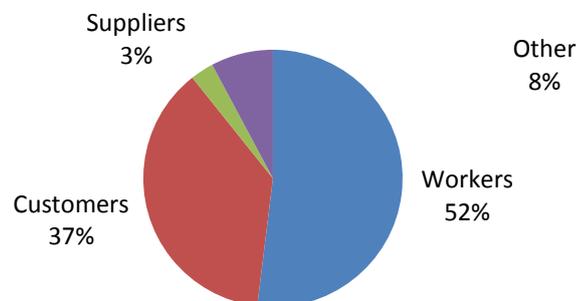
The Ethics Committee has the task of monitoring the **dissemination and implementation of the code of ethics**: it receives the reports on violations of the code and assesses whether to begin proceedings. Appointed by the Board of Directors of Hera Spa on 10 May 2017, the Ethics Committee is composed of an independent director of Hera Spa (Committee Chairman), the Corporate Social Responsibility Director and an external member.

The Committee met seven times in 2017.

On 21 February 2018, the Ethics Committee submitted to the Hera Spa Board of Directors the annual report set forth by article 72 of the code of ethics on the activities carried out and reporting received during 2017.

In 2017, the Ethics Committee met seven times and examined overall **23 reports**, one more than in 2016. Twelve reports were received from **employees**, 10 from **customers** and one from **suppliers**; the Ethics Committee has examined 205 reports since 2008.

## The reports by stakeholder 2008-2017



The 12 reports of the **employees** concerned the response times to the reports, the development and training of the employees and the relationship between the managers and the co-workers. In three cases, within the sphere of the reporting evaluation, the Ethics Committee met with/contacted the reporter, the Committee promoted solutions for 3 reports by involving the structure of reference and/or fostered cooperation and dialogue between the individuals involved; in 1 case the decision was made not to proceed with the implementation of the evaluation while in another case the employee disclosed that they no longer wished to proceed. In 4 cases, the Committee submitted recommendations to the departments involved with regard to the need to provide a reply to the internal customer, provide said reply within a suitable timescale and improve the procedures.

**Customer** reports, which fell from 14 in 2016 to 10 in 2017, regarded the suspension of the supply of water, estimated consumption and the billing errors, and the clarity of the commercial proposals via telephone. With regard to two reports, the Committee requested Hera Comm to meet so as to look in-depth at the formalities for handling the databases, for 1 report the Ethics Committee deemed it appropriate to involve the Legal and Corporate Affairs Division which confirmed the adequacy from a legal standpoint of the

current meter reading and supply suspension methods; for one report steps were not taken to carry out the evaluation. In 2 cases, detailed investigations with the divisions of reference led to solving the customers' requests, and in 6 cases, they led to providing a reply clarifying the company's position. In one case the Committee confirmed the need to proceed with the limitation of the water supply instead of suspension, in compliance with the current procedures.

In 2017, the **Corporate Social Responsibility and Code of Ethics in day-to-day management** seminar continued, now in its fourth edition, involving 24 individuals with the aim of explaining the importance of the ethical aspects in the day-to-day activities establishing an increasingly larger group of experts «informed» on the Code. The initiative focused on the discussion of the cases of "ethical dilemmas" developing considerations with the colleagues of the various Companies and Group units which cover roles of responsibility and co-ordination. Two days of training were organised and the satisfaction level of the sessions was appraised, reaching a very positive score: 4.5 out of 5.

## **Risk management**

Hera has adopted an organisational structure suited to adequately manage the exposure to risk inherent in its business. It has defined an integrated approach aimed at maintaining management effectiveness and profitability along the entire value chain.

The corporate governance system for risk management implemented in Hera allows management strategies to be addressed consistently. In this system:

- the **Board of Directors** steers and evaluates the adequacy of the internal control and risk management system;
- the **Executive Chairman and the Managing Director** monitor, within their competence, the operation of the internal control and risk management system;
- the **Vice Chairman** monitors the coordination between the **Risk Committee and the Control and Risks Committee**;
- the **Control and Risks Committee** supports the Board of Directors in defining the guidelines of the internal control and risk management system;
- the **Risk Committee** is the main body that steers, monitors and reports the risk management strategies adopted. It defines the general guidelines for the Risk Management process, guarantees the mapping and monitoring of corporate risks, assures the definition of the Risk Policies and defines the protocols for reporting to the Control and Risks Committee, the Internal Auditing Department and the Board of Statutory Auditors.

In Hera, there is an appropriate separation between the role of risk control and management (entrusted to the risk owners in the various organisational units) and of evaluation of the appropriateness of the risk management processes.

Specifically, the proper and effective operation of the **internal control and risk management system** is monitored at centralised level by the Internal Auditing Department, which reports directly to the Vice Chairman of the Board of Directors.

The two main corporate bodies in charge of supervising risks are described in greater detail below, according to their respective responsibilities.

### *Control and Risks Committee*

The **control and risks Committee's** duty, in application of Principle 7 of the Code of Conduct, is to monitor the functioning of the internal control system, the efficiency of corporate operations, the reliability of financial information, as well as compliance with the law and regulations and the protection of corporate assets. This Committee also has the task of supporting, with adequate investigations, the Board of Directors in its evaluations and decisions regarding the risk management system. The Chairman of the Board of statutory auditors or an auditor appointed by Chairman attends the committee's meetings as well as the

Managing Director and the Chairman of the Board of Directors, at the explicit request of the Chairman of the committee.

The Control and Risks Committee met 7 times in 2017.

#### *The Risk Committee*

The **Risk Committee** was appointed in April 2014 and is composed of the Executive Chairman, Vice Chairman and Managing Director of Hera Spa, the Administration, Finance and Control Director, the Market Central Director and the Enterprise Risk Manager. Furthermore, in relation to specific issues falling within their competence, the Legal and Corporate Central Director, the Corporate Services Central Director, the Innovation Central Director and the General Manager of Hera Trading may take part in the meetings.

The Risk Committee is the main body that steers, monitors and provides information about risk management strategies, and has the following tasks:

- defining general guidelines for the risk management process; ensuring corporate risk mapping and monitoring;
- ensuring the definition of risk policies and measurement parameters to be submitted for approval to the Board of Directors of Hera Spa;
- guaranteeing six-monthly reporting to the Board of Directors;
- defining and ensuring the submission of information protocols to the Control and Risks Committee, the Internal Auditing Division and the Board of Statutory Auditors.

The significant risks addressed within the Risk Committee refer to the following areas: strategic, energy, financial, credit, insurance, information and communication technology, safety and the environment, and business continuity.

In the meeting of 13 May 2015, the Board of Directors of Hera Spa approved the enterprise risk management process, and in the meeting of 15 February 2017 it approved Hera Group's guidelines "Group risk management policy" aimed at outlining the Group's risk management guidelines.

The Risk Committee met 4 times in 2017.

#### *The Group's risk management structure*

In the overall design of the risk management process, Hera has adopted a structured approach, which is consistent with industry best practice, through the introduction of enterprise risk management (ERM). The aim is to define a systematic approach that is consistent with risk control and management, by creating an effective model with steering, monitoring and representation functions, oriented towards the adequacy of the management processes and their compliance with top management's goals.

More specifically, the approach is intended to provide the Board of Directors with useful elements for assessing the nature and level of business risk, especially in the medium to long term, so as to enable the definition of a risk profile that is consistent with the group's strategic objectives. The definition of this profile is expressed through the approval of the group risk management policy and of the risk limits set out in the policy which are defined by the Board of Directors.

In greater detail, the policy defines the group's orientation towards risk issues and identifies the relevant risk management framework, comprising three fundamental elements:

- the **risk model**, which identifies the scope of reference for the risk management analysis carried out by the Group. It includes the definition of all risks, or rather the types of risk that the Group is potentially exposed to, which are periodically reviewed on the basis of any changes in the mission, strategic objectives and scope of the group's business, as well as the social and economic context;
- **the Group's risk appetite**, which defines the acceptable risk level in compliance with the risk management strategy. It is defined by identifying:

- key risk dimensions, i.e. the most relevant risk factors in respect of which the Group intends to express its risk appetite;
- risk metrics, necessary for measuring exposure arising from a specific risk factor;
- limits associated with each key risk dimension, which express the related maximum risk level tolerated by the Group in pursuing its goals;
- monitoring, escalation and updating processes, aimed at promptly identifying whether any defined risk limits have been exceeded, identifying and implementing corrective actions, correctly monitoring significant risk areas and aligning the limits to the group's risk appetite;
- **Risk Management** activities, divided into:
  - enterprise risk management, aimed at analysing the evolution of the Group's overall risk profile, the results of which are the tool used to support informed risk-taking and define the strategic goals;
  - ongoing risk management, which for specific risks requires continuous sector-based management procedures entrusted to special risk specialists/risk owners, based upon specifically developed processes and methods and formally defined within the risk policies of reference.

These activities guarantee an effective control of all the main risks to which the Group is potentially exposed, as well as the management of the Group's overall exposure in keeping with the views expressed in the Group's risk appetite and with the Business Plan objectives.

On 15 February 2017, the second Enterprise Risk Management report was submitted to the Board of Directors with the mapping of group risks, accompanied by appropriate evaluation measures for each risk and for the consolidated risk (impact, probability, severity, levels of control). The Board of Directors approved the 2017 Group Risk Management Policy and risk limits as of the same date. On 27 September 2017, the Board of Directors was presented with disclosure relating to the risk supervision activities within the Group. In detail, aspects pertaining to the following were looked at in-depth:

- the **lines of defence of the risks** and the **governance structure**.
- the **compliance as per Italian Law 262/2005** and the **compliance as per Italian Legislative Decree 231/2001** specifying the role of the Appointed Executive and the Supervisory Body in the respective disclosure to the Board of Directors;
- **the governance risk management**: specifying the role of the Risk Committee in particular in the communication of the information flows to the Board of Directors, the Board of Statutory Auditors, the Control and Risks Committee and the Internal Auditing unit and the governance system implemented by means of the adoption of the Enterprise Risk Management with the assignment of the role of strategic direction to the Board of Directors which is responsible with regard to the group risk profile and the approval of the Group risk management policy.

On 10 January 2018, the third Enterprise Risk Management report was submitted to the Board of Directors, with a further enlargement of the scope of reference, the risks subject to control and the risk types, as well as the maps of the Enterprise Risk Management structured by business sector; the limits for 2018 and the updating of the Group Risk Management Policy were approved as the same time.

Within the Enterprise Risk Management sphere, at the end of 2018 in-depth analysis was launched on the supply chain control system structured within the sphere of the certified management systems (including the SA8000:2014 standard, whose certification is held by four Group companies) with a view to the ERM assessment and identification of significant risk scenarios.

## The nature of risks and their management

The risks related to the business in which Hera operates and manages from an enterprise risk management perspective are related to the following risk areas, classified as internal, strategic and external, based upon the risk model adopted by the Hera Group.

### Internal risks

**Nature:** risks related to various types of risks - such as operational, organisational and ICT risks - are specifically related to the management of services which employ human, technological and environmental resources, and which can cause service interruptions, delays in the construction of new facilities or in the delivery of services, fraud, intrusions, accidents and disasters.

**Activity areas:** the risks belonging to this driver cut across the Group and regard a wide range of activities that are controlled and managed by specialist teams. The Group gives special focus to workplace safety, to compliance of plant and site operation with environmental legislation and to ICT risk control, especially risks that have an impact on the logical security of information, the security of information and communication networks, and the reliability of remote control, necessary to ensure adequate service levels to customers and operational safety to Hera's fluid and electricity distribution networks.

**Management levers:** approach structured on the basis of specific areas in which operational risks arise. In general, a significant role is played by prevention investments to reduce the frequency of adverse events and by mitigation actions to reduce their severity.

**Risks related to legislation on environmental impact:** the Group's activities are subject to several environmental statutes, laws and regulations, including those on CO<sub>2</sub> emissions, sewage, and hazardous and solid waste management. The Group is able to tackle environmental risks both through ongoing monitoring of potential pollution factors so as to ensure the transparency of measurements, and through major investments in purification and reclamation plants that guarantee better quality of water compared to the limits provided for by law. The waste collection system seeks to increase the percentage of waste treated at selection, recovery and composting plants, and reduce the use of landfills, in line with the provisions of national and European legislation. Environmental analysis of the sites has been improved to allow more effective data collection and determine the significance of environmental aspects in both normal and emergency conditions.

**Risks associated with regulations on health and safety of workers:** the risk related to accidents has seen a steady reduction in accident rates thanks to the initiatives aimed at better monitoring and improving the protection and prevention processes intended to continually reduce the frequency and the severity of accidents, as evidenced by the lower number of accidents, the frequency rate and the lower number of days of absence due to injury.

**Risks associated with logical and physical security:** the Group carries out constant monitoring of its IT security risk level, with targeted interventions to ensure the availability, integrity and confidentiality of information managed by the Group. In 2017, measures continued to be introduced to improve the level of security as regards the control of logical access, as well as measures aimed at ensuring the integrity and availability of Hera systems, with significant value in terms of risk reduction.

**Risks related to the interruption of services:** many risk factors may influence the regular supply of energy and water due to damages to the network, water shortage or possible contamination of water reserves, thus leading to interruption of the service or significant damages both of an environmental and economic or social nature. In order to tackle these risks, the Group makes important investments designed to guarantee the effectiveness and efficiency of the distribution system. It also carries out constant monitoring and maintenance of its networks in order to guarantee safety, quality and that services are supplied constantly even in the presence of temporary interruptions on one or several distribution lines. Furthermore, growing attention to the physical safety of plant sites reduces the likelihood of damage to

them. Within this sphere, as from 2018 the intention is to look in-depth at the resilience of the Group water supply and distribution system in terms of a medium/long-term perspective having taken into account the possible effects which the climate change process underway may produce also in the pertinent areas.

### **Strategic risks**

**Nature:** these risks pertain to the formulation of long-term planning, to the implications regarding the Group's financial sustainability, to the decisions to take part in activities of strategic importance and to appropriate investment decisions.

**Activity areas:** strategic risks involve the Hera Group in its entirety. They affect the soundness of the strategic planning results envisaged for the various sectors and business units. Achievement of these results is conditioned by various internal and external risks that are appropriately simulated, measured and checked.

**Management levers:** In 2015, Hera developed a structured model of strategic risk analysis designed to measure the soundness of its business plan. Many adverse risk scenarios were considered, contributing to an integrated view of risks with an enterprise-wide logic. The system allows the performance of scenario analysis, stress testing, and possible 'what if' events (macroeconomic scenario, competitive environment, internal levers and this also allowing the analysis of relevant internal and external risks), carried out by formulating deterministic and stochastic scenarios through an adequate analysis of risk factors and variables associated to them, and appropriate assessment of the riskiness of the different business sectors. This also allows the evaluation and preparation of alternative strategies aimed at mitigating the adverse effects identified.

### **External risks**

These risks are related to all external drivers that may affect the achievement of the Group's objectives. They are especially related to financial and commodity risks and to regulatory risks resulting in interventions on the tariffs and on the market structure established by the Authorities and by the law, including changes in tax regulations, government incentives on renewable sources, sector-related laws, and climate/catastrophic events.

Given their complex structure, each risk will be examined individually.

### **Competitive-regulatory risks**

**Nature:** risks related to regulatory interventions by sector authorities and the law (particularly on tariffs and market structure), to government incentives on renewable sources and sector-related laws, regulated businesses related to the concessions of local and national authorities, failure to obtain authorisations, permits and licences, as well as the impact expected from changes in the macroeconomic environment, the market structure and its liberalisation, the development in supply and demand in energy and environment sectors and possible impact on the group's business.

**Activity areas:** with regard to the macroeconomic and market scenario, risks mainly affect the Market Department, which is exposed due to its sale of electricity and gas to the competitive dynamics and to the development of demand, and Herambiente, which is exposed to the variability of the economic cycle. With regard to the regulatory component, competitive-regulatory risks affect network business (water, gas and electricity distribution) and market business (sale of electricity and gas). They occur during the introduction or the modification of economic, organisational and IT requirements which Hera must comply with, as well as during possible changes in the market structure caused by them.

### **Management levers**

**Liberalisation of the market:** over the years, free-market business has become increasingly important in Hera Group's portfolio, significantly contributing today to the Group's financial results. On the one hand, it has reduced the importance of regulated business in the Group's results, while on the other, it has exposed the Group to increasing competitive pressure due to the entry of new operators and to the development of organised markets. In Italy, especially for the electricity business, the Group competes with other national/international producers and traders that sell electricity on the Italian market to industrial, commercial and residential customers. Even as regards the methane business, the Group must tackle increasing competition both nationally and internationally which could lead to a drop in its sales margins. In order to mitigate this risk, the Group has addressed the challenge of liberalisation. On the one hand, it has innovated its commercial offer and improved the timeliness of its offers by increasing its presence and its customer base on the free market through cross-selling activities. On the other, it has gained an increasing proactive approach towards customer management and satisfied its expectations in terms of service quality, by completing the range of services offered to customers and strengthening loyalty. These activities have improved quality and post-sales management service costs for customers and at the same time have reduced new customer acquisition costs.

**Risk connected to the macro-economic context:** the Group operates mainly in Italy, where the economic scenario is still difficult featuring a slowdown in the consumption of energy and in the volumes of waste disposed of. The decline in energy demands leads to pressure on trading margins that, added to the greater competition on the free market, may impact the Group's profitability. Furthermore, changes in the levels of retail energy consumption could require Hera to acquire or sell additional energy at unfavourable conditions. To this end, in selling energy, the Group has maintained flexible supply sources of energy commodities. At the same time, it has developed hedging activities to minimise exposure to operational electricity generation risks (not included in the Group's core activities) and to long-term contractual gas supply formulas ("Take or Pay" clauses). Regarding waste disposal activities, some old plants were replaced with new generation plants provided with more efficient and top-performing technologies also in terms of environmental impact.

**Changes in the legislative and regulatory framework and revision of tariffs in the regulated waste, water and energy sectors:** the Group operates in regulated markets or regulated schemes in which there is a regulatory risk connected to the definition of the tariff criteria by the national Authority (Aeegsi). A change in the legislative and regulatory framework, both at national and European level, could have a significant impact on the Group's business thus influencing the profitability of the sectors in which Hera carries out its business directly or through its subsidiaries. Furthermore, the regulated tariff regime and the Authority's regulatory interventions could establish, across several businesses, the application of tariffs to final customers and of remuneration mechanisms on the invested capital. This could affect the Group's operating performance and results negatively. In order to address this risk, the Group has adopted an organisational structure that manages its relations with national and local Authorities. The structure carries out extensive consultation activities with institutional stakeholders, taking active part in the work groups set up by the Authorities and adopting a transparent, collaborative and proactive approach towards any situations of instability in the regulatory framework.

**Regulated business risks associated with the concessions of local and national authorities:** the regulated activities pertaining to waste collection, gas and electricity distribution, integrated water and public lighting services are the result of existing concessions with local authorities (in the case of the integrated water service, gas distribution, waste management and public lighting) or national authorities (in the case of electricity distribution). The Group is subject to the risk that the concessions may not be renewed when they expire or, should they be renewed, that conditions at least comparable to those currently available are not maintained. This risk, however, is mitigated by the presence of a mechanism for reimbursement to be paid to the outgoing operator equal to the industrial residual value of the concession.

**Risks connected to failure to obtain authorisations, permits and licences:** the Group's ability to achieve its strategic objectives could be adversely affected if it is not able to maintain or obtain the required licences, authorisations or permits for the regular performance of its business. This risk is mitigated by constantly

supervising the authorisation processes and taking part actively in working tables in order to achieve relevant permits, licences and authorisations.

### **Risks related to weather and climate variability**

**Nature:** risks related to the impact on the Group due to the variability in weather and climate conditions on the electricity and gas demand.

**Activity areas:** with regard to the meteorological component, risks mainly affect the Central Market Department, which is exposed due to its sale of electricity, gas and heat to the variability of demand arising from the various meteorological scenarios.

**Management levers:** the Group is provided with demand forecasting tools that optimise the use of available sources, and with adequate flexibility in the supply sources of energy commodities. It is also highlighted that within the context of the long-term trend of climate change, the Hera Group is committed to contributing to its mitigation by complying with energy efficiency goals set by the law, by continuing to constantly improve production and by encouraging virtuous and responsible consumption by customers to reduce CO<sub>2</sub> emissions and, specifically, to minimise environmental impact. In this regard, Hera has created a special Esco (Energy Service Company) which has among its objectives the development of initiatives for both business and domestic customers, aimed at promoting the use of efficient energy production with environmental benefits in terms of CO<sub>2</sub> reduction, and the use of efficient and energy-saving technologies designed to ensure optimal use of energy resources with significant advantages both for consumers and the environment. Lastly, the electricity requirements needed to operate the Group's production sites are met entirely by means of energy from renewable sources.

### **Financial risks related to the energy market**

**Nature:** risks relating to variations in the prices of energy, gas and other fuels.

**Activity areas:** the energy market risks are concentrated in the Central Market Direction where the buying and selling of electricity and gas determine risk positions arising from the volatility of energy commodity prices.

**Management levers:** processes have been set up allowing efficient management of procurement and hedging activities, with specific focus on skills. The approach adopted by the Group involves a single interface for managing risk with regard to the market: Hera Trading, which provides hedging of the Group's risk positions through specific portfolios dedicated to fuel and electricity, allowing for unified management of risks in compliance with the policies assigned. The approach has many advantages, such as the achievement of higher hedging levels, optimisation of costs since resorting less to the market through the use of netting positions, greater structuring flexibility with regard to procurement and supply to customers. Even in 2017, the process proved to have adequate strength in terms of risk assessment and control, ensuring compliance with the limits assigned.

### **Financial risks related to the debt market**

**Nature:** risks related to variations in interest rates, liquidity, credit spread and exchange rates.

**Activity areas:** the Group's financial management is centralised in the Administration, Finance and Control Department which meets the financing needs and cash management for the Group.

**Management levers:** structuring and implementation of processes for the control and optimal management of financial risks, which makes use of close monitoring of the Group's significant financial indicators and of ongoing presence on the reference markets. The best opportunities are seized in order to minimise the impact of interest rate volatility and ensure an efficient debt service through the optimisation

of its structure. The procedures for complying with the requirements under Italian Law 262/2005 to ensure that the accounting documents are drafted in a trustworthy manner, are adequately structured and implemented.

### **Financial risks related to counterparties**

**Nature:** risks relating to the counterparty's inability to fulfil the obligations undertaken, either in compliance with the economic conditions or in the execution of the contractual provisions (delivery of good/service).

**Activity areas:** the credit risk has an impact across the Group in the various areas where business is conducted: the sale of electricity, gas, heat, waste management recovery and disposal services, and telecommunications services

**Management levers:** a structured origination process has been set up in Hera, which is used for specific procedures of credit risk management and allows adequate selection of counterparties through credit check and/or request for guarantees where appropriate. Positions with customers and counterparties are also monitored constantly and structured actions are planned which provide proactive management; where appropriate, the Group resorts to external transfer of risk through the optimised use of credit assignment.

#### *The prevention of and the fight against corruption within the Hera Group*

##### *The handling and prevention of fraud*

During 2017, a process was launched for the self-assessment of the maturity of the internal control system with regard to contrasting fraud. The reconnaissance was carried out taking as reference the Hera Divisions which handle the main elements of the Group's control system significant for the matter of anti-fraud. The main improvement action identified was that of organising a **fraud prevention and handling guideline** for the purpose of facilitating the further development and co-ordination of the internal control system supporting the prevention and handling of fraud.

The Hera Group, via the divulgation of the guideline, set itself the objective of assigning **roles** and **responsibilities** within the sphere of the **prevention, detection** and **investigation** of potential frauds and furthering conduct within the organisation consistent and in line with the principles expressed.

The procedure also envisages how the **whistleblowing** activities for suspected fraud must take place; this must occur via e-mail or hardcopy mail sent to the **Ethics Committee** or to Hera's **Legal and Corporate Affairs Division**. All the divisions involved must ensure the confidentiality of the information received and handle it in a strictly confidential manner protecting the identity of the whistle-blower, without prejudice to the legal obligations.

The Guideline has been applied since 15 February 2018 and envisage the establishment of a cross-divisional work group made up of the Administration, Finance and Control Division, the Legal and Corporate Affairs Division, the HR and Organisation Division, the Enterprise Risk Manager and the Internal Audit Division whose main tasks include:

- defining an approach for identifying and assessing the risk which is appropriate and efficient for each company Division;
- providing method-based technical support for the company Divisions for the purpose of ensuring a standardised approach and treatment.

The responsibility for defining and enacting suitable **fraud prevention and detection mechanisms** primarily lies within each competent company Division.

##### *The activities of the Risk Committee with regard to contrasting fraud*

The Risk Committee, in addition to the direction, monitoring and disclosure activities relating to the risk management strategies, play a fundamental role supporting the Board of Directors in the activities aimed

to preventing and handling any fraud by means of an **anti-fraud programme** which includes the following principal activities:

- ensuring that the fraud risk has been **identified** and **considered**, as part of the more extensive risk management process at company level, by the competent Divisions and oversee these fraud risk assessment activities established by the competent Divisions;
- monitor the **control procedures** established by the competent company Divisions;
- gain awareness of any **fraud situations** occurring within the Group, and the related investigations and corrective action;
- periodically assess the current and expected level of maturity of the Group's internal control System within the sphere of **preventing** and **handling fraud**, and further the related improvement action;
- periodically review the new anti-fraud prevention guideline, as well as the other procedures designed to **mitigate** the risk of fraud.

*The organisational model for prevention of crimes which the Company is responsible for*

Italian Legislative Decree No. 231/2001 introduced a regime of administrative liability into the Italian legal structure. These measures are applied to entities which commit crimes in their own interest or to their own advantage. These crimes may be committed by natural persons acting as representatives, directors or managers on behalf of the entities, or by natural persons acting under the supervision of such persons or subjected to supervision on their part.

The Board of Directors of Hera Spa and the main subsidiaries of the Group have adopted an organisation, management and control model (231 Model) to ensure conditions of correctness and transparency in conducting business and company activities. The model includes the principles of conduct formalised in the Code of Ethics.

The companies provided with a "231 Model" are: Hera Spa, Acantho, Amga Calore & Impianti, Amga Energia & Servizi, Asa, Fea, Feronia, Hera Comm, Hera Luce, Hera Servizi Energia, Hera Trading, HERAtech, Herambiente, Herambiente Servizi Industriali, Hestambiente, Inrete Distribuzione Energia, Medea, Uniflotte and Waste Recycling. Furthermore, AcegasApsAmga, AcegasApsService, Aliplast, Sinergie (now AcegasApsAmga Servizi Energetici Spa) and Marche Multiservizi are provided with their own "Model 231". All these 24 companies (62% of the total of the companies) include 97.6% of Group employees.

Following **the mapping of sensitive company activities, at risk of the offences** included in Italian Legislative Decree 231/2001, the Group companies defined specific protocols to be followed in carrying out certain activities, and made the consequent information flows available on a periodic basis. These protocols are circulated to the entire workforce through the corporate intranet. Their application is monitored during the audit phase. During 2017, the following protocols were up-dated: Formalities regarding conduct and handling of the activities for the purpose of health and safety in the workplace, Sales activities with reference to Hera Comm, Handling of the accounts for the tender and supply agreements, Separate financial statements of Hera SpA and Consolidated financial statements of the Group and, in conclusion, handling of the Purchase of services supporting the sale of waste treatment on a free market basis.

The Internal Auditing Department ensures assistance to the various company units in drawing up and implementing necessary corrective action following the audits and, for the purpose of raising the awareness of and training the beneficiaries of the 231 Model it held specific courses for the sales units and the units tasked with the purchasing activities which, besides the specific focus relating to the activities performed, concerned aspects of general importance such as the 231 Model of the Hera Group, the Group Protocols, the Internal Control System and the corporate governance set-up.

*Risk analysis for definition of the internal audit plan*

The internal auditing Department's activities focused on the sectors with the highest risk levels in the Risk Assessment, a document that identifies and weighs - through assessment of the Group's business areas and of the infrastructure processes - any risk factors and critical points, including the risks of fraud, providing

details on the level of risk determined for each segment. On the basis of the Audit Plan for the 2016-2018 period previously approved by the Board of Directors of Hera SpA, the consequent internal audit plan was brought to a close over the course of the year.

Within the Risk Assessment activities, the **areas exposed to the risk of bribery** are identified in the relations held by the Group with Authorities and with supervision and control bodies governed by public law, for example: when taking part in public tender procedures, when requesting licences, measures and administrative authorisations, when submitting reporting documents and when entering into and performing contracts with the Public Administration. These areas, together with other fields such as contracts, donations and sponsorships, entertainment expenses and the management of credit positions, are constantly monitored. In addition, the areas exposed to the risk of bribery among private individuals are also identified, such as the management of active contracts (preparation, participation in tenders, negotiation, etc.), commodity trading, relations with third parties, the selection, recruitment and administrative management of personnel, and the procurement of goods, works and services.

With reference to the specific risks related to the topics included within the scope of Italian Legislative Decree no. 231/2001, identified in the 231 Risk Assessment for the 2016-2018 period, the Supervisory Body in turn carried out the activities set out in the Audit Plan, drawn up on the basis of the risk assessments, coverage of new processes, regulatory developments and the extension of the scope of activities of the companies.

## **Managing sustainability**

In order to ensure that **social responsibility and sustainability are an integral part of corporate planning and management**, in May 2005, the Board of Directors of Hera Spa set up a Corporate Social Responsibility organisation unit, reporting to the Managing Director, which has been a division since 2010. The Csr Division is in charge of defining and proposing corporate guidelines concerning corporate social responsibility; overseeing the balanced scorecard system; reporting on sustainability; proposing and managing social responsibility projects; delivering new local stakeholder engagement projects on sustainability. The Csr Division also ensures the periodic updating of the Group's Code of Ethics.

The Corporate Social Responsibility (CSR) unit is present in **AcegasApsAmga**; it reports to the Executive Director and ties in with the General Manager, and is responsible for co-ordinating, supplementing and applying - in the geographic and corporate context managed - the company guidelines relating to corporate social responsibility, as well as the policies regarding reporting and accountability on sustainability and ensuring the drafting of specific reports and KPIs regarding sustainability and CSR, ensuring information for top management on the trend of the pertinent aspects.

### *The Code of Ethics*

The Code of Ethics is the document that contains and clearly explains **the commitments and ethical responsibilities** to be implemented by the managers, the workforce and collaborators **of all Group companies** for the achievement of corporate objectives. Hera's Code of Ethics provides guidance for Group management according to the principles of **responsibility, a fair and correct approach to professional activities, quality and economic efficiency** with respect to relations inside and outside the Group. Starting from 2006, **supplier qualification is subject to acceptance of the Code of Ethics**: furthermore, the supply contracts drawn up by the Group include termination clauses linked to the failure of suppliers to comply with the principles of the code of ethics.

In 2016, the **third updating of the Code of Ethics** was carried out (after the previous updates in 2010 and 2013) by using a participatory process that involved the workforce and trade unions with a view to defining criteria of conduct that were shared as much as possible within the Group. The fourth edition of the Code of Ethics was approved by Hera Spa's Board of Directors on 15 February 2017.

The **Corporate Social Responsibility and Code of Ethics in day-to-day management** seminars also continued in 2017, involving 24 individuals with the aim of explaining the importance of the ethical aspects in the day-to-day activities.

*The SA8000 Quality, Safety, Environmental and Social Responsibility management system*

With regard to the Hera Group, 2017 was characterised by the changeover of the certification to the new versions of the quality, environment and social responsibility standards.

The Hera Group in fact confirmed the effectiveness of its integrated management system, launching the development in accordance with the principles introduced in the 2015 revisions of the ISO 9001 and ISO 14001 standards. The latter besides consolidating the overview by processes and the PDCA (Plan, Do, Check, Act) approach, pay particular attention to the context and the identification and assessment of risks and opportunities which influence the achievement of the objectives of the organisation (Risk Based Thinking).

Among the leading results attained during 2017:

- the achievement of the conversions of the certificates of Hera Spa, Inrete Distribuzione Energia, Heratech, AcegasApsAmga Hera Comm and Uniflotte in compliance with the new ISO 9001:2015 and ISO 14001:2015 standards;
- the maintenance of the integrated quality, safety and environmental management system certifications of Hera Spa and of almost all Group companies, including: Inrete Distribuzione Energia, AcegasApsAmga, Herambiente, Herambiente Servizi Industriali, Acantho, Hera Comm, Hera Luce, Hera Servizi Energia and Uniflotte;
- the achievement and maintenance of the certification of the integrated quality, safety and environmental management system of HERAtech, a Group company which represents - as from 1 January 2017 further to the conferral of the corresponding business segment of Hera Spa - the hub for the provision of transversal technical services to the entire Hera Group (work on account for customers for all the network services, design and construction of plants and networks, Remote-control, technical call centres and analysis laboratories);
- the maintenance of the ISO 14001 certification and EMAS registration for the Imola Casalegno cogeneration plant;
- the achievement by AcegasApsAmga of the Social Responsibility certification. The SA8000 management system was implemented in the 1st half of 2017 with the publication of the SA8000 Policy, the establishment of the Social Performance Team (SPT) made up of both AcegasApsAmga and Sinergie (now AcegasApsAmga Servizi Energetici Spa), representatives, and the drafting of a number of fundamental procedures. The certification process was concluded in November with the audit carried out by DNV;
- the maintenance of the SA8000 social certification, attestation of ethical and social conformity of the processes managed and provided by Hera Spa and Hera Luce at the same time as the conversion of the certificates according to the new SA 8000:2014 standard;
- the renewal of the ISO 50001 certification for the energy management system of Hera Spa, Hera Servizi Energia and Hera Luce and maintenance of the certification of Inrete Distribuzione Energia and AcegasApsAmga;
- the maintenance of the certification according to UNI CEI 11352 standard, designed for companies providing energy services (Esco), for Hera SpA and renewal of said certification for Hera Luce and Hera Servizi Energia.

With a view to the changeover of the quality and environmental certification to the new versions of the standard, greater involvement of Senior Management and the Central Divisions was necessary, bearing witness to the commitment and the action put in place within a Risk Based Thinking logic.

The same review model is being redefined, with the aim of achieving a Group document. In this phase, AcegasApsAmga introduced a new method of carrying out the review of the Division, structured by certification layout during the monthly business review meetings.

*Hera's commitment to quality, safety, environment and social responsibility*

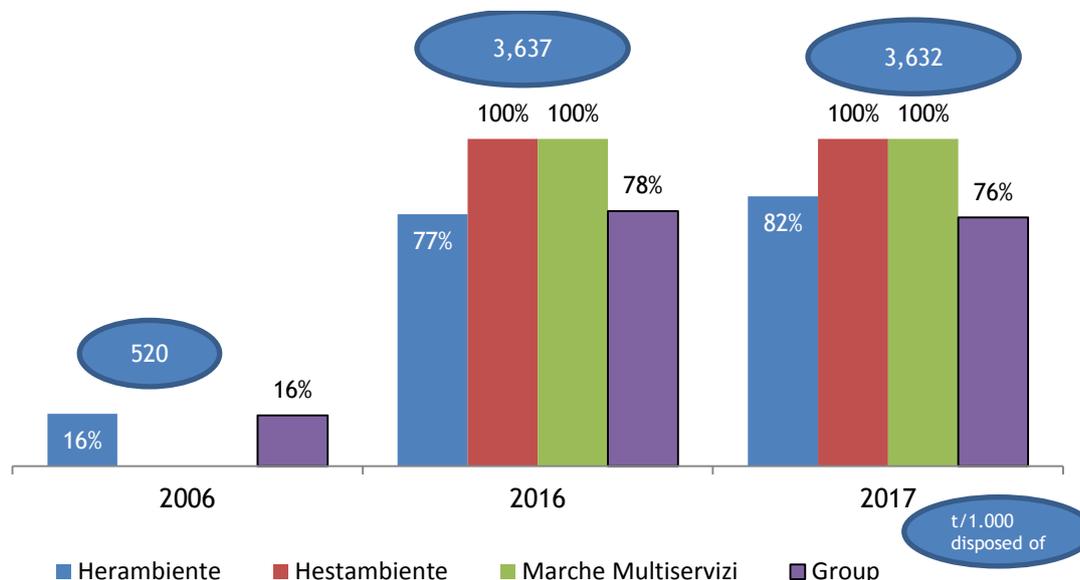
Quality management systems establish the requirements that are necessary in an organisation to improve corporate processes in order to increase the satisfaction of final customers, who receive the end benefits of Hera's services. The high diffusion of the Group's certified management systems is shown in the following table.

Certification	Hera		AcegasApsAmga		Marche Multiservizi		Group	
	No. of companies	% of employees	No. of companies	% of employees	No. of companies	% of employees	No. of companies	% of employees
ISO 9001	17	98%	3	94%	2	100%	21	97%
ISO 14001	14	87%	2	87%	1	91%	17	89%
OHSAS 18001	13	82%	2	93%	1	91%	16	86%
ISO 50001	5	64%	2	87%	1	91%	8	71%
SA 8000	2	46%	2	87%	0	0%	4	52%

Almost 100% of the total waste disposed of in Group plants was disposed of in ISO 140001 certified disposal plants.

In 2017, 76% of the total waste disposed of in Group plants was disposed of in EMAS (40) certified disposal plants.

**Waste disposed in plants with EMAS registration (percentage of the total waste disposed of in Group plants and the total waste disposed of in thousands of metric tonnes)**



Plants with preliminary activities underway at Ispra and the Ecolabel and Ecoaudit Committee were also considered

Herambiente achieved its plant-related scope that it had set itself with the EMAS project: all of the Group's main and strategic plants have been registered. The new objectives therefore maintain the number of

EMAS registrations and implement any registrations for new plants that will be developed and for the major plants that will become a part of Herambiente as a result of corporate acquisitions.

## **Economic value for the stakeholders**

### **The production and allocation of value added**

Value added, in this Sustainability Report, is understood as the difference between revenues and production costs not constituting corporate stakeholder remuneration and the purchase costs for goods and services useful for the production process. It is therefore the difference between the revenues and costs incurred for the purchase of the production factors from other businesses and thus represents the value that the production factors within the company, own capital and labour have added to the inputs acquired from outside. Value added is distinct from the value added strictly applying to accounting practices. Here, the methodology applied is that proposed in 2001 by the Gruppo di studio per il Bilancio Sociale (GBS). With respect to the GBS methodology, rentals for use of assets owned by shareholder municipalities and sponsorship costs are considered, as they are deemed significant for stakeholders. In addition, in contrast to the proposal of the GBS, the portion of value allocated to financial institutions was calculated considering the balance of financial income and charges, as deemed a better quantification of the relationships with this type of stakeholder, as opposed to the sole figure of financial charges. With this framework, the gross overall value added distributed is almost equal to the gross value added produced by normal operations.

There are two important reasons for using the indicator of value added. Firstly, it enables quantification of the wealth generated by the company, and accounts for how this wealth was generated and how it is allocated to stakeholders; it is therefore useful for comprehending the economic impacts the company produces. Secondly, through this report it connects the Sustainability Report with the Financial Statements. In this sense, production and allocation of value added provides an instrument by means of which we can reconsider the corporate Financial Statements from the vantage point of stakeholders.

Further to the Arera 268/2015/R/eel Resolution in relation to which the Authority adopted the Network code for transporting electricity, revenues and likewise costs were recorded in the income statement for a total of Euro 657.9 million for the assignment of the general system charges from the equity accounts to the income statements of the sales companies. For the purposes of greater comparability between the 2016 and 2017 figures, the 2016 financial statement balances have been adjusted for comparison with 2017. This adjustment did not have any effect on the results and as of 31 December 2016 led to greater revenues for Euro 697.9 million and an equivalent increase in costs. This adjustment affects the prospect of production of the added value but does not change the total gross global added value.

Again for the purpose of greater comparability between accounting periods, 2016 was adjusted for the reclassification under the item Other operating revenues of the former green certificate feed in premium contributions stated under the revenues: this reclassification amounts to Euro 26.8 million. These contributions have therefore been included in the statement of distribution of the added value decreasing the portion which can be distributed to the public administration authorities.

## Production of value added

in millions of Euro	2015	2016 adjusted	2017
Revenues	4,487.0	5,131.3	5,612.1
Other operating and non-operating revenues	330.8	430.2	524.8
Grants received from public institutions	-13.6	-35.1	-38.8
Use of raw materials and consumables (net of changes to raw materials inventories and stocks)	-2,256.6	-2,176.8	-2,606.8
Service costs restated	-1,032.3	-1,799.6	-1,861.4
Bad debt provisions	-72.0	-85.1	-103.4
Accruals to provisions for contingencies and other provisions	-33.0	-28.5	-50.6
Other operating costs restated	-38.0	-50.7	-52.9
Capitalised costs	28.5	27.8	43.0
<b>Gross value added</b>	<b>1,400.8</b>	<b>1,413.5</b>	<b>1,466.0</b>
Portion of profit (loss) pertaining to associated companies and joint ventures	12.0	13.8	14.7
<b>Gross overall value added</b>	<b>1,412.8</b>	<b>1,427.3</b>	<b>1,480.7</b>

Service costs and Other operating costs are shown net of costs considered as stakeholder remuneration.

Gross overall value added generated for stakeholders in 2017 came to Euro 1,480.7 million, an increase of Euro 53.4 million on the previous year (+3.7%).

## Distribution of value added to stakeholders

in millions of Euro	2015		2016 adjusted		2017	
Workforce	510.8	36.2%	524.1	36.7%	551.6	37.3%
Shareholders	147.9	10.5%	147.1	10.3%	156.9	10.6%
Company	383.5	27.1%	419.3	29.4%	479.6	32.4%
Financial institutions/Banks	146.0	10.3%	131.2	9.2%	116.2	7.8%
Public Administration	222.0	15.7%	202.8	14.2%	173.9	11.7%
Local community	2.6	0.2%	2.8	0.2%	2.5	0.2%
<b>Gross overall value added</b>	<b>1,412.8</b>	<b>100.0%</b>	<b>1,427.3</b>	<b>100%</b>	<b>1,480.7</b>	<b>100%</b>

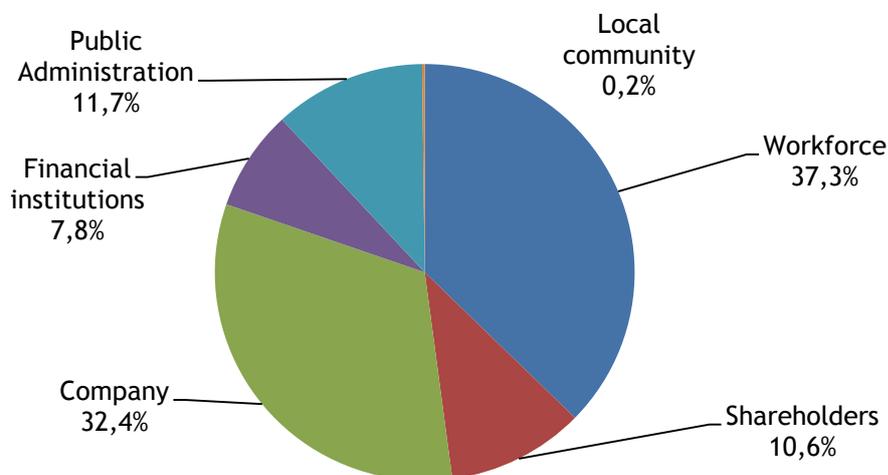
The portion of value added intended for the Group's **workforce** increased Euro 27.5 million (+5.2%) compared to 2016. This increase is mainly linked to the remuneration increases envisaged by the National collective labour agreement and the inclusion of resources of the companies deriving from the companies acquired in particular in the environmental sphere, Aliplast Group and business segment of Teseco Srl.

The portion allocated to the **shareholders** of Hera Spa and the minority shareholders of the subsidiaries rose by Euro 9.8 million (+6.7%) and equates to 10.6% of the total. Of this portion, Euro 141.5 million was allocated as dividends distributed to Hera Spa shareholders (up almost 6% with respect to 2016), and Euro 15.4 million was allocated as the portion of earnings pertaining to the minority shareholders of the subsidiaries of Hera Spa (up Euro 2.3 million compared to 2016, or +17.6%).

A portion totalling 32.4% of the value added generated in 2017 was **re-invested in the company**. This portion increased with respect to 2016 (+14.4%) and includes the net profit for the year not allocated to shareholders (Euro 109.9 million, up Euro 36.6 million compared to 2016) and amortisation/depreciation of investments made (Euro 369.7 million, up Euro 23.7 million compared to 2016).

The portion of value added allocated to **financial institutions** in 2017 came to Euro 116.2 million (7.8% of the total, -11.4% compared to 2016). This share comprises Euro 221.2 million in financial charges, and Euro 105.0 million in financial income.

### Distribution of value added to stakeholders (2017)



The portion distributed to **Public Administration** amounted to Euro 173.9 million, 11.7% of the total (-14.3% compared to 2016 mainly due to the reduction of the income taxes by Euro 26.7 million less).

**Duties and taxes** amounted to Euro 110.9 million (7.4% of the total value added distributed) and decreased 19.2% with respect to 2016.

Of the taxes and duties, Euro 76.1 million was allocated to the Government (Euro 97.6 million in 2016), Euro 28.0 million to the Regional authorities and Euro 6.8 million to the Provincial and Municipal authorities. Business taxation fell from Euro 119.3 million in 2016 to Euro 92.6 million in 2017.

The plants and installations used by the company are in part owned by shareholding municipalities, and **rental payments** are made for their use. Environmental compensations are also paid to the municipalities regarding the waste treatment plants. In 2017, total payments for use of the assets of shareholder municipalities and environmental compensations came to Euro 97.3 million, down Euro 0.9 million compared to the previous year.

There was also Euro 4.5 million relating to the running costs of the national (Aeegi and Agcm) and local authorities.

Grants received in 2017 amounted to Euro 38.8 million, Euro 0.9 million of which allocated as operating grants and Euro 37.9 million as plant grants; this item, as already indicated, includes the former green certificates feed in premium contributions for a total of Euro 26.8 million. This amount was subtracted from the portion allocated to the Public Administration.

Lastly, Euro 2.5 million was allocated to **donations** (Euro 0.4 million) and **sponsorships** (Euro 2.1 million); details on these items can be found in the “Environment and future generations” section.

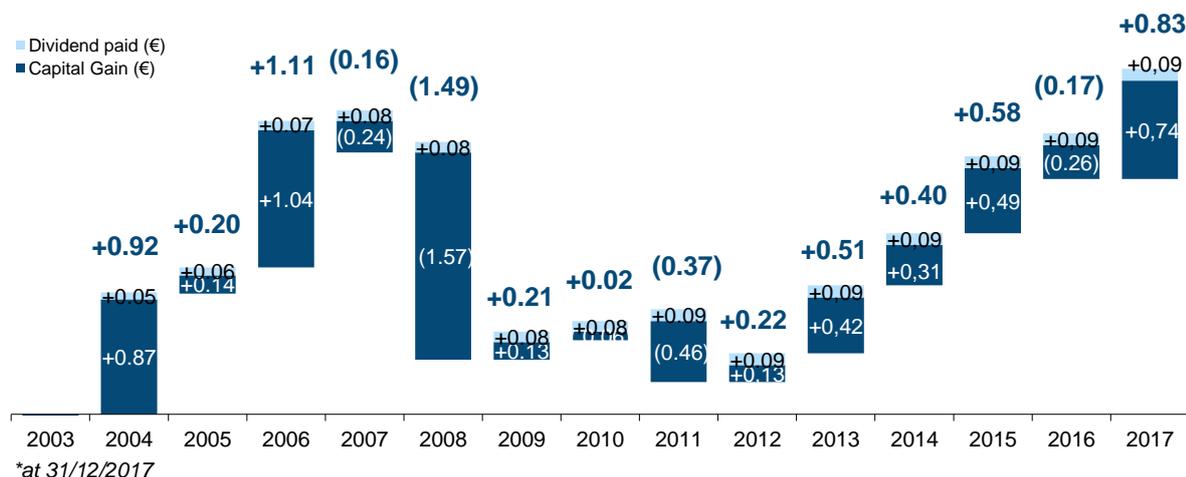
## Shareholders and Financial Institutions

### Hera’s commitment toward the investors

The Hera Group undertakes to create value by placing the **quality** and **efficiency** of the services managed and the growth by lines, both internal and external, at the centre of its strategic approach; at the same

time, it pursues a balanced development of the **strategic areas** of its business portfolio. The stability of these strategic policies over time, the handling of a low propensity to risk and the sustainable approach have contributed towards producing **economic-financial results constantly on the up**, also under adverse market conditions. The overall share investment return (total shareholder return), with respect to the IPO, came to +225.0% at the end of 2017: a value which has always remained positive, during a period characterised by considerable volatility on the financial markets.

### Total shareholder return from the IPO



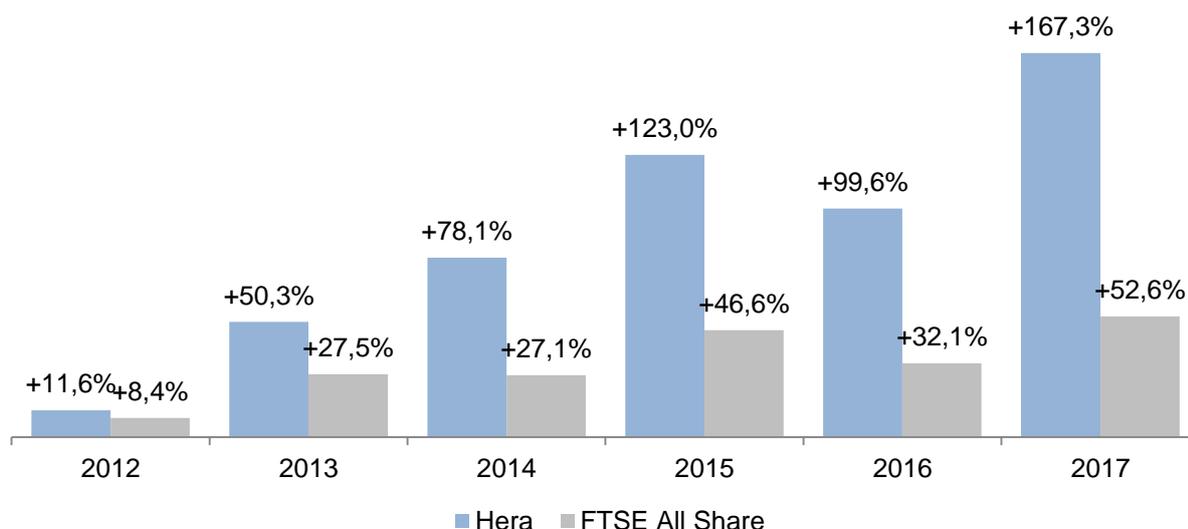
The **Hera stock** ended 2017 with a performance of +33.9%, higher than the Italian stock market (+15.5%), reaching an **official price** of Euro 2.929, compared with a price of Euro 2.187 at the end of 2016, and with a capitalisation of around Euro 4.4 billion which stands amongst the 44 highest capitalisations of the Italian share list. The performance of the price of the stock was supported by the appreciation of the investors for the business plan presented to the financial community in January and by the sound fundamentals of the company emerging during the year at the time of the publication of the quarterly and annual results.

### Official share price and average traded quantities in 2017

	QI	QII	QIII	QIV
Official price at close of period (Euro)	2.60	2.69	2.67	2.93
Average volume traded (thous.)	2,362	2,758	1,569	2,341
Average volume traded (in thousands of Euro)	5,543	7,724	4,264	6,754

The Hera official listed price at the end of 2017 disclosed an implicit valuation premium with respect to the local utilities sector. The **multiple of the business value** on the gross operating margin (EV/Ebitda) was in fact equal to 7.2 compared with a 6.8 peer average, and also the **multiple of the share value** on the net profit (P/E), equal to 17.8, exceeded the 14.0 average. The greater valuation which the market acknowledged Hera with respect to the main listed local utility companies reflects: the persistent outperformance of the final results with respect to expectations, the future growth prospects of the business results, the low risk implicit in the mix of the strategic business areas, the stability of top management over time, the diversified composition of the shareholding structure and the time series of the results undergoing continual growth.

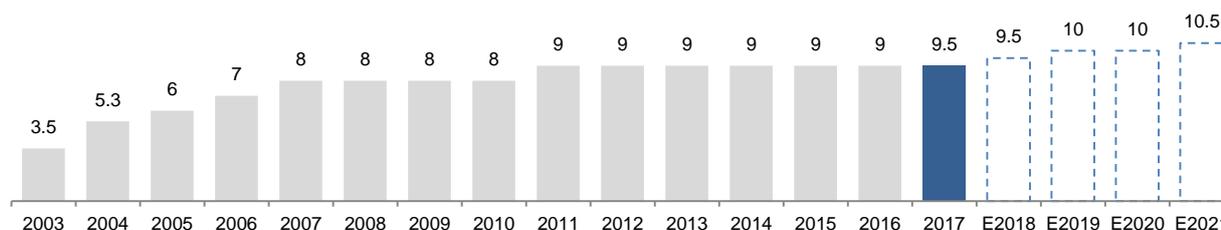
## Performance of the Hera stock with respect to the market (accumulated performance)



The **dividend policy** has been identified as the most important component of the remuneration of the invested capital. Hera has ensured a **constant and rising flow** of dividends since listing: it has distributed Euro 1.4 billion in total since its establishment in 2002. The stock has thus been included in the Etf Spdr S&P Euro Dividend Aristocrats during 2016, a basket of 40 European securities (only four are Italian, including Hera) which distinguished themselves due to the uninterrupted distribution of stable or rising dividends in the last 10 years. At the end of 2017, Hera was at the top of the ranking of the basket, as main investment of the Etf.

## Dividend distributed (Euro cents per share)

The constant income flow guaranteed the shareholders the return of the capital.



In the **five-year business plan**, presented in the first few days of 2018, Hera increased the remuneration objectives for the shareholders envisaging a minimum dividend rising up to 10.5 cents per share at 2021, up +17% compared with the last dividend distributed. This policy permits the shareholders clear visibility on the minimum future return of their investment with respect to the remuneration used by other companies in the sector, which conditions the dividends dependent on the forecast performance of the net profits (pay-out ratio).

The consensus of the financial analysts deems the Hera dividend policy to be sustainable: it is consistent with the expected cash generation which, after the payment of the dividends, will be capable of improving the **equity solidity** and **financial stability** further, already today among the best in the sector with a ratio between net financial payables and Gross Operating Margin of around 2.6 times.

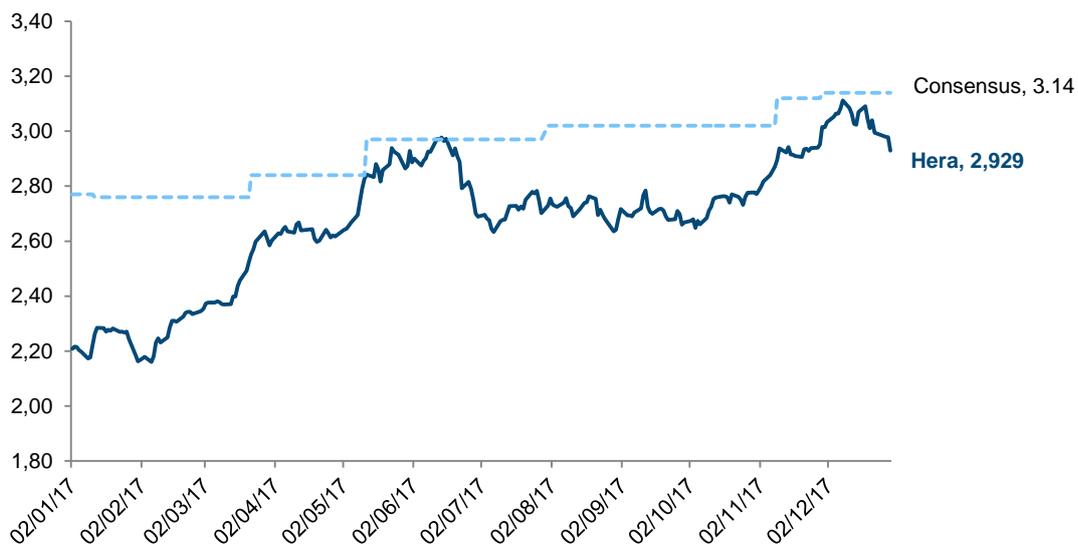
## Complete transparency with the shareholders and the financial market on the creation of value

Hera provides the market with significant economic-financial information promptly facilitating the correct assessment of the same so as to facilitate the transfer of the value generated by operations to the listed shares.

In order to ensure the shareholders **transparent disclosure**, all the press releases which may influence the price of the stock are disclosed in real time. The communication is tailored and forwarded via various channels to all the categories of investors (institutional, SRI, private and retail, public institutions) and ensures accessibility to the main information both of an economic-financial and social and environmental nature.

Hera continues to make the greatest commitment so as to ensure a plurality of professional and independent appraisals on the company's value. In this connection, the launch of new coverage is envisaged during 2018 which should offset the decrease of the analysts who followed the stock in 2017 due to reorganisations within the officers of the brokers. At year end, a net predominance of brokers (five out of seven) had a favourable opinion on Hera stock, while sales recommendations were absent. Supported by the economic results presented quarterly by the Group, the analysts expressed upwards assessments during the year, with the **average target price** which rose from Euro 2.77 to Euro 3.14 at the end of the period.

### Hera share performance and average consensus compared



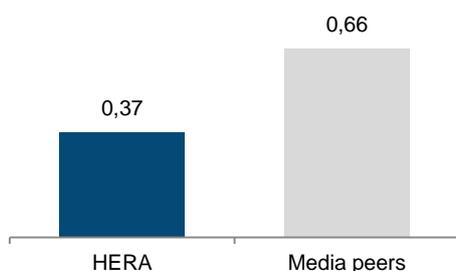
### Appraisal and target price of the analysts which follow Hera stock

Company	2017	
Banca Akros	Buy	3.00
Banca IMI	Buy	3.30
Equita Sim	Hold	3.12
Intermonte	Outperform	3.30
Kepler Cheuvreux	Buy	3.30
MainFirst	Neutral	2.85
Mediobanca	Outperform	3.10
<b>Average target price</b>		<b>3.14</b>

### The commitment to reduce the investment risk

Hera pays great attention to the **monitoring of the risk components** associated with the trend of the stock on the stock market, such as the volatility of the listed prices and the liquidity of the market trading.

### Hera and peer 3-year Beta

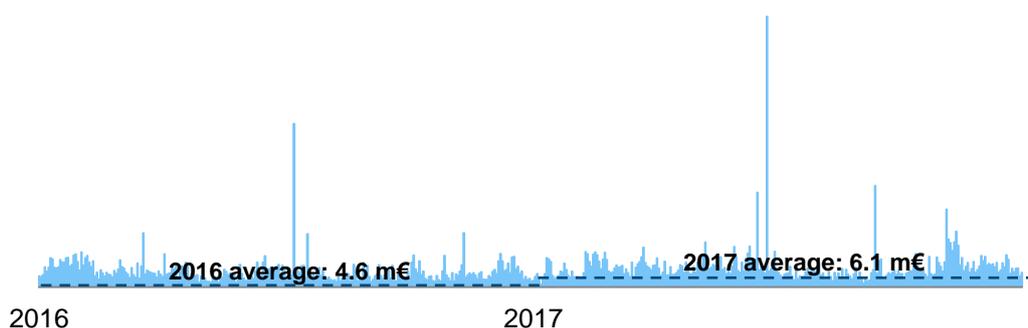


Source: Thomson Reuters. The peers considered in the analysis are Acea, A2A and Iren.

Once again in 2017, the stock disclosed a **volatility index of the listed prices** (Beta index) more conservative than the average of the shares in the sector. This characteristic is consistent with the strong resilience of the economic results, the low risk profile and the soundness of the governance.

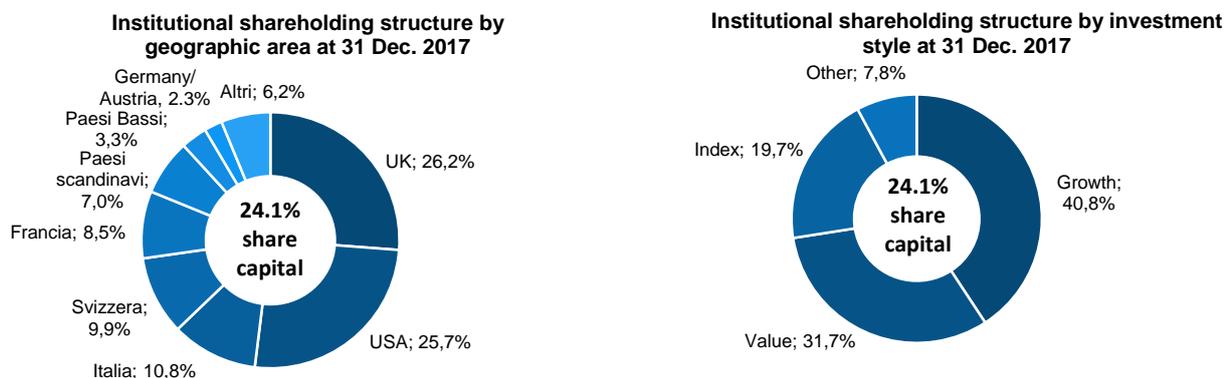
The **daily average volumes** in 2017 came to 2.3 million shares traded (+16.9% compared with 2016), while the average equivalent value of the daily trading came to Euro 6.1 million (+30.9% compared with 2016). The average volumes traded were better with respect to that reported by the peers who by contrast disclosed a more limited increase of +12.6%. The greater liquidity of the daily trading with respect to the peers made it possible to draw the values of the sales orders closer to those of the purchase orders, revealing a lower spread (0.28%) with respect to the average of the other securities in the sector (0.34%). A more consistent comparison with the securities not included in the FITSE MIB index (such as for example Acea and Iren) discloses an even more favourable condition (0.28% with respect to 0.39%).

## Value of the trading in 2017 and 2016 compared (in millions of Euro)



The **liquidity of the stock market trading** is also the result of intense dialogue with the financial market operators, with around 369 contacts and meetings in 2017, and the launch of new relations with professional investors which have an investment style consistent with the share profile of the Group.

The **diversification of the institutional investors** between the shareholders of the company is also an important factor for facilitating an on-going evolution of the shareholding structure and a balance of the listed prices of the stock over time. As the following diagrams show, Hera presents a balanced geographic and investment style diversification of the professional investors, benefiting the resilience and low volatility of the stock.



In the diagram on the right, the item Other contains: equity hedges, hedge funds, momentum specialty, yields.  
Source: Thomson Reuters

An increase of the “Index” securities from 11.1% in 2016 to 19.7% in 2017 is evident; these adopt a so-called “passive” investment strategy which aims to replicate the performance of an underlying element or select the securities on the basis of pre-established parameters. These securities also include the aforementioned “ETF Dividend Aristocrats”, which invests only in securities which over the last 10 years have paid constant or growing dividends.

The Hera stock is included in the FTSE Mid Cap, FTSE All Share and FTSE Italia Servizi Pubblici of Borsa Italiana **share indexes**. During 2017, the stock was constantly included - in the four quarterly reviews - within the reserve list for inclusion in the FTSE Mib index, the basket which contains the leading forty companies in the country in terms of free float and liquidity of the trading.

The **ethical indexes** include securities of excellent companies from the standpoint of business sustainability in order to facilitate the investment choices of socially responsible funds (Sri). The organisation of these indexes considers that the companies with sustainable management, from an environmental standpoint, as well as with regard to the dealings with the stakeholders and the corporate governance, obtain significantly higher results than their competitors over the long-term.

The Hera Group belongs to six **ethical indexes**: FTSE Environmental Opportunities All Share Index, FTSE EO Waste and Pollution Control Technology Index, FTSE EO Water Technology Index, FTSE EO Water Technology 30 Index, Thomson Reuters Diversity and Inclusion Index and TR top 100 global energy leader.

#### **Ethical indexes in which the Hera stock is present**



#### **Corporate Governance and safeguards for shareholders**

The Hera Group has always adopted a Corporate Governance system based on the **traditional model**, which envisages a Board of Directors made up of executive and independent directors, for ensuring - in line with the company mission - the protection of the shareholders, the return on invested capital for shareholders and satisfying the stakeholder interests.

Hera's activities are handled by management in compliance with the **Code of Ethics** adopted by the Group, whose last review was approved by the Board of Directors on 15 February 2017, and aligned with the Code of Conduct promoted by Borsa Italiana Spa.

Hera's management body has always been heedful of aspects of good governance and protection of the interests of the shareholder: any change to its structure which meets these objectives is promptly adopted without delay.

With this intention, on 28 April 2015 the **loyalty vote** was established, an instrument which makes it possible to assign up to two votes for each share held by the same shareholder for a period of at least 24 months. Shareholders who demonstrate - with the stability of their investment - a greater sensitivity to the long-term growth of the Group and to the active participation in the appointment of the shareholders' representatives, are thus rewarded. In order to fully safeguard the interests of the minorities, the increased/loyalty vote was applied in a reduced version with respect to that envisaged by legislation: in fact, it has exclusive efficacy for the appointment and/or removal of the Board of Directors and the Board of Statutory Auditors, for the changing of the limit to share possession, and for the amendment of the same article which established the increased or loyalty vote.

During the same meeting which established the loyalty vote, the shareholders also approved the increase from three to four of the number of board directors appointed from the lists presented by the minorities: this innovation proposes to attract greater participation of private capital in the choice of the Group's strategies. Furthermore, to encourage greater participation of the minority shareholders, the percentage of share capital required to present a list for the election of the Board of Statutory Auditors has been reduced from 3% to 1%, as already envisaged for the election of the Board of Directors.

Confirming the appreciation for these latter provisions, during the **shareholders' meeting held on 27 April 2017**, called to renew the corporate offices, two lists were presented for the first time by the minority shareholders and the participation of the shareholders was the highest in the last five years, exceeding the threshold of three quarters of the share capital. The meeting elected the new Board of Directors and the

new Board of Statutory Auditors, confirming the Executive Chairman and the Managing Director as leading the Group.

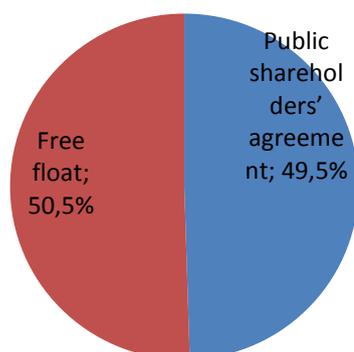
### The composition of the shareholding structure

Hera's past features a peculiar aspect: the Group is considered to be one of the main interpreters of the sector consolidation process with a merger model which has involved more than 20 utility companies, including the establishment in 2002, and which has ensured more than 40% of the growth of the results in the last 14 years. The merger transactions have been financed mainly by the issue of new shares and have almost doubled the overall number of shares representing the share capital: from 789 million in 2002 they became 1,490 million at the end of 2017. These transactions led to the dilution of the equity investments of the shareholders, and corresponding average growth in earnings per share of 9.0%. The creation of value took place thanks also to the extraction of synergies and the increased economies of scale. The Group's capitalisation at the end of 2017 reached nearly Euro 4.4 billion (compared with Euro 1 billion in 2003).

The expansion of the shareholding structure maintained a constant **balance between the public and private component**, and extended the diversification of the shareholders both in terms of number and geographic origin.

Furthermore, the shareholders' meeting authorised the exercise of a plan for the repurchase of own shares for a maximum of 60 million shares (equal to 4% of the share capital) for the purpose of creating value for the shareholders and for use in the event of M&A transactions.

### Shareholding structure as at 31 December 2017



### The Green Bond

In July 2014, the Hera Group launched a green bond, with the aim of financing the sustainability investments, so as to contribute via its activities to an improved environmental quality.

The bond issue, availing of the euro medium term notes programme, for a total of 500 million repayable in 10 years, was illustrated to the investors and analysts via a roadshow which was staged in the main European financial marketplaces. The instrument is destined to finance or refinance projects linked to sustainability in four main spheres: the fight against climate change, reduction in emissions, quality in water treatment and the waste cycle.

The instrument envisages a coupon of 2.375% and a return on 2.436%. The orders received were mainly taken from investors resident outside Italy (75%) with France, Germany and the UK which reported the greatest percentages, and a predominance of asset managers. 69% of demand came from investors who have Environment, Social and Governance (ESG) among their investment criteria, so-called "sustainable" investors.

The Hera Group thus unveils, in Italy as well, a form of financing already used in Europe by other leading utilities, which places funding at the service of the environment, with resources which will then be specifically allocated to investments linked to improving the environmental performance in the area.

The list of the projects eligible for funding has been established by Hera on the basis of precise environmental criteria and subsequently confirmed by DNV GL to ensure the correct allocation of the funds. With regard to each sphere of the project, a set of indicators have been identified which reflect the environmental benefits associated with the individual initiatives. These indicators are shown within the various sections of the chapter “Smart use of energy” in this Sustainability Report.

#### Use of the funds received via the Green Bond (in millions of Euro)

%	Total funds raised	Number of projects
Increase in energy generation from non-fossil sources	57.1	10
Increase in energy efficiency	219.1	7
Increase in the use of waste-to-energy plants for the treatment of waste	173.2	4
Improvement of the water treatment plants	31.9	4
Increase in separate waste collection and reduction in the use of landfills	18.8	1
<b>Total</b>	<b>500.0</b>	<b>26</b>

Downstream from the fund raising, 26 projects were financed/refinanced, belonging to the categories indicated in the table presented above. The overall projects financed reached Euro 500 million, covering the entire amount of the bond.

#### *The Green bonds in Italy and Europe*

Green bonds are those which associate environmental-type investments and activities with the funds raised in a clear manner. The first financial instrument of this type was issued by the World Bank in 2008. Interest for green bonds has grown over time and 2017 was a record year in terms of number of issuers. The last report of the Climate Bonds Initiative envisages that the issues of green bonds will reach US\$ 155.5 billion in 2017.

In Italy, the Hera Group was the first to launch this new financial instrument (for an equivalent value of 500 million) and opened the way up for other operators in the utility sector or otherwise. The bond was very successful, with applications for an equivalent value of around three times the amount of the bond.

## Dialogue with our stakeholders

### Hera's stakeholders

For an industrial group with the characteristics of Hera, it is essential to take into account the needs and demands of all stakeholders which often may not be in agreement.

A management approach that encourages corporate social responsibility and sustainability entails taking into account all legitimate demands of the various categories of stakeholders, balancing these demands and integrating them into the company strategies.

From a survey of corporate stakeholders, a map of corporate stakeholders was defined and the following were identified for each category identified:

- composition and presence of objectives of particular interest;
- topics considered to be a priority;
- listening, dialogue and consultation activities carried out during the year.

### Dialogue and consultation initiatives

Hera's significant commitment to involving stakeholders is by now part of the operational structure of the departments that deal with the relations with various stakeholders.

The continuation of the six **Local Advisory Boards (HeraLABs)** and the start in 2017, following the end of their mandate, of two new HeraLABs in Ravenna and Ferrara according to a new relationship model, **the internal climate survey with its related improvement actions** and **the customer satisfaction surveys** on all types of customers are actions and projects that have led to a solid, preferential communication channel with the local community and main stakeholders, and have become normal analysis methods that allow us to identify areas for improvement. The results of these activities are assessed by Top Management.

The social responsibility management system in compliance with standard Sa 8000 was developed in 2012. During 2017, it provided further structured methods for setting up dialogue and involving workers, as set out in the new Sa 8000:2014 standard.

Activities to raise awareness and provide training on the Code of Ethics continued in 2017, also in relation to the approval of the fourth edition of the Code.

In the sections of the report, the approach used and the results of the main dialogue and consultation initiatives carried out in 2017 are set forth by stakeholder category.

Stakeholders	Main categories	Key issues	Key listening, dialogue and consultation initiatives
Workforce	<ul style="list-style-type: none"> <li>- Employees</li> <li>- Non-employee workforce</li> <li>- Trade unions</li> </ul>	Stability, internal climate, training, career advancement, bonuses, remuneration, life/work balance, equal opportunities, safety, internal communication	<ul style="list-style-type: none"> <li>- Biennial internal climate survey: <b>the 7<sup>th</sup> biennial internal climate survey was carried out involving all Group companies with 78% redemption</b></li> <li>- <b>6,720 employees involved</b> in the <b>18 yearly meetings</b> that the Chairman and Managing Director held between May and June in Hera Group's local areas to illustrate the business plan and development prospects</li> <li>- <b>Code of Ethics training:</b> in 2017, training on the Code of Ethics in day-to-day management continued, now in its fourth edition, involving 24 individuals</li> <li>- <b>Sa8000:</b> around 220 employees involved in SA8000 interviews and all reports received were taken into consideration. Social Performance Team: joint participation body involving workers' representatives and the company: 2 meetings in Hera Spa in 2017</li> <li>- <b>Herasolidale:</b> December 2017 marked the end of the</li> </ul>

Stakeholders	Main categories	Key issues	Key listening, dialogue and consultation initiatives
			<p>2nd edition during which the workforce chose 11 voluntary associations out of 44 proposals, and later, 575 employees decided to devolve a portion of their salary to one of the winning non-profit organisations.</p> <p>- <b>Heureka</b>: 79 ideas submitted by 58 workers in 2017 for the project dedicated to Group employees' ideas for innovation</p>
Customers	<ul style="list-style-type: none"> <li>- Residential customers</li> <li>- Citizens residing in the areas served <ul style="list-style-type: none"> <li>- Business customers</li> </ul> </li> <li>- Consumer groups and trade associations</li> </ul>	Service quality, tariffs, transparency, safety, service reliability, communication and information	<p>Yearly <b>residential customer satisfaction survey</b>: 6,200 interviews to Group customers</p> <ul style="list-style-type: none"> <li>- <b>Joint mediation procedures of Hera and AcegasApsAmga</b>: 69 requests for mediation received from Hera and 13 from AcegasApsAmga in 2017</li> <li>- 797 cases <b>managed through the direct contact channel</b> with consumers' associations</li> <li>- <b>Seven meetings in 2017 with the concerned associations</b>, in the seven areas in which Hera operates.</li> </ul>
Shareholders	<ul style="list-style-type: none"> <li>- Public shareholders</li> <li>- Institutional investors</li> <li>- Private investors <ul style="list-style-type: none"> <li>- Financial community</li> </ul> </li> <li>- Ethical funds</li> </ul>	Dividends, share performance, investor relations, corporate governance aligned with best practices	<ul style="list-style-type: none"> <li>- <b>Investor relations activities</b>: meetings with 369 investors</li> <li>- <b>Yearly publication</b> of the calendar of corporate events</li> <li>- <b>Interactive tools for analysing stock and business results</b> through benchmarking with main peers available to analysts and investors on the website</li> <li>- High <b>participation of shareholders</b> (77% of share capital) in the meeting held on 27 April 2017</li> </ul>
Financial institutions	<ul style="list-style-type: none"> <li>- Banks</li> <li>- Bond market</li> </ul>	Continuity of relations, long-term solidity of equity	
Suppliers	<ul style="list-style-type: none"> <li>- Suppliers of goods, services and work</li> <li>- Qualified suppliers <ul style="list-style-type: none"> <li>- Local suppliers</li> </ul> </li> </ul>	Continuity of relations, qualification, bargaining conditions, payment conditions	<ul style="list-style-type: none"> <li>- Meetings continued with representatives of social <b>cooperatives</b> working in Emilia-Romagna for monitoring the employment of 807 persons facing hardship</li> </ul>
Public Administration	<ul style="list-style-type: none"> <li>- Local authorities of reference: Municipalities, provinces, regions, their associations and local bodies</li> <li>- Regulatory and control bodies</li> <li>- Universities and research institutes</li> <li>- State agencies</li> </ul>	Transparent communication, concern over local issues, compliance with the law, correct management practices, innovation, partnerships	<ul style="list-style-type: none"> <li>- The area managers <b>organised 2,019 meetings</b> with mayors and <b>received 2,705 requests from the Municipalities</b> of the local areas served</li> </ul>

Stakeholders	Main categories	Key issues	Key listening, dialogue and consultation initiatives
Local community	<ul style="list-style-type: none"> <li>- Local associations</li> <li>- Trade associations</li> <li>- Media</li> <li>- Residents in the vicinity of production plants</li> <li>- Citizens' committees</li> </ul>	Strengthening of dialogue with the local community, support for initiatives, local investment, transparent communication, socially responsible corporate management	<ul style="list-style-type: none"> <li>- <b>14 meetings held in 2017</b> in the 6 active Labs: <b>66 representatives from the various stakeholder categories</b> took part in them</li> <li>- 250 participants in the convention held in Bologna on 6 June 2017 to <b>present the 2016 Sustainability Report</b></li> <li>- 241 guided tours in 2017 of <b>Herambiente plants</b> with over 3,948 visitors, 2,439 of which were students</li> </ul>
Environment and future generations	<ul style="list-style-type: none"> <li>- Environmental associations</li> <li>- Trade associations</li> <li>- Technicians and experts from other companies</li> <li>- Technicians and persons competent in environmental issues elected by the inspectorates</li> </ul>	Production of energy from renewable sources, energy and water saving, district heating, water withdrawal, greenhouse gas emissions, atmospheric emissions, separate waste collection, waste management and disposal	<ul style="list-style-type: none"> <li>- <b>Hera and AcegasApsAmga</b> promoted a wide range of initiatives to promote energy and water savings, the use of water from the network and separate waste collection</li> </ul>

### Customer satisfaction survey

Since 2005, the quality of our services has been assessed by annual customer satisfaction surveys aimed at defining improvement measures. Since 2014, as well as Hera's residential customers, the survey has included the customers of AcegasApsAmga (Padua and Trieste), Hera Comm Marche (Pesaro and Urbino) and Amga (Udine).

### Assessment of overall satisfaction of residential customers

CSI (from 0 to 100)	2015	2016	2017
Service satisfaction index (Services CSI)	75	75	75
Overall satisfaction index (CSI)	70	70	70
Global satisfaction	73	73	73
Satisfaction with respect to expectations	68	69	69
Satisfaction with respect to the ideal	67	68	68

All satisfaction indices were stable in 2017: a rating of **70 for the overall satisfaction index** was confirmed, indicating a high satisfaction threshold. The satisfaction rating for the services provided remained stable at 75 points: again an excellent result.

All services exceed the threshold of 70 points, which indicates a high level of satisfaction.

The contact channels show an excellent level of customer satisfaction and above all are consistently high: the ratings of branch offices, call centres and online services are above 76 points, which means that customers will always find competent operators and appropriate procedures, regardless of the contact channel. The "app" channel started to be monitored in 2017, reaching a satisfaction rating of 81. Customer loyalty is growing and has reached an excellent rating of 80.

### *The methodology used for the customer satisfaction survey*

The Customer Satisfaction survey is based on an internationally recognised methodology designed to assess the quality of services offered and customers' overall satisfaction with Hera. The number of telephone interviews rose by 5%, settling at around 6,200 calls aimed at understanding what customers think about the company. The survey was conducted by Computer Aided Telephone Interviews (CATI) with a survey population chosen so as to ensure that the sample is representative of the customers of all of the Group's services. Monitoring was carried out by interviewing the main contact for Hera within the household. The questionnaire, which lasts around 15 minutes, monitors overall satisfaction components and measures future behaviour (word-of-mouth, loyalty etc.) towards the company. The assessments of the results are expressed in numerical scales, divided into levels of satisfaction: under 50 points indicates insufficiency; up to 60, "minimal" satisfaction; between 60 and 70, a good level of satisfaction, and above 70, a high level of satisfaction.

From the second half of 2017, the call centres, branches, Online Services and app are monitored through daily interviews conducted the day after the contact has been made in order to gain insight into the customer's satisfaction while the experience is still fresh. Over 6,000 interviews/month are carried out using IVR (by telephone with pre-recorded questions) and CAWI (by email) methods. In addition, around 6,500 monthly interviews are conducted with an operator.

In 2018, **immediate daily interviews** will be carried out; since the call will be made straight after contact, the experience and opinion gathered from the customer will be more accurate. The portal used today for this activity will be further developed and functions will be added to better structure the satisfaction survey and to examine in further detail any reason for customer dissatisfaction.

The survey was also carried out for business customers in order to monitor customer satisfaction levels both for the free market and protected market. In the case of companies, the contact for the services provided by Hera is interviewed. The data of the survey carried at the end of 2016 are reported since those regarding 2017 were being processed on the date of approval of this report.

### **Assessment of business customer satisfaction**

<b>CSI (from 0 to 100)</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Service satisfaction index (Services CSI)	73	74	73
Overall satisfaction index (CSI)	67	68	68
Global satisfaction	70	71	71
Satisfaction with respect to expectations	65	67	68
Satisfaction with respect to the ideal	65	66	65

Year 2016 confirmed the good results of the overall satisfaction index, which stood at 68. Satisfaction improved by one point with respect to expectations.

The average ratings are particularly high for Top customers and confirm values for the free market above those of the standard tariff market.

Immediate satisfaction survey activities were started in 2017 also for business customers, with around 1,000 interviews/month using IVR (by telephone with pre-recorded questions) and CAWI (by email) methods.

### *Other customer dialogue initiatives*

Our **web portal for consumer groups** has been on line since 2011: the section of the Group's corporate website is entirely for representatives of the main associations in the areas Hera serves, who are key contacts for the company in its relations with final customers. For associations, this web channel is an important interface with Hera. They can use it to handle reports and procedures, prevent disputes and minimise the time needed to respond and solve problems. In 2017, 12,169 visitors accessed the web, for a

total of 30,301 page views: these figures show a strong growth in traffic, more than double compared to the previous year.

In addition to the portal, the contacts and operators of the associations can use dedicated email addresses, and phone and fax numbers that, together with the web section, make up a real communication channel reserved to consumer groups. In 2017, 797 cases were managed through this channel (785 in 2016), 94.23% of which were solved successfully, with an average resolution time of 1.7 days (even this figure marks a significant improvement compared to 2016). Furthermore, in order to build positive relationships and create an increasingly open dialogue, Hera organised meetings with consumer group representatives and contact persons, again in 2017. A total of 7 meetings were held on topics in which the associations showed particular interest or in relation to which they requested clarifications and further details: the progress of the Leak Fund, the customer protection system defined by the Authority, the Acquologo, the Rifiutologo, the My Hera app, Digi e lode, the four theme-specific sustainability reports, the measures taken by Hera for the more vulnerable segments of customers, TARI and, lastly, special focus on the quantity-based tariff regarding the Ferrara area only.

#### *The internal climate survey and other dialogue initiatives*

The Climate Survey was carried out between August and October 2017 and involved all Group employees (for the first time, the colleagues of Waste Recycling were also involved). As usual, the survey could be compiled online (made even more accessible thanks to specific PC stations spread across the area) or using paper forms.

The targets that the Group set out to achieve were an overall workforce satisfaction index of 64 (ESI) and participation index of 68 (redemption). The overall results showed achievement and overachievement of the targets: regarding the Group's ESI, the total figure was **64** while redemption reached **78% (+ 14%** compared to the previous survey). Instead, with regard to the specific ratings of the various companies, different results were achieved:

- **AcegasApsAmga:** ESI equal to 62 (up compared with the previous survey), redemption 85%;
- **Hera:** ESI equal to 64 (up compared with the previous survey), redemption 76%;
- **Marche Multiservizi:** ESI equal to 70 (up compared with the previous survey), redemption 80%;

Today, 15 years after the creation of Hera and 10 years after the first internal climate survey, the excellent journey we have undertaken is quite clear: the main climate indicators have increased by 7-16 points compared to the first survey.

Analysis of the behavioural clusters also shows how the general attitude towards the Group has changed since 2005: assessment of the most critical clusters - unhappy and angry customers - strongly increased in all areas that make up the climate. An increase was also recorded in the perception of customers by staff: the gap dropped by 6 points compared to the past.

Among the initiatives most appreciated by the workers, of note are the meetings with the Chairman and Managing Director, the Passaparola (Word of Mouth) and the top-down meetings with managers, training and the Hextra corporate welfare plan.

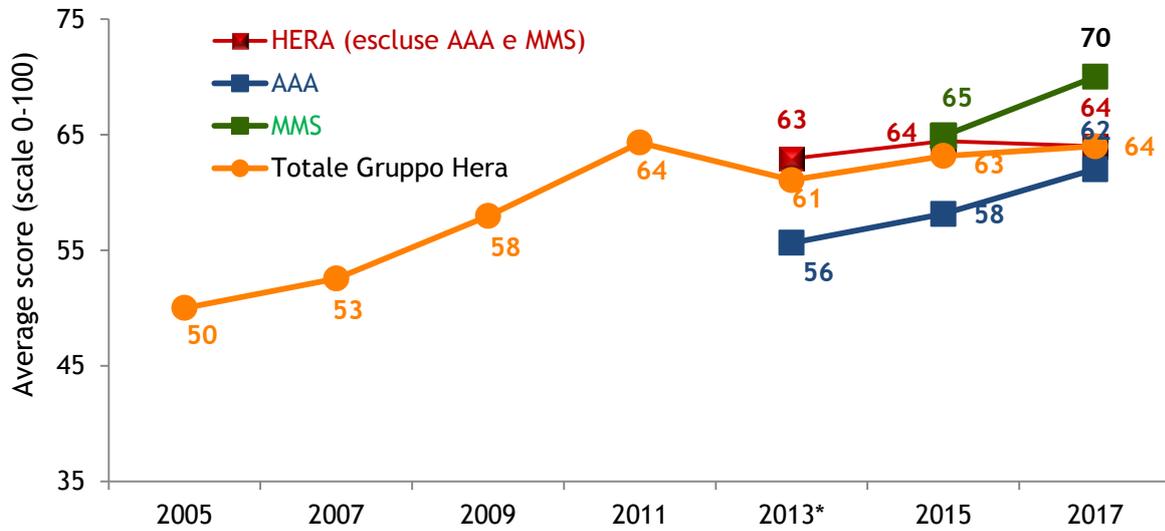
All the actions related to the improvement action plan defined as a result of the 2015 survey were achieved. In the two year period 2018-19, a new improvement plan will be defined by all Group structures.

#### *The methodology used for the employee satisfaction survey*

The internal climate survey is conducted with a guarantee of full anonymity for the respondents: the questionnaire is available inside the portal where the employee's pay slip is saved. A paper questionnaire is delivered to whoever does not have an IT workstation. PCs have been made available in all areas to make it possible to fill in the questionnaire. The survey has been designed to verify the extent to which the improvements made following the previous survey are appreciated by the personnel. The assessments of the results are expressed in numerical scales, with thresholds corresponding to the various levels of

satisfaction: under 50 points indicates insufficiency, up to 59 indicates less than complete satisfaction, between 60 and 70 indicates a good level of satisfaction and above 70 indicates “very satisfied”.

**Overall satisfaction index**



\* based on Hera, AcegasAps and Amga data from 2013-2014

As usual, the improvement actions which will be reported during the next two-year period in order to improve the internal climate index were reported. The main findings that emerged from the 2017 survey and the new improvement actions will be disclosed to all workers during the meetings with the Chairman and Managing Director. Furthermore, top-down meetings will be organised in every organisational unit in order to share important corporate information and specific to the area concerned in order to ensure full understanding and dissemination.

Role in Hera																	
Summary of results...	... the new internal climate actions																
<table border="1"> <caption>Role in Hera - Summary of results</caption> <thead> <tr> <th>Category</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Role definition</td> <td>71</td> </tr> <tr> <td>Contents</td> <td>71</td> </tr> <tr> <td>Individual change</td> <td>60</td> </tr> <tr> <td>Listening initiatives</td> <td>67</td> </tr> <tr> <td>Training</td> <td>77</td> </tr> <tr> <td>Workloads</td> <td>60</td> </tr> <tr> <td>Remuneration</td> <td>59</td> </tr> </tbody> </table>	Category	Score	Role definition	71	Contents	71	Individual change	60	Listening initiatives	67	Training	77	Workloads	60	Remuneration	59	<ul style="list-style-type: none"> <li>Continue to spread (through articles and videos) information about its welfare, benefit and remuneration policies (including information about production bonus reconversion, or benchmarking with other companies)</li> </ul>
Category	Score																
Role definition	71																
Contents	71																
Individual change	60																
Listening initiatives	67																
Training	77																
Workloads	60																
Remuneration	59																

Workplace																			
Summary of results...	... the new internal climate actions																		
<table border="1"> <caption>Workplace Survey Results</caption> <thead> <tr> <th>Category</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Organisation</td> <td>59</td> </tr> <tr> <td>Organisational Unit</td> <td>71</td> </tr> <tr> <td>Equipment/tools</td> <td>70</td> </tr> <tr> <td>Information Systems</td> <td>61</td> </tr> <tr> <td>Area of work</td> <td>63</td> </tr> <tr> <td>Communication</td> <td>64</td> </tr> <tr> <td>House Organ</td> <td>69</td> </tr> <tr> <td>Hextra</td> <td>74</td> </tr> </tbody> </table>	Category	Score	Organisation	59	Organisational Unit	71	Equipment/tools	70	Information Systems	61	Area of work	63	Communication	64	House Organ	69	Hextra	74	<ul style="list-style-type: none"> <li>Enhancing the results obtained over time following organisational changes by way of informative articles, direct meetings with managers and co-workers, and instant surveys</li> <li>Sharing key information within Divisions/BUs starting, for example, from disclosing the results of the Climate Survey to everyone</li> <li>Defining actions and procedures to promote the circulation of information between managers and co-workers (e.g. Passaparola (Word of Mouth), bulletin boards...)</li> </ul>
Category	Score																		
Organisation	59																		
Organisational Unit	71																		
Equipment/tools	70																		
Information Systems	61																		
Area of work	63																		
Communication	64																		
House Organ	69																		
Hextra	74																		
Immediate superiors																			
Summary of results...	... the new internal climate actions																		
<table border="1"> <caption>Immediate superiors Survey Results</caption> <thead> <tr> <th>Category</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Leadership</td> <td>68</td> </tr> <tr> <td>Style</td> <td>67</td> </tr> <tr> <td>Development</td> <td>66</td> </tr> <tr> <td>Trust</td> <td>70</td> </tr> <tr> <td>Immediate superior</td> <td>65</td> </tr> </tbody> </table>	Category	Score	Leadership	68	Style	67	Development	66	Trust	70	Immediate superior	65	<ul style="list-style-type: none"> <li>To develop an activity plan related to the new Leadership Model</li> <li>As part of the Development Process, further develop the ability of Managers - also through performance dialogue - to assign activities and objectives, plan timing and provide feedback</li> </ul>						
Category	Score																		
Leadership	68																		
Style	67																		
Development	66																		
Trust	70																		
Immediate superior	65																		
Corporate culture																			
Summary of results...	... the new internal climate actions																		
<table border="1"> <caption>Corporate culture Survey Results</caption> <thead> <tr> <th>Category</th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>Values</td> <td>62</td> </tr> <tr> <td>Change</td> <td>64</td> </tr> <tr> <td>Integration</td> <td>70</td> </tr> <tr> <td>Corporate Role</td> <td>67</td> </tr> </tbody> </table>	Category	Score	Values	62	Change	64	Integration	70	Corporate Role	67	<ul style="list-style-type: none"> <li>Promote smart working</li> <li>Increase knowledge of the Code of Ethics and Sustainability Report, through training and information activities and by organising meetings and seminars.</li> </ul>								
Category	Score																		
Values	62																		
Change	64																		
Integration	70																		
Corporate Role	67																		

In the two year period 2016-2017, centrally-managed improvement actions were implemented which had already been defined after the 2015 Climate Survey.

**Progress to 31 December 2017 of the improvement actions launched as a result of the 2015 internal climate survey**

<b>Role in Hera</b>	
<b>Improvement actions</b>	<b>The situation as at 31 December 2017</b>
<ul style="list-style-type: none"> <li>Disseminating information about the Group's remuneration policy (e.g. merit-based policy, welfare) through informative articles, updating of the company intranet and, on request, organisation of meetings.</li> <li>Enhancing the results obtained over time following organisational changes by way of informative articles</li> </ul>	<p>Several information initiatives were organised for employees:</p> <ul style="list-style-type: none"> <li>House Organ February 2016 no. 111: description of the new Group Welfare System and remuneration policies</li> <li>House Organ July 2016 no. 116: Hextra information regarding the request for additional education amount</li> <li>Within the Passaparola ("Word of mouth") project, Welfare was included among the topics addressed during the 2016 II semester.</li> </ul>
<b>Workplace</b>	
<b>Improvement actions</b>	<b>The situation as at 31 December 2017</b>
<ul style="list-style-type: none"> <li>Increasing awareness on satisfaction and quality levels perceived by customers outside the Group</li> <li>Strengthening knowledge about the Group's corporate social responsibility projects</li> <li>Updating the code of ethics with the involvement of workers and promoting initiatives for health of employees</li> </ul>	<p>Several information initiatives were organised for employees:</p> <ul style="list-style-type: none"> <li>During the 18 meetings organised as part of "Facciamo il punto" (Let's take stock), a video was shown where Mr. Baroncini explained the creation of INRETE</li> <li>House Organ February 2016: InRete, Hera Servizi Energia, Geo Nova and Waste Recycling</li> <li>House Organ February 2016: InRete</li> <li>Topics such as the organisational changes that affected the Group in 2016 (Inrete/Hera Tech) were included in the Passaparola ("Word of mouth") project (this project ended in October 2017 in some areas)</li> <li>The new Code of Ethics was updated which involved 40 managers</li> </ul>
<b>Immediate superiors</b>	
<b>Improvement actions</b>	<b>The situation as at 31 December 2017</b>
<ul style="list-style-type: none"> <li>Continuing to develop leadership model activities</li> <li>Further developing the ability of managers to assign objectives, exercise delegated powers and provide feedback within the development process</li> </ul>	<ul style="list-style-type: none"> <li>The programme on Exemplary Leadership was carried out with the participation of managers and middle-managers during April and May</li> <li>As part of the Development Process, after the assessment phase, the Dialogue on Performance phase was set up between April and May 2016, where all persons in charge organised a meeting with their co-workers</li> </ul>
<b>Corporate culture</b>	
<b>Improvement actions</b>	<b>The situation as at 31 December 2017</b>
<ul style="list-style-type: none"> <li>Defining actions and procedures to share important information and promoting moments for dialogue between managers and co-workers in order to ensure the circulation of information (e.g. Passaparola (Word of Mouth), bulletin boards, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>During the 18 "Facciamo il punto" (Let's take stock) meetings, the Chairman and Managing Director met all group employees across all areas, and customer satisfaction details were presented.</li> <li>As part of the Passaparola ("Word of mouth") project, time</li> </ul>

	was specifically dedicated to sharing the customer satisfaction survey results during the second semester 2016.
--	---

#### *Other dialogue and consultation initiatives with the workforce*

The meetings with the Chairman and Managing Director and all Group employees continue to be a key information and involvement tool. 18 meetings were held, for a total of 6,720 participants over the entire local area, to speak about the results achieved, the business plan, the results of the customer satisfaction survey and the main on-going projects and future objectives. This was an important event in 2017 because it coincided with 15 years of Hera and allowed us to retrace the most significant stages of our history.

Furthermore, dialogue activities regarding Hera Spa's SA8000 certification were also carried out: around 220 workers were interviewed during the internal audits and those conducted by the inspection company. Three Sa 8000 reports were received from the Sa 8000 workers' representatives: 1 closed and 2 non-pertaining, since not meeting Sa 8000 requirements. A Social Performance Team was also set up: a joint participation body involving workers' representatives and the company as provided for by the new Sa 8000:2014 standard. Hera Spa's Social Performance Team met twice during 2017.

#### **Internal communication**

Many communication activities and aggregation initiatives were implemented during the year to increase the dissemination and sharing of corporate projects and to stimulate the involvement of the entire workforce as part of the Hera community. In August, the biennial climate survey was started by the Personnel and Planning Department, to which Internal Communication contributed with a wide range of communication activities aimed at stimulating participation by colleagues.

2017 was a year marked by significant innovation for internal communication. The digital House Organ became a real web newspaper: with its new multimedia content, it provides timely, up-to-date and eye-catching information. Among the most frequently addressed topics was **HER@futura**: a project that took us to the very heart of digital transformation, initially involving all our employees with active listening activities (based on an online gaming mode) to make us develop our skills and approach to work. Exactly in this context, in the last quarter of 2017, Hera promoted the **smart working** project. The aim of the project is to reconsider collaborative and team working methods and to seize the opportunities that technology and space can offer to people, allowing them to find a greater balance between work and private life. The new social innovation initiative designed to stimulate colleagues to propose innovative ideas from a more collaborative perspective was among the novelties of 2017: the Heureka+ project, developed thanks to an online co-creation and idea-generation platform, was aimed at stimulating the generation of proposals and direct dialogue among colleagues on strategic topics.

In terms of safety, an internal awareness and prevention campaign was launched to spread a culture that is more aware of workplace health and safety. Three areas were addressed: road safety, healthy lifestyles and the importance of reporting near accidents. Various communication materials were created during the campaign, such as paper table stands, a dedicated section on the corporate portal and articles in the paper and digital House Organ.

In the second half of the year, an innovative internal communication campaign was launched on information security: a real **security team**, composed of ironic characters, dealt with key topics and provided useful tips, newsletters and simple games to learn how to use digital tools correctly.

After the success of 2016, **Percorsi nel cuore di Hera** (Journeys within Hera) were organised once again. This year Hera opened the doors of Imola's cogeneration plant and Forlì's remote centre and laboratories. Over 250 Hera employees and their family members arrived from the Group's different areas to discover the technological secrets of our plants, to get to know the work of their colleagues better and to share professional opinions. The recreational and sporting gatherings organised together with employee recreational associations continued to be greatly appreciated: the tenth edition of Hera Ski Adventure, the

long skiing weekend, counted over 450 participants with a rich programme of activities also for non-skiers, in a highly exciting and inclusive environment.

Even the benefits reserved to employees for access to exhibitions, performances and concerts in which Hera was involved as sponsor or partner attracted strong interest: over 1,200 people used these benefits and enjoyed cultural initiatives throughout the area served.

### **Recreational associations**

Socialisation and interpersonal relations among Group workers are facilitated by the opportunity to take part in recreational activities which are promoted throughout the various areas by recreational associations. These associations organise cultural, sports, tourism and recreational activities, allowing workers to benefit from special commercial agreements and take part in the organisation of dinner parties, outings, Christmas and carnival events, competitive sports events, fishing competitions and ski excursions. These associations also provide members with theatre season tickets and book-lending services. Furthermore, the associations contribute a portion to book spending on the part of student workers and the children of employees. Other discounts are provided for sporting activities and from several businesses. The associations are run on the basis of budgets and yearly programmes: they are managed independently by a Management Board whose members are elected directly by association members. Hera contributes to the activities of the associations by guaranteeing the financial resources provided for by national collective labour agreements and locally stipulated agreements: the company also provides space for recreational activities or for management of these activities. The initiatives are promoted through internal communications instruments to ensure greater visibility.

Excluding AcegasApsAmga and Marche Multiservizi, 4,851 employees were members of the associations in 2017 and the activities of the associations were financed with contributions by the company (approximately Euro 450 thousand).

### **Relationship with the local community**

#### *Open innovation and listening to local communities with the new HeraLAB model*

Short for Local Advisory Board, LABs are the tool that Hera provides to the areas in which it operates as structured channels for listening to and discussing with local communities. Launched experimentally in 2013 in the Ravenna and Imola-Faenza areas, the project was extended, in 2014, to Rimini, Ferrara and Bologna and in 2015 to the Modena area. The LAB activities of Imola-Faenza, Ferrara, Rimini and Bologna were completed in 2017. Considering the 6 LABs, as at 31 December 2017, a total of 83 meetings were organised (equal to over 1,700 hours of listening) and 69 members planned and proposed to Hera 48 new projects, 40 of which have already been developed. Specifically, in 2017, 10 ordinary meetings were held, besides 4 in-depth discussion meetings on district heating, Tre Monti landfill, vulnerable users and water cycle management. 9 initiatives were completed in 2017:

1. **Suppliers: setting up a focus group on tenders and contracts:** Analysis and discussion round table between Hera's Procurement and Tender Contracts Department, the interested LAB members and some sector representatives to examine and identify improvement areas with regard to tenders and contracts and to supplier management (HeraLAB Ravenna)
2. **Application of the concept of accessibility in the waste management system and related activities:** Preparation of guidelines containing measures for the protection of persons with disabilities and victims of discrimination, to be presented to Atersir in view of upcoming tenders; at the same time, the preparation and dissemination of "Green Welcome", a multi-language guide on separate waste collection for new residents, especially if foreign (HeraLAB Ravenna);
3. **Encouraging the proper use of Collection Centres:** Implementation of promotional initiatives for using waste collection centres within the ceramic district of Modena. Proposal to the municipalities to offer a new, consistent discount system. In December, the local Board of

Atersir approved the proposal presented by HeraLAB and the inter-communality of all the Collection Centres in Hera's area of management in the province of Modena (HeraLAB Modena);

4. **Recovery of surpluses (food and non-food):** On the basis of the TARI regulation of Ferrara and the ANCI ER and ATERSIR guidelines, we submitted a proposal to the Modena Municipality for a discount system for non-domestic users who donate their surpluses. Creation of a network for donors and recipients: pilot project at Mercato Albinelli (HeraLAB Modena);
5. **Energy mapping:** Initiative aimed at creating behaviour that generates energy saving in schools and at encouraging these schools to reduce consumption by offering financial rewards. Proposal to map the energy efficiency of the buildings of the participating schools, as a way to assess school consumption (HeraLAB Modena);
6. **Energy saving tutor:** Providing citizens with useful tools to analyse their consumption and consequently identifying the best conduct to save energy and make bills cheaper (HeraLAB Modena);
7. **Working together for urban décor:** Development of regulations that define a method for requesting and supplying materials required to provide support for supplementary cleaning by single citizens or volunteer associations of the area. Hera provides the requested material (HeraLAB Bologna);
8. **"Waste-free" protocol in schools:** Extension of the project «Waste-free protocol» - already under way in the schools of Bologna consisting of delivery of separate waste collection containers to the schools – to the Municipalities of the province (HeraLAB Bologna);
9. **Bologna separates its waste:** Addition of a leaflet to the bill that summarises the results achieved in Bologna since the start of the separate waste collection project: percentage of separate waste, the savings it generates and indications on correct disposal of waste. The leaflet also promotes the "Rifiutologo" app which contains information on the door-to-door calendar in the historical city centre and the map of the mini underground drop-off points (HeraLAB Bologna);

Two projects that were confirmed in 2017 are reported below:

- **Separate waste collection in the Faenza town markets.** The initiative envisages the launch and development of a separate waste collection project for the town markets for the following products: paper and cardboard, glass, cans and plastic, non-separated and organic waste. For the purpose of educating the operators who carry out their work in these areas, we will create and distribute a multi-language leaflet, together with relevant trade associations, which will explain how to separate waste correctly (HeraLAB Imola-Faenza);
- **Chi dona non spreca (Donate, don't waste).** The aim of the initiative is to reduce the amount of food that is not consumed and then turned into waste, and at the same time to promote the work of non-profit organisations that help disadvantaged people in the area. This will be achieved by creating a structured network made up of catering businesses and local non-profit organisations, and coordinated by trade associations. At the start of the project, the latter will submit a proposal to the Municipality for granting a discount on the TARI.

The Ravenna and Ferrara LAB members were appointed in November 2017. Work started in January 2018 with the first of the two meetings on the awareness of Hera and on defining the key local issues that will form the LAB's work areas. These two new LABs are in line with the new **HeraLAB model defined in 2017 on the basis of the experience launched in 2013**. The new model is simpler and focuses more on innovation in the services managed by Hera. Meetings are organised over one year instead of three and more space is given to listening to stakeholders. Made up of 12 local stakeholder representatives, the members of the new LABs appointed by the Hera Board of Directors remain in office for one year and meet 5 times. As in the first edition an "attendance fee" is requested from each member and for each meeting which will go into a fund available to the LAB to support local sustainability projects promoted by public and non-profit organisations.

## Communication

### Social and environmental communication

In 2017 Hera Group's social and environmental communication was aimed largely at promoting good separate waste collection behaviour. The campaign to improve the quality of collected plastic involved all the citizens of the area served by Hera. We started from a quantitative research on plastic recycling which showed that there are quite evident information gaps that compromise the effectiveness of plastic material collection and reusability. A large percentage of citizens (74% of people interviewed) declare that they throw all sorts of plastic objects in the plastic collection bin (this percentage increases in Rimini and its province). Not all of them know that only plastic "packaging" (e.g.: food trays, wrapping, bottles, jars, household appliance packaging) must be thrown away in the plastic collection bin, and that the packaging has to be emptied and washed. This distinction is very important if we wish to have an efficient collection of reusable plastic. Any other object that is disposed of incorrectly, undermines all the efforts made. (e.g.: toys, rubber hoses, CDs, chairs, glasses, pens).

To get rid of any doubts on this matter, a creative communication campaign was conceived to stimulate those citizens who, without thinking, just throw away any object that seems to be plastic, but which unfortunately is not made of recyclable plastic. The campaign was run on the radio, in the local press and on billboards, on digital channels and on waste collection vehicles. Intense on-site activities were also set up in the main shopping centres throughout the areas served by Hera. The majority of activities were carried out during the first 6 months of the year. Another important environmental communication campaign regarded organic waste. We used creativity to communicate the following concept: valuable, natural compost can be created from organic waste, but few know that this waste can be used in many more ways. Since this waste is organic, it has an endless cycle.

The campaign involved the entire area served by Hera and was run on digital channels and on waste collection vehicles. Lastly, the campaign regarding the abandonment of waste in streets, especially bulky waste, was further applied to the Municipality of Ferrara.

### Hera on the Internet

Hera is continually committed to ensuring effective web communication, which fully meets the transparency expectations of its stakeholders (local communities, customers, shareholders, suppliers, investors and students) and is in line with the principles of environmental sustainability which has always been in the company's DNA. The Group website, therefore, is not only an important showcase for the company but also a service tool that is constantly updated and renewed, with the creation of new thematic pages (for example, in 2017 with the sections **Shared Value** and **Hera for circular economy**; the latter had a part dedicated to the Group's entrance into the prestigious **CE100 programme** of the **Ellen MacArthur Foundation**).

### Website access

No.	2015	2016	2017
Customers section	112,378	129,189	167,697
Section on Corporate Social Responsibility, sustainability reporting and CSR initiatives	9,329	10,443	10,699
Suppliers section	8,181	9,035	9,712
Investor Relations Section	3,002	2,541	3,394
Other sections	51,660	55,896	60,627
<b>Total average monthly visits</b>	<b>184,550</b>	<b>207,104</b>	<b>252,129</b>
<b>Total page views (monthly)</b>	<b>602,743</b>	<b>661,184</b>	<b>766,701</b>
<b>Total unique visitors (monthly)</b>	<b>116,776</b>	<b>130,014</b>	<b>153,294</b>

Excluding AcegasApsAmga and Marche Multiservizi

Compared to the previous year, 2017 recorded a significant increase in website visits (+21.7%), single visitors (+17.9%) and page views (+16%), peaking in October with the highest ever values reached since the start of data tracking (June 2007).

There was also a constant increase in the number of mobile device views, which exceeded 40% of the total in 2017 (+13% compared to 2016).

Confirming the Group's commitment to timely and transparent online communication, in addition to its focus on excellence in corporate reputation, is Hera's third place in the 2017 **Webranking**, the Oscars of corporate websites awarded by Lundquist and Comprend, which every year analyse the websites of Italy's largest listed companies and their online communication strategies.

The most significant project in 2017 was Hera's 15th birthday, for which the 15anni.gruppohera.it website was created (preceded on the Group website by a timeline covering the most significant events). The website is richly illustrated, with emotional content, graphics and videos that accurately tell the emotionally involving story of the Group from 2002 to present today. The site was designed and created with an innovative layout and horizontal scrolling content, making it easier to use even from smartphones and tablets.

The **Environment section of the customer area** is increasingly detailed and offers prompt information and news on separate waste collection methods. In 2017, there was a 33% increase in the number of visits compared to 2016, and its contents were reorganised to help some areas (including Ferrara) switch to a new waste collection system with Carta Smeraldo. The **Hera & SocialMedia** section was also renewed, following the launch of Hera Group's Twitter account, which reached 2,269 followers in six months.

Among the other web projects developed during 2017, the website of **Digi e Lode** aimed at promoting digitalisation in primary and secondary schools in the area served by Hera. This project is part of the broader educational proposal entitled La Grande Macchina del Mondo (The Great Machine of the World): whenever customers enable one or more digital services, they contribute to increasing a score that is distributed among the schools of their municipality. Furthermore, customers can choose which school to assign the score reached by filling in the form on the dedicated website.

The new editions of the sustainability reports ("Value to Energy", "Tracking Waste", "In Good Waters", "1000 Faces of Service") were also published with a new graphic design.

With the aim of explaining and giving visibility to our most interesting projects, great space was also given in 2017 to videos, starting from the Group's new corporate video and the video dedicated to its 15th birthday, both marked by highly emotional content. In addition to the comment by the Chairman Tomaso Tommasi di Vignano on the 2016 Financial Statements, a video was also made on shared value - the perspective that integrates Hera's strategic approach to corporate social responsibility and sustainability - and another one on Aliplast, a national centre of excellence in the recycling of plastics, acquired by the Hera Group in January 2017.

During the year, Hera also started a series of video tutorials, publishing suggestions to help prevent the water meter from freezing and a guide on the new separate waste collection system for the citizens of Ferrara (also "translated" into the dialect of Ferrara with excellent results in terms of views). Again, in the field of separate waste collection, another new project in 2017 was the creation of two ironic videos that look at various types of "separators", describing their attitudes in a very funny way.

Regarding to the Group's apps, during 2017, the **Acquologo** reached almost 11,200 downloads, with over 10,500 active users and 190 water leak reports. Following its launch, **Il Rifiutologo** reached over 184,200 downloads (65,650 of which in 2017 alone) and, during 2017, over 29,800 reports regarding bin emptying, road cleaning and abandoned waste.

In 2017, the **AcegasApsAmga** website had over 20,000 average monthly visits with a monthly average of page views totalling over 49,000. In 2017, the **Marche Multiservizi** website had over 131,000 total accesses (almost 11,000 on average every month), while its monthly average of page views was 33,000.

In 2018 we expect to develop water-related issues through specific actions (including a video) in order to spread greater awareness and knowledge of water services, tap water quality and its proper use (savings and environmental benefits). Our goal is make what is **invisible visible**, i.e. everything behind the water cycle. This activity will be achieved by constantly updating the Acquologo app and by renewing the Water Section on the Group's website. At the same time, we will further enhance the concepts of **Circular economy** and **Shared value**, which have become an integral part of Hera Group's business, as well as the new biomethane plant that is being built in Sant'Agata Bolognese and will become operational in 2018.

### **What is Hera's presence on the web?**

The Group's visibility increased in 2017. Hera's presence on the web focuses on blogs, forums, social networks and YouTube, platforms where the Group listens and responds to the needs of its users and monitors exchanges that are relevant for its reputation. The analysis of over 6,800 posts referring to Hera showed that the global visibility index is growing on blogs, social networks and Youtube, while falling in forums. Compared to 2016, the global quality of the Group's visibility is increasing, confirming quite positive results. The qualitative visibility index is slightly falling on blogs, but rising on all other sources. With regard to social networks, visibility quality is improving on Facebook, while there is a slight decline on Twitter which confirms quite satisfying figures nonetheless.

Among the most frequent issues dealt with in 2017, the first is waste collection, followed by environmental projects aimed at reuse and recovery, by the Tracking Waste and In Good Water reports, by the Sustainability Report and by the presentation of the Business Plan. At local level, the opening of the SCART® exhibition in Ravenna was very successful, whereas the new bins with cap opening in Ferrara were among the critical issues. Favourable opinions were also received in the Services section, with good visibility of waste collection and great perception of water issues (also thanks to the publication of the In Good Water report).

Regarding social media, Hera Group's **Twitter** account, which was launched on 30 May 2017, had 2,269 followers on 31 December, steadily increasing over six months, and an average of 96 tweets published every month (670 in total), which generated around 340,000 monthly views and, in total, over 10,200 shares (i.e. 6,137 likes and 4,103 retweets).

As to **LinkedIn**, Hera Group's account follower in 2017 increased by 44% compared to 2016, reaching a total of 27,841. 195 posts were published during the year on the profile, reaching 12,580 shares (i.e. 10,872 likes and 1,708 shares).

### *Media relations*

The press office manages Hera Group's communication on the local, regional and national news media. This work is accomplished by continuously drawing attention to the company's many initiatives and achievements and to the events that it organizes, both by publishing press releases and by organizing press conferences. This effort complements, in parallel, the promotion of the Group's activities with in-depth interviews with management on specific issues, and by providing, at the request of journalists, information, photographs and videos related to the services provided and to the company's many business areas. The press office also promptly answers letters from citizens, reacts to statements in the media of opinion leaders, public administrators and politicians, countering any critical positions against the company or its services, and provides a direct line, through the press, for local communities and customers. These activities are carried out in collaboration with all the company's structures and with all the Group's companies. Lastly, the office handles relations with the press offices of public and private institutions, associations or third parties to promote joint activities.

A quarterly qualitative and quantitative analysis has been set up to gauge this daily work. It is carried out by a specialised third party, which monitors national and local press. All the articles are weighted according to specific criteria, such as the circulation of the publication, the size of the article, the position on the page, the presence of photographs or lack thereof. The pieces are then grouped according to their tone: positive, neutral, or critical.

### Hera-related news items (national press review)

%	2015	2016	2017
Favourable or highly favourable articles	92.6%	90.3%	94.2%
Neutral articles	4.4%	5.8%	4.6%
Critical or extremely critical articles	3.0%	3.8%	1.2%
<b>Total articles (No.)</b>	<b>273</b>	<b>388</b>	<b>456</b>

### Hera-related news items (local press review)

%	2015	2016	2017
Favourable or highly favourable articles	73.7%	73.6%	76.8%
Neutral articles	16.7%	14.2%	11.8%
Critical or extremely critical articles	9.6%	12.3%	11.4%
<b>Total articles (No.)</b>	<b>7,534</b>	<b>6,825</b>	<b>6,933</b>

Thanks to the work done, in 2017 Hera's visibility in the press increased over the previous year: the number of articles that appeared in national publications rose to over 450 (+17%), in almost 7,400 articles published globally. The large number of articles published reveal an increasing attention by the press and the Group's firm involvement in national and local dynamics, whether specific or general, and demonstrate the role of the company among the nation's leading players. From a qualitative standpoint, the positivity concerning Hera increased and settled at very high levels: 94% on national publications and 77% on local publications. Among the topics that contributed to this positive feedback: the business plan, the economic results, the acquisitions, innovative projects such as the construction of the methane production plant in the area of Bologna, the welfare and HR management corporate policies, the joint school-work experience projects and the broad offer of educational activities for schools, sustainability reporting and related projects, such as entry in the CE 100 programme of the Mac Arthur Foundation and the circular economy measures, the Scart project, the new waste collection services started in a number of areas, and sponsorships.

In general, the trend of critical articles has been stable for years at a very low level and continued to drop in 2017: around 1% for the national press and 11% for local press, quite a logical result if we consider the nature of the Group's activities and the sensitivity of the public opinion. Negativity in the local media regarded the protests for the expansion of the Imola and Baricella landfills, the inconveniences resulting from the reorganisation of waste collection services in Ferrara with introduction of the quantity-based tariff, the creation of the in house company and the debates regarding the TARI increase in Forlì. Other negative articles regarded the critical issues reported by Anac concerning the awarding of contracts by Hera and Herambiente.

#### *Associations of which Hera is a member*

The Hera Group is present at the highest levels of the organisations which represent the system of local public services, in particular in Utilitalia. Hera participates actively in the association's activities and supports the institutional communication through the identification of its representative in the different roundtables opened with regulators by the Associations. The Group is also a member of AIRU (the Italian association for Municipal Heating), CIG (Italian Gas Committee), FIRE (Italian Federation for the rational use of Energy). It contributes to research activities regarding the public services sector conducted by leading institutions, both as a customer for specific research, and participating in the scientific debate proposed by them with contributions published under record (AREL - Research and Legislation Agency, AGICI Business Finance, REF Ricerche) and direct participation in top level bodies (such as the IEFE board, Institute of energy and environment politics and economics at Bocconi University). Hera is also a member of the ASPHI (promotion and integration of the disabled via the use of Information and Communication Technology) association and Impronta Etica, (a business association to promote social responsibility) and of the Associazione Aziende Modenesi per la Responsabilità Sociale.

### *Pending legal proceedings*

In addition to the disputes involving customers and suppliers which are discussed in the corresponding sections of this report, at the end of 2017, an additional 780 disputes were pending mainly concerning disconnections of gas supplies to late-paying final customers (506 cases) who, having signed contracts with salespeople for the redelivery points on the distribution network managed by In Rete, were subject to administrative termination as governed by Arera legislation (specifically the Consolidated Law on Gas Delinquency). The remaining disputes (274) refer to different issues regarding claims for damages associated with the management of the services performed by Hera or Group companies. During 2017, 467 disputes were settled: 169 with customers, 8 with suppliers, 201 regarding disconnections of gas supplies to late-paying final customers and the remaining 89 regarding different issues (e.g. claims for damages associated with the management of the services performed by Hera or Group companies).

Including AcegasApsAmga and Marche Multiservizi, the number of disputes pending, with the exception of those activated with customers and suppliers, amounted to 929 during the year, 395 of which were concluded.

With regard to the networks and plants managed by the Group, the following litigation proceedings brought by associations, citizens and/or other parties/bodies are reported.

With reference to the criminal proceedings pending before the **Forlì Court**, involving Herambiente as owner of the Forlì waste-to-energy plant, after the positive conclusion in July 2011 of the appeal to the Supreme Court of Cassation furthered by the Public Prosecutor related to the attachment of the plant requested since it was deemed hazardous, the proceedings continued during 2012 against a number of Herambiente executives with regard to the alleged technical problems concerning the incineration plant or rather the aspects of potential pollution and suspected administrative violations. Twenty-seven civil parties had brought action in the proceedings, including private citizens, environmentalist associations and public Bodies. Furthermore, summons for the civil liability of Hera Spa and Herambiente Spa had been served. On 22 October 2012, Hera Spa and Herambiente Spa were excluded from the proceedings and consequently any liability. On 6 December 2012, the Judge acquitted all those charged with the offences respectively ascribed to them, on the grounds that there was no case to answer. In April 2013, the afore-mentioned acquittal sentence was challenged by the Public Prosecutor before the Bologna Appeals Court. The first hearing before the Court of Appeals, initially set for 26 January 2017 was postponed to 5 May 2017 and, then, to 26 October 2017. On that occasion, the Attorney General filed an application for renewal of the preliminary hearings, which was then rejected by the Court of Appeals in acceptance of the statement presented by the defence of Herambiente.

With reference to the **flood** which, on 24 June 2013, following a violent storm, submerged the street Via Santa Cristina S.P 69 in Rimini and caused the flooding of the Rimini prison and neighbouring dwellings (including that of an inhabitant who died on the same day due to illness), an employee of Hera Spa and 2 other parties were served a notice of a preliminary hearing scheduled for 8 February 2017 in which they were accused of disaster and manslaughter. The next hearing is set in May 2018.

Worthy of mention is the notification in July 2017 of the decree that ordered the committal to trial of two Herambiente managers, with which the Public Prosecutor of Rimini questioned the **odorous** and **noisy emissions** from the recovery plant in Rimini which allegedly caused nuisance to the owners of nearby lands. At the first hearing scheduled for 28 November 2017, a local committee was set up as plaintiff for damages and the defence of the Herambiente managers filed an application to settle some of the charges with payment of a fine.

By means of petition brought before the Emilia-Romagna Regional Administrative Court against ATO-BO, Atersir and against Hera Spa and the Ministry for the Environment, Land and the Sea, Federconsumatori Nazionale requested the cancellation, subject to suspension of the efficacy, of the resolution of the ATO-Bologna No. 16 dated 22 December 2011 which concerned the **Integrated water service: new regulatory**

**period 2011 - 2015** for the operator Hera Spa and 2012 tariff structure and of any other preordained, associated, alleged and/or consequential act.

The main reasons for censure concerned:

- the alleged violation of the repealing referendum effect concerning the matter of the adequacy of the remuneration of the invested capital;
- the application, by the challenged resolution, of the Regional Tariff Method which, according to the counterpart, would not be applicable given the alleged lack of legitimisation of the Emilia-Romagna Regional Authority with regard to its approval;
- the arbitrary introduction, by the challenged resolution, of the item Financial charges, which is not event contemplated by the Regional Tariff Method.

Hera Spa appeared before the court disputing the aforementioned reasons for censure and, by means of Order filed on 8 June 2012 the Regional Administrative Court rejected the application for interim relief presented by the plaintiff. To date, the fixing of the pertinent hearing is pending.

In ruling 1602/2016, Section II of Regional Administrative Court of Tuscany upheld the appeal on additional grounds in case 143/2016 brought by environmental associations (WWF and Italia Nostra) and the appeal number 180/2016 brought by the Campi Bisenzio municipality and accordingly, ordered the annulment of the measure adopted on 23 November 2015 no. 4688 by the officer for Environmental quality of the Metropolitan City of Florence, of the minutes of the related service conferences of and subsequent pleadings for repossession. The object of the measure annulled by the Regional Administrative Court is the granting of an integrated authorisation and IEA for the construction, **management and operation of a waste incineration plant filed by Q.tHermo**. On this matter it should be noted that, in accordance with the provisions of the planning documents on waste, Quadrifoglio (the company that currently manages the integrated service for waste collection in the municipalities of the Florentine plain) called a dual tender to select a private minority shareholder with which it was to form a NewCo that would handle the design, construction and management of a waste-to-energy plant in Tuscany. The tender was awarded to the temporary consortium formed by the companies Hera SpA and Herambiente SpA which, in compliance with the commitments made for the tender, formed a company called SAT Srl to underwrite a share of the capital of the NewCo with Quadrifoglio, i.e. the Q.tHermo company. The aforesaid ruling of the Regional Administrative Court of Tuscany was opposed before the Council of State before which a hearing was held on 19 December 2017. A decision on the case was not taken and the relative ruling has not yet been announced.

With an action brought before the Regional Administrative Court of Emilia-Romagna in 2017 by WWF, Panda Imola - Non-profit voluntary organisation and Legambiente Medicina against the Region of Emilia Romagna Region and against CON.AMI. and Herambiente, the claimants challenged the decision of the Regional Council of Emilia Romagna dated 21 December 2016, no. 2262 entitled “provision for an Environmental Impact Assessment (EIA) regarding the project for the **expansion of the Tre Monti landfill: volumetric recovery through raising of the 3rd lot in the municipality of Imola (BO) - Proposers CON.AMI and Herambiente**” published in the B.U.R.E.R. on 9 January 2017 and related annexes. By way of the aforementioned resolution, the Region issued the EIA ruling regarding the raising of the “Tre Monti” landfill and the claimants challenged its legitimacy, raising as main claim the fact that the Region, since not taking into account the negative opinion expressed by the Ministry of Cultural Heritage, did not set up the referral procedure to the Council of Ministers. Although this negative opinion was not necessary for the raising work, given that this area does not need to comply with any landscape protection obligations, the Regional Administrative Court, with ruling filed on 10 January 2018, upheld the complaint lodged by the applicants. Herambiente will appeal against the ruling before the Council of State.

## Relationships with the Public Administration

### *Integrity in relationships with the Public Administration*

Hera is committed to ensuring the highest levels of integrity and honesty in its relationships with the Public Administration. This is why the Group has adopted, and regularly updates, an organisation, management and control model designed to identify specific risks associated with the crimes identified in Legislative Decree 231/2001. This organisation model includes 22 protocols that strive to ensure transparency and a sense of ownership in internal and external relationships. For each “high risk” process, the protocols identify principles, roles, and responsibilities which should be followed in managing the activities and define the periodic information flows for control. Each protocol ensures the constant monitoring of risk activities for the Supervisory Body, including: relationship management with the Authorities, public loans, sponsorships, donations and gifts and procurement, protection of the environment and health and safety in the workplace.

The procedures adopted conform to the principles of the Code of Ethics with the aim of guiding Group management based on the values and principles defined in the Charter of Values.

### *Relations with Local Authorities*

In May 2016 the Central Directorate for Relations with Local Authorities was merged with the Directorate of Strategic Planning and Regulatory Affairs, to form the new Directorate of Planning, Regulatory Affairs and Local Authorities (DCPAREL), reporting to the Executive Chairman. In 2017, the new Directorate retained and strengthened the same mandate it was given in 2014 to continuously and effectively supervise the relationship with the member municipalities and with local authorities, for the same area and the same composition in terms of structure.

All Local Bodies served, therefore, can reach a contact simply and at any time to obtain a response in the appropriate timescales to questions on the services provided by the Group, being certain they are talking with the right people. Integration with Strategic Planning and Business Regulations also made it possible to enrich the information content made available to Area Managers, creating a constant, two-way flow of information between the Group and the area served.

During 2017, the Area Managers carried out over 2,019 meetings with the municipal administrations and handled over 2,705 requests of many kinds. In numerical terms, the relations set up following requests and meetings focused mainly on issues regarding waste management services (36.3%) and the integrated water service (36.5%). Less common are issues relating to general business topics (8.7%), technical matters with clients (7.3%) and the market area (5.6%).

In 2017, greater focus was placed on the activities provided to Group-controlled business areas. Transversal and smoother working methods were introduced across the local areas and cooperation with the operating lines was strengthened to ensure greater effectiveness of local relationships.

Note, also, the close collaboration with the Corporate Social Responsibility Division concerning the promotion and coordination of the **HeraLABs**.

### *Relations with regulatory and supervisory authorities*

During 2017, Hera received 28 warnings. These warnings mainly regard disputes raised by the supervisory bodies, concerning violations of the requirements laid down by Legislative Decree 152/2006 - the Consolidated Environmental Law - and mainly concern the Integrated Water Service and also the observance of the regulations contained in the authorisation deeds. The requirements of the supervisory bodies were met in relation to the receipt of these notifications. In two cases the decision was challenged before the relevant authorities. No warning was issued to AcegasApsAmga in 2017. With regard to the 2016 warning, AcegasApsAmga complied with the warning, as required by the authorities and presented written defence briefs. The case is still in progress.

In 2017, 163 administrative sanctions were inflicted to Hera, primarily for environmental violations. These violation disputes, raised by the supervisory bodies, refer to violations of requirements laid down by Legislative Decree 152/2006, the Consolidated Environmental Law, pertaining essentially to the integrated water service and in particular the running of the plants and the exceeding of the tabular limits. These violation disputes are administrative and defence briefs have been filed in relation to the same, with the principal aim of revoking the measures adopted by means of archiving the proceedings and, subordinately, the payment of the fine to the minimum extent envisaged by sector regulations. In one case the disciplinary measures were challenged before the relevant authorities.

Specifically, by way of Resolution no. 626 of 7 June 2017 notified on 28 August 2017, ANAC reported some alleged violations of the Procurement Code, as regards the contractual activity carried out by Hera S.p.A. and Herambiente over the previous three years in the management of the integrated waste service. In October 2017, these companies challenged the resolution before the Regional Administrative Court of Lazio.

In 2017, 24 administrative violations, primarily for environmental reasons, were notified to AcegasApsAmga. These violation disputes, raised by the supervisory bodies, refer to violations of requirements laid down by Legislative Decree 152/2006, the Consolidated Environmental Law, pertaining exclusively to the integrated water service and in particular the running of the purification treatment plants and the exceeding of the tabular limits. These violation disputes include 21 of an administrative nature and refer to alleged violations in 2016 and 2017 (mainly for the Servola treatment plant); defence briefs were filed in relation to the same, with the aim of revoking the measures adopted by means of archiving the proceedings and, subordinately, the payment of the fine to the minimum extent envisaged. The proceedings are still underway and no sanctions have been paid. In addition to the aforementioned notifications, 3 injunction orders were also issued by the Region of Friuli Venezia Giulia (relating to alleged violations in 2012) that were challenged by the Company before the Court of Trieste. These cases are still pending.

With regard to the fine inflicted by the Italian Antitrust Authority to Hera and to Herambiente in 2014 for the alleged abuse of “dominant position”, the companies have taken steps to pay an overall amount of around Euro 1.9 million. The afore-mentioned measure was subsequently challenged before the Lazio Regional Administrative Court. The date of the pertinent hearing is yet to be scheduled.

With regard to the fine inflicted in December 2016 by the Italian Antitrust Authority to Hera Spa for an alleged abuse of “economic dependence”, consisting in the breach of Legislative Decree 231/2002 as amended, concerning terms of payment for the supplies of last generation meters, Hera Spa has paid the total amount of Euro 800,000.00. An appeal to the Regional Administrative Court of Lazio against the aforementioned measure has been filed and we are waiting for the hearing to be scheduled.

In November 2015, the Italian Antitrust Authority ordered Hera Comm to pay a fine of Euro 366,000 for breaches of the Consumer Code regarding the procedures used to conclude contracts with customers. According to the Authority, Hera Comm, along with other companies in the sector, entered into some contracts without the express consent of the consumer or using methods that were detrimental to the consumer's freedom of choice, due to not providing sufficient information about the offers and the details of the contracts. In particular, the fine concerns some contracts concluded over the phone and via sales agents, accused of pressuring consumers and preventing them from making an informed and unconditioned choice. During the proceedings, the companies brought forward proposals for improving the procedures, which consist for example in making the contractual documentation available to the consumer before the customer is committed and making a second phone call to check the consumer's consent. Also, Hera Comm took steps to challenge the sanction measure before the Regional Administrative Court of Lazio. The Regional Administrative Court considered the question to be relevant, since should it prove to be founded, the provision would be unlawful since it was adopted by an Authority without specific competence.

In particular, the Court decided “to refer to the Court of Justice of the European Union the matter related to the interpretation of art. 27, paragraph 1 *bis*, of the Consumer Code in relation to the Euro-unitary provisions applicable to the electricity and natural gas supply sector, similarly to what already carried out by the Council of State, for the telecommunications sector.

At the moment, the proceedings have been suspended pending the Court’s ruling on two similar preliminary rulings.

By means of an appeal filed in 2011 with the Regional Administrative Court of Emilia-Romagna, Herambiente Spa challenged decision 251 of 20 September 2011 of the Ferrara Provincial Council concerning the “Decision regarding the screening procedure to produce energy from biomass combustion at the waste incinerator” located in Ferrara. Herambiente presented the Ferrara Provincial Authority with an application for activation of the screening procedure as per Regional Law no. 9/1999. Despite the fact that the environmental compatibility study presented by Herambiente proves that the request to replace the ancillary fuel used by the plant (methane) with a renewable energy source (cellulose wood biomass) does not have negative effects on the environment (so the conditions for the EIA procedures would not apply), the Ferrara Provincial Authority, under resolution 251 dated 20 September 2011, ruled that the project be subject to EIA. The ruling has been declared expired.

#### *The relationship with the Area Authority for water and waste services*

The Water and Waste Services Regulator for Emilia-Romagna (ATERSIR) was founded by Regional Law 23/2011 and has regional competence since it has incorporated the previous provincial Water and Waste Regulatory Authorities. It deals with the governance of the water service and the municipal waste management services, with functions of service and investment planning, governance and control of the management, and management of activities that are inherent to the award of the water and municipal waste services.

As regards the water service, ATERSIR operates with second level functions as a result of the transfer to the Italian Authority for Electricity, Gas and Water (AEEGSI, presently ARERA) of regulatory and supervisory functions which occurred at the end of 2011, with Legislative Decree 201/11.

Starting in 2018, ATERSIR operates with second level functions also for the waste service, following the establishment of ARERA.

ATERSIR is also in charge of determining the tariff for the disposal of non-separated municipal waste according to the tariff method provided for by regional legislation.

#### *The relationship with the Italian regulatory and supervisory authorities*

The Italian regulatory authorities that mainly affect the Group’s activities are the Italian Authority for electricity, gas and the water system (Aeegsi), which from 1 January 2018 following the assignment of new waste duties has become the Regulatory Authority for Energy, Networks and the Environment (Arera), and the Italian Antitrust Authority (Agmc).

The Aeegsi proceedings that directly involved the Group in 2017, as part of the Authority enforcement activities, are reported below.

With reference to the preliminary investigation that was closed due to failure to comply with the obligations to replace the cast iron pipelines with hemp and lead joints (VIS 39/2011), after completing our commitment to rapidly replace them entirely in the Ferrara distribution system, we are going ahead with our commitment to inspect the entire hemp asbestos cement network that will involve the complete replacement thereof as per the timescales set by the Regulation of the Quality of the Gas Distribution Service (RQDG).

During the year, the implementation activities related to the commitments undertaken within the scope of the proceedings terminated by way of resolution 557/2014/S/eel were concluded. The activities regarded the presumed violation of the obligations established by the Consolidated Law on Active Connections and consisted of updating the dedicated computer system and then reviewing all the connection procedures processed from the date of entry into force of resolutions 281/05 and 89/07, until 1 January 2012 (date the new computer system became operational), to check for the presence of any anomalies in the payment of automatic compensation.

With regard to the procedure regarding unrequested electricity or gas contracts and publication of a list of so-called “unrequested sellers”, launched further to the publication of resolutions 153/2012/R/com and 244/2013/R/com, the final report has not yet been published.

With reference to the inspection carried out pursuant to resolution 96/2016/E/gas on telephone controls and audits in relation to gas distribution companies concerning emergency services, there were no follow-ups.

An inspection was conducted at Inrete Distribuzione Energia to check compliance with the obligations provided for by the regulations governing the indemnification system and Cmor component (resolutions 191/09 and 219/10): there were no follow-ups by Aeegsi during 2017.

During 2017, the Authority did not issue sanctioning provisions against the Hera Group.

#### *Separation between the regulated activities and the deregulated activities in electricity and gas services*

The legislation on functional unbundling plays a key role in the reform of the energy sector, since it aims to separate the management of regulated activities from free ones, promoting the development of competition.

In particular, the rules for functional unbundling, governed first by AEEG resolution 11/2007, in force until 22 June 2015, and then by AEEGSI resolution 296/2015/R/com, set the requirements for vertically integrated companies that operate in the sectors of electricity and methane:

- the neutrality of the management of the infrastructures under concession;
- the non-discriminatory management of the commercially sensitive information, relevant for the correct development of competition;
- the absence of subsidies crossing over between activities, in particular between those subject to tariff regulation and those carried out on the basis of the free market.

In compliance with the regulations, Inrete Distribuzione Energia Spa, AcegasApsAmga Spa and Marche Multiservizi Spa, vertically integrated in the Hera Group, set up the respective Independent Operators for natural gas and electricity distribution activities.

Independent Operators are tasked with the actual implementation of the functional separation of the activities, which they implement and guarantee by means of the arrangement of a Programme of Fulfilments, containing the measures for pursuing legislative goals. The Programme of Fulfilments is updated on an annual basis and submitted to the Authority within 30 June every year.

Pursuant to the current legislation, these companies also appointed their own Compliance Officer. The Compliance Officer checks that the corporate measures and procedures adopted by the Independent Operator are appropriate, and draws up a yearly reports of measures, which is submitted to the Authority within 30 June every year.

#### *Litigation*

A number of litigation proceedings were brought against the Public Administration Authorities.

By means of an appeal filed in 2014 before the Emilia-Romagna Regional Administrative Court against the Emilia-Romagna Regional Authority and against Atersir, Herambiente requested the cancellation of the

Emilia-Romagna Regional Authority's Decision no. 380 dated 24 March 2014, containing "Amendments to the Regional Authority Decision 135/13 - Provisions concerning the definition, and handling of the increase limit, of the fee for the disposal of municipal waste". Resolution 380/2014 was challenged with regard to the part where it has the effect of laying down the full deduction, from the waste disposal fee, of the revenues from incentives to generate electricity from renewable sources. At the date of drafting of this report, the date of the trial hearing is yet to be scheduled.

By means of an appeal filed in 2015 by Herambiente before the Emilia-Romagna Regional Administrative Court against the Emilia-Romagna Regional Authority and against Atersir, cancellation was requested of resolution 467 of the Regional Council of the Emilia-Romagna Regional authority dated 27 April 2015, concerning "the criteria to define the fee for the disposal of municipal waste and similar pursuant to art. 16(1) of Regional Law 23 of 2011. The appeal presented objects, in particular, to two aspects of resolution no. 467, considered illegitimate, i.e.:

- the erroneous inclusion of revenue from incentives for renewable electricity generation among the amounts to deduct from fees expected;
- the lack of specific mention of taxes among the costs incurred by Herambiente that the contested resolution does not recognise.

At the date of drafting of this report, the date of the trial hearing is yet to be scheduled.

With separate appeals, which were then united, Herambiente challenged the following acts before the Regional Administrative Court of Molise:

- Challenge of Regional Government Decree no. 231 of 19 May 2015 which identifies as substantial variations the introduction of the CER code 19.12.12, the adjustment of the authorisation for saturation of the thermal load and the introduction of a shredder.
- Challenge of EIA regarding the plant of Pozzilli and, for additional reasons, the Integrated Authorisation.
- Challenge of Regional Council resolution no. 341 of 28 December 2015 regarding the "Regional plan for waste management". Italian Leg. Dec. 152/2006 Conclusion of the Strategic Environmental Assessment procedure. Adoption of Plan proposal."

The Regional Administrative Court of Molise did not uphold the appeals of Herambiente that on 23 October 2017, challenged the ruling before the Council of State. A hearing has not yet been set.

With distinct appeals in 2015 before the Regional Administrative Court of Emilia-Romagna against Atersir, and against Hera Spa as other party, the Sassuolo municipality, on the one hand, and the Maranello, Fiorano and Formigine municipalities, on the other hand, have sought cancellation of Area Council Resolution 6/2015, issued on 10 June 2015, containing the "Economic and Financial Plan for 2015". The municipalities that are applicants include the Sassuolo municipality, which, in addition to the above resolution, appealed against the Local Council of Modena's decision 3/2015 of 13 April 2015 and every other prerequisite and consequential measure. The municipalities that filed the application complained, mainly, of the lack of discussion to agree on the Economic-Financial Plan, that the cost elements therein were expressed in an aggregated form instead showing the unit cost of services for each entry and the alleged unjustified increase of the costs of the service for municipal and similar-to-municipal waste. Hera Spa appeared before the court disputing what had been claimed in fact and law by the municipalities that filed the application. At the date of drafting of this report, the date of the trial hearing is yet to be scheduled.

With further appeals notified in 2016, again before the Regional Administrative Court of Emilia-Romagna against Atersir, and against Hera Spa as the other party to the proceedings, the above municipalities sought the cancellation of Area Council Resolution 25/2016, published on 11 May 2016 on "Approval of economic/financial plans for the municipal waste management service for the year 2016". Hera Spa has appeared before the court and at the date of drafting of this report, the date of the trial hearing is yet to be scheduled.

With further appeals notified in 2017 before the Regional Administrative Court of Emilia Romagna against Atersir, and against Hera S.p.A, as joint interested party, the Municipalities of Sassuolo, Maranello, Fiorano, Formigine, Predappio, Tredozio, Rocca San Casciano, Bertinoro, Forlimpopoli, Galeata, Premilcuore, Meldola, Savignano sul Rubicone, Borghi, Sogliano al Rubicone, San Mauro Pascoli, Longiano, Gambettola, Roncofreddo, Santa Sofia, Castelnuovo Rangone, Castelvetro di Modena, Savignano sul Panaro, Spilamberto, Vignola, Guiglia, Marano sul Panaro and Zocca challenged, within their area of responsibility, resolution no. 27 of 24 March 2017 and resolution no. 17 of 15 March 2017 adopted by the Authority Council of Atersir and through which the Economic and Financial Plans for the 2017 municipal waste management service covering the local areas related to the above municipalities were approved. A hearing is yet to be scheduled.

## Quality, cost and safety of customer services

### The objectives and the results

What we said we would do	What we have done	Area*		
<ul style="list-style-type: none"> <li>Comply with the Service Charter for the commercial quality standards for gas, electricity and water services, in 98.5% of cases.</li> </ul>	<ul style="list-style-type: none"> <li>99.7% of cases compliant with quality standards in 2017.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Emergency gas services: maintain a much higher level than AEEGSI requirements for the percentage of calls answered within 120 seconds and arrival at call location within 60 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, the response rate within 120 seconds was 97.5%, while arrival at the call location within 60 minutes was 96.2% of the total.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Ensure that call centre quality levels and average waiting times at branch offices are in line with those of 2016. Improve waiting times at AcegasApsAmga branch offices and waiting times at Marche Multiservizi's call centre.</li> </ul>	<ul style="list-style-type: none"> <li>Overall average waiting times improved compared to 2016, for branch offices. In 2017, waiting times at AcegasApsAmga branch offices decreased from 21 to 16 minutes while those of Marche Multiservizi decreased from 14 a 12 minutes. The waiting time of the Marche Multiservizi call centre was down, from 125 seconds to 66 seconds.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Extend the satellite-based water network leak detection system of the water network (3,000 km in 2017 vs. 600 in 2016)</li> </ul>	<ul style="list-style-type: none"> <li>The satellite-based water network leak detection system was extended by about 3100 km in 2017, compared to 600 km in 2016.</li> </ul>	ER		

What we will do	Scope*		
<ul style="list-style-type: none"> <li>Improve compliance with commercial quality standards and other services subject to compensation to final customers in relation to gas, electricity, water and district heating services.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Develop water safety plans using the Water Safety Plans methodology for the water supply networks of 2 areas (San Giovanni in Persiceto and Imola).</li> </ul>	ER	T	
<ul style="list-style-type: none"> <li>Extending the satellite-based water network leak detection system (3000 km more in 2018)</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Emergency gas services: maintain a much higher level than AEEGSI requirements for the percentage of calls answered within 120 seconds and arrival at call location within 60 minutes.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Ensure that call centre quality levels and average waiting times at branch offices are in line with those of 2017. Further improve waiting times at branch offices of AcegasApsAmga.</li> </ul>	ER	T	M

\* Geographic scope of the ER improvement objectives: Emilia-Romagna T: Triveneto M: Marche.

## Our customers

### Energy services customers

Thousands	2015	2016	2017
Gas customers	1,327.6	1,381.4	1,400.0
Electricity customers	856.8	880.1	981.3
District heating	11.8	11.9	12.2

### Integrated water service customers

Thousands	2015	2016	2017
Total customers	1,449.4	1,453.9	1,458.6

### Urban waste services

	2015	2016	2017
Municipalities served (no.)	189	188	187
Residents served (thousands)	3,323	3,311	3,313

In 2017, the Hera Group again recorded an increase in the total number of customers. The result obtained confirms the effectiveness of the growth strategy adopted, i.e. the combined action of effective commercial initiatives and targeted corporate acquisitions. In this regard, the customers of Verducci Servizi and Enerpeligna, active in the provinces of Pescara and L'Aquila, have joined the Hera Group.

The effective sales activity and the acquisition of successful businesses that with the same values as the Hera Group uses in their approach to final customers, have enabled an increase of over 18,000 gas customers (+1.3%) and over 100,000 electricity customers (+11.5%).

Three factors contributed in a rather balanced manner to the strengthening of the Hera Group in the gas sector: growth in the **last resort markets** (suppliers of last resort and default service), **corporate acquisitions** in Abruzzo and **commercial development**. The growth was in the residential customer segment, where the deregulated market outperformed the protected market.

As far as the **electricity service** is concerned, the growth, across the segments, was the best in recent years, sustained by the increase in the number of protected customers, but above all by the excellent results of the sales activity; the weight of the deregulated market rose to 79%.

The decrease in the number of customers under protection conditions is common to all the services (gas and electricity), Group companies, and customer segments (residential and non-residential).

The trend of the **water service** confirms a trend that has been underway for three years, namely a reduction of the number of non-residential customers that was more than offset by an increase of residential customers thanks to initial signs of recovery in the real estate market.

The results achieved in terms of growth in the number of gas and electricity customers were the result of a number of actions and initiatives launched and implemented in 2017:

- expanding the portfolio of offers and solutions to support efficient energy use;
- development and training of our sales network;
- attention to improving service levels;
- analysis of the market in terms of both the evolution of customer needs and in terms of attention to competitors;
- the continuous monitoring of the territory, also by opening three new stores in three different regions (Friuli, Lombardy and Marche);

- the development of digital channels, achieved by updating our online services and launching the new My Hera app;
- the launch of innovative initiatives such as the Digi e Lode project, which promotes digital channels and services and concretely supports the development of the local area;
- targeted acquisition operations that enable synergies, and sharing of best practices.

The priorities for 2018 are the further development of digital channels and intelligent energy efficiency tools, together with innovative projects to build customer loyalty. 2018 will also be an important year for the consolidation and integration of the newly acquired sales companies.

### The commercial policies

In 2017, the commercial strategy involved all customer segments, reached by specific commercial offers through a range of sales channels.

The **mass market** remains the one on which commercial activity is most focused, but our customer portfolio has grown thanks also to the entry of new large customers, both businesses and condominiums.

The customer relationship management platform, which has long been characterized by high levels of service, is divided into a widespread system of branches, target-based call centres and self-caring web channels. It is only by promoting this platform that we will be able to concretely implement the principle of customer proximity, which has always been a fundamental pillar that the Group's initiatives have been based on.

As regards the physical channel, development of new stores in areas of expansion involved Friuli, with a new Amga Point in Pordenone and in the Marche region, with a new Hera Comm Marche branded store in Fano. To date, there are 10 stores in the areas of expansion (Points): Teramo, Fano, Ancona, Pesaro, Lucca, Reggio Emilia, Parma, Mantua, Gorizia and Pordenone.

As far as the **digital channel** is concerned, in 2017 the On Line Services were renewed and the new My Hera app was launched: designed to be an easy and immediate tool for customers, My Hera is the multi-service app that allows customers to consult contracts and bills, receive assistance, activate services and make reports, including those on waste and water services.

The customer base growth is both the result of sales activity and of a growth strategy based on external acquisitions that brought into the Hera Group Verducci Servizi, a company active in Abruzzo mainly in the provinces of Pescara and L'Aquila, as well as the customers of Enerpeligna (Azzurra Energie brand) also active in Abruzzo in the province of L'Aquila.

Our **offer portfolio** for mass markets maintains its dual orientation, with fixed price and variable price offers and has been enriched with both a new rate plan (Welcome Hera) and new tools to support energy efficiency. Customers can therefore choose among offers of a complete portfolio that responds to a range of needs:

- the tranquillity of having a fixed price, for 12 months, with a "welcome" gift, thanks to the new "Welcome Hera" rate plan;
- the tranquillity of having a fixed price, for a variable duration at the customer's choice (from 12 to 30 months), protected from market fluctuations, thanks to the "Nuova Idea Hera" rate plan;
- access to the wholesale energy market is provided by the "Prezzo Netto" offer;
- "Giorno Hera" offers stability and expense planning by setting a constant price per day, all year long;

Many solutions to support the efficient use of energy launched in 2017, in addition to the intelligent thermostat, LED bulbs, fuel analysis and Hera Fast Check Up:

- the Contawatt power meter, which allows electricity consumption to be monitored;
- LED bulbs for business customers, with over 22 models available;

- the energy management portal for business customers with high consumption.

### **Hera Comm's sales network and commercial conduct**

Hera Comm's commercial strategy for the sale of energy services to small and medium customers (households and companies) relies on commercial partners that operate across various sales channels.

In 2017, Hera Comm confirmed its fundamental guidelines, i.e.:

- the selection of agencies according to the principles and methods defined in the Group's quality system;
- having all partners sign the agency mandate, which includes the Group's Code of Ethics;
- specific training provided to agency managers and to their agents by Hera Comm personnel;
- identification of door-to-door agents who must display an identity card to the customer they are visiting;
- periodical mentoring at final customer premises by Hera Comm personnel in order to assess the conduct of the sales network;
- final-customer surveys to monitor the quality of the sales network's operations.

The proximity to our customers and their protection remain the fundamental principles of Hera Comm's sales activity. In addition to measures to care for unwanted activations and contracts, as required by AEEGSI's resolution 153/2012/R/com as amended, Hera Group has added other safeguards to those already required by AEEGSI:

- sending a welcome letter to residential and non-residential gas customers also for contracts concluded in Hera Comm's offices;
- making withdrawal easier, requiring an email, simple letter or fax (not just a registered letter).

For Hera it is fundamental to acquire the customer's consent clearly, responsibly and unequivocally. To do so we have added even more specific quality controls, in line with what is required by the Consumer Code:

- for contracts offered by phone, a second call must be made to check that the customer has received the contract and actually wants to accept it, and to monitor, at the same time, the quality of the sale effort carried out by our teleselling channel. In addition, the customer can retrieve the telephone recording of their conversation via the web portal or automated phone system;
- for contracts proposed following a visit to the customer's home, besides the welcome letter that is sent to them, a phone call is made that assesses the quality of the sales channel and gives the customer a chance to exercise their right to change their mind.

The expansion of the commercial network led to opening new points in Mantua, Pordenone and Fano. The commitment to remain close to customers is manifested not only by opening new stores but also by periodically checking the adequacy of the existing ones, in terms of location and size, in order to optimize the presence and coverage of the territory in line with the growth in the number of customers and services offered.

At the end of 2017, the sales channel dedicated to small business customers had more than 80 business agents, active in 9 regions of Italy, with specialist training in energy markets and related offers.

The continuous improvement of **sales processes**, together with the constant monitoring of **sales channels**, led to significant results in 2017 in terms of complaints for unsolicited contracts. The number of complaints fell by 40% to 95 contracts, compared with over 328,000 contracts concluded outside business premises. All complaints for unsolicited contracts were accepted and 100% of the cases were subject to recovery measures.

In 2017, the changes made to the sales processes in 2016 became fully operational: high standards of quality and commercial correctness, as shown by the monitoring indexes, were consolidated.

The proximity to our customers and their protection remain the fundamental principles of Hera Comm’s sales activity. In addition to measures to care for unwanted activations and contracts, as required by AEEGSI’s resolution 153/2012/R/com as amended, Hera Group has added other safeguards to those already required by AEEGSI:

- sending a welcome letter to residential and non-residential gas customers also for contracts concluded in Hera Comm’s offices;
- making withdrawal easier, requiring an email, simple letter or fax (not just a registered letter).

For Hera it is fundamental to acquire the customer’s consent clearly, responsibly and unequivocally. To do so we have added even more specific quality controls, in line with what is required by the Consumer Code:

- for contracts offered by phone, a second call must be made to check that the customer has received the contract and actually wants to accept it, and to monitor, at the same time, the quality of the sale effort carried out by our teleselling channel. In addition, the customer can retrieve the telephone recording of their conversation via the web portal or automated phone system;
- for contracts proposed following a visit to the customer’s home, besides the welcome letter that is sent to them, a phone call is made that assesses the quality of the sales channel and gives the customer a chance to exercise their right to change their mind.

## The cost of our services

Hera manages **service concessions** and **free market services**. For the service concessions (integrated water service, urban waste, distribution of gas and electricity), the **tariffs** applied by Hera are **regulated by the regulatory authorities** (Arera and the local urban waste authorities), while for free market services (waste disposal, sales of gas and electricity), the tariffs are freely determined. On a quarterly basis, Arera defines and updates the prices for the sales tariffs to customers that have not subscribed to a free market electricity service option and for residential gas customers that are under protective economic conditions.

### The costs of Hera’s services for an average customer (real consumption)

Euro	2016	2017	Ch. 2017/2016	Ch. % 2017/2016
Gas	693.02	680.38	-12.64	-1.8%
Electricity	299.71	351.90	52.2	17.4%
Water service	224.48	236.54	12.06	5.4%
Effluents and waste	239.71	241.78	2.07	0.9%
<b>Total</b>	<b>1,456.92</b>	<b>1,510.60</b>	<b>53.68</b>	<b>3.7%</b>
<i>of which attributed to Hera</i>	641.80	702.90	61.09	9.5%
<i>of which attributed to raw materials and generation</i>	366.74	392.53	25.79	7.0%
<i>of which duties, taxes, system charges and other charges</i>	448.38	415.18	-33.20	-7.4%

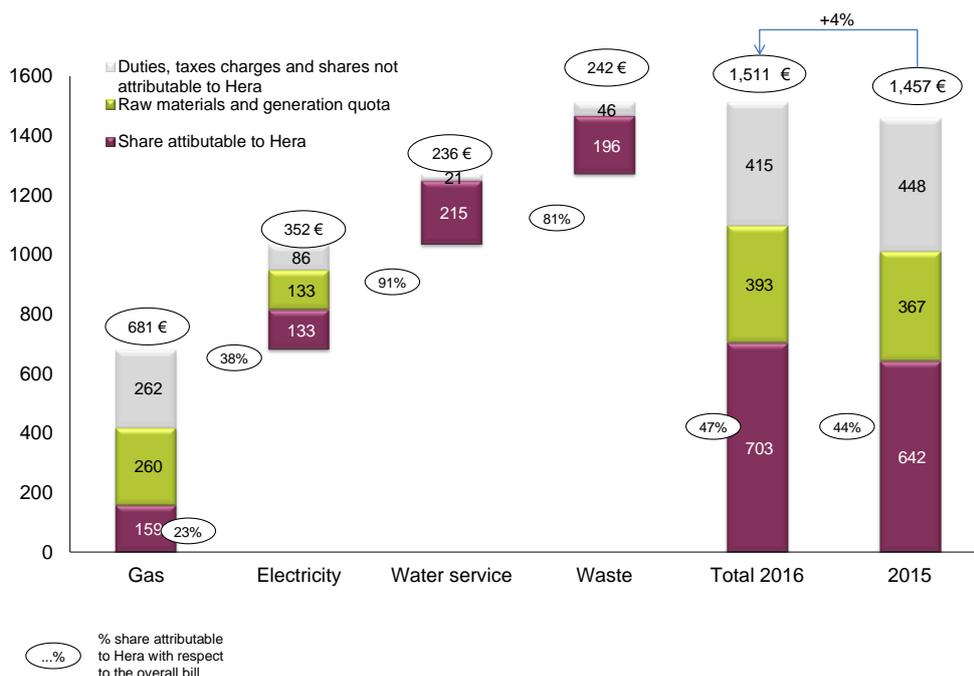
The following table shows the average household expenditure in 2017 compared to the previous year for the four services provided by Hera based on the average consumption of gas, electricity and water over the two years considered: 857 m<sup>3</sup> for gas in 2017 (-1.2% compared to 2016), 1,832 kWh of electricity (+2.1%) and 111 m<sup>3</sup> of water (+0.9%). For the waste service, a family of 3 members living in an 80 sq.m flat was considered.

In 2017, the average family spent a total of Euro 1511 on the services supplied by Hera, 3.7% more than in 2016. In particular, the increase in electricity bills was a significant factor compared to last year. Compared to 2017, in fact, there was an increase in the prices of this service of approximately Euro 52 as a result of the new tariff structure that eliminates the progressiveness of the tariff brackets. The increase in volumes

of electricity consumed (+2.1% compared to 2016) is in addition to the above effect. The decrease of about Euro 12 compared to 2016 is due to a decrease in Hera's share (Euro -5) and a decrease in taxes, duties and charges. In addition, there was a reduction in the volumes of gas consumed (-1.2%), again compared to 2016, due to seasonal factors.

47% of overall spending, amounting to Euro 703 (44% in the previous year), is attributable to the components of bills pertaining to Hera. This share has increased in 2017 by Euro 61, broken down as follows: Euro -5 for gas, Euro +53 for electricity, Euro +11 for water and Euro +2 for waste.

### The costs of Hera's services for an average customer (real consumption)



Based on an analysis considering equal volumes used by an average Hera customer, for 2017, the overall cost of services decreased by 2.1%, amounting to Euro 42, compared to 2016. This result is due to:

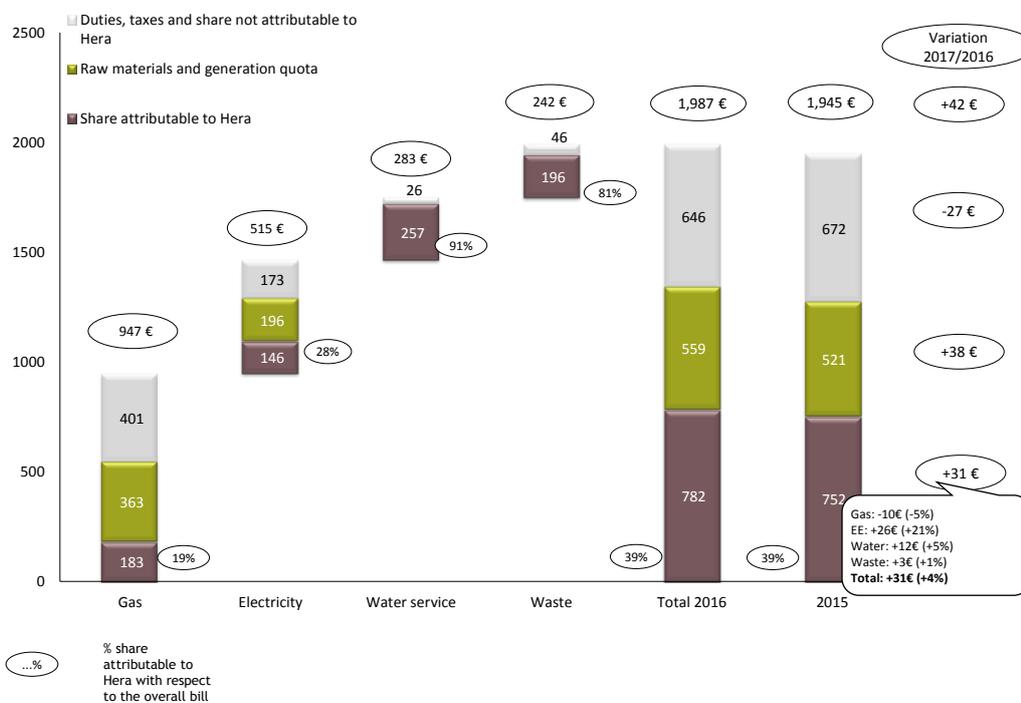
- a Euro 39 increase of the cost of raw materials and of generation, directly related to fuel price trends;
- a Euro 30 increase of the bill components attributable to Hera. This increase corresponds to 1.5% of the total amount of the bills considered: it is due to increases of Euro 26 for electricity, Euro 11 for the water service and Euro 2 for waste management and a decrease of Euro 9 for gas;
- a Euro 27 decrease in duties, taxes, system charges and other charges, due mainly to a decrease of system charges of the electricity expense.

### The costs of Hera's services for an average customer (constant consumption)

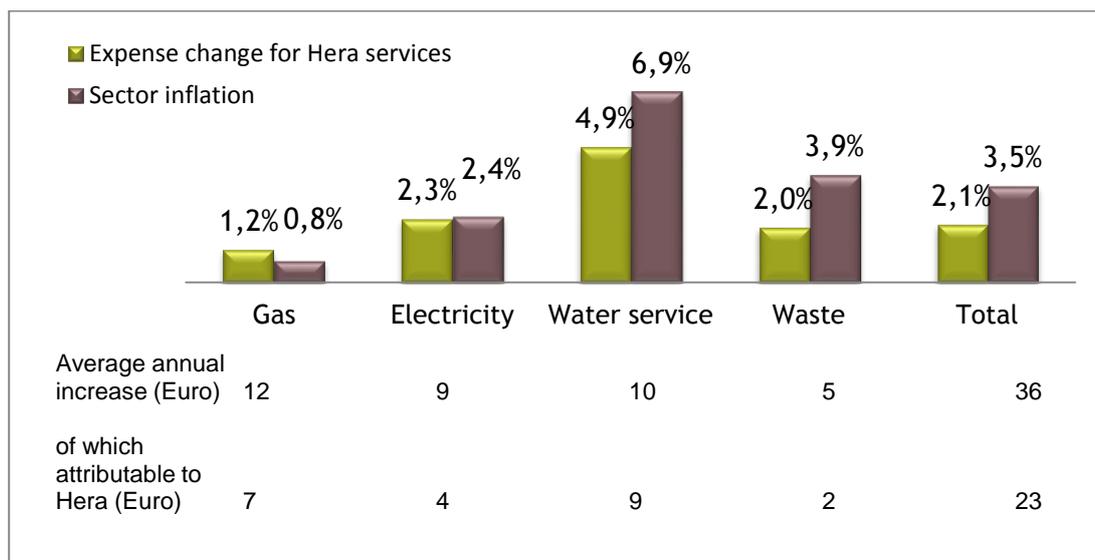
Euro	2016	2017	Ch. 2017/2016	Ch. % 2017/2016
Gas	943.05	946.59	3.54	0.4%
Electricity	491.72	515.41	23.69	4.8%
Water service	270.54	282.89	12.35	4.6%
Effluents and waste	239.71	241.78	2.07	0.9%
<b>Total</b>	<b>1,945.02</b>	<b>1,986.67</b>	<b>41.65</b>	<b>2.1%</b>
<i>of which attributed to Hera</i>	<i>752.29</i>	<i>781.95</i>	<i>29.69</i>	<i>3.9%</i>
<i>of which attributed to raw materials and generation</i>	<i>520.69</i>	<i>559.29</i>	<i>38.60</i>	<i>7.4%</i>
<i>of which duties, taxes, system charges and other charges</i>	<i>672.04</i>	<i>645.40</i>	<i>-26.54</i>	<i>-4.0%</i>

The table considers residential customers that use 1,200 m3 of gas (customers under market tariff protection conditions), 130 m3 of water and 2,700 kWh of electricity (standard-offer market customers), and typical for a family of 3 living in an 80 m2 flat for the waste service.

### The costs of Hera's services for an average customer (constant consumption)



## Comparison between variation of bills from 2006 to 2017 and inflation (annual average increase, CAGR)



The long-term analysis shows that, between 2006 and 2017, the gas, electricity, water service and waste management bills in the Emilia-Romagna area served by Hera had a compound increase below the Italian national average: +2.1 compared to 3.5% for the whole of Italy. This gap is even more markedly in favour of Hera's water service and waste service customers. In the field of waste, Hera's share grew by 2.0% (Euro 2 compared to the Euro 4 total expense increase).

### The gas bill

Euro	2015	2016	2017
Raw material component	409.90	346.77	363.01
Retail sale quota	67.64	64.75	64.13
Distribution tariff	129.18	127.85	118.67
System charges	34.20	37.43	28.52
Consumption tax	197.99	198.14	198.02
Regional tax	30.58	31.40	30.60
VAT 10%/22%	147.89	136.71	143.63
<b>Total</b>	<b>1,017.38</b>	<b>943.05</b>	<b>946.59</b>

19% of bill attributable to Hera

Weighted average on residents for residential customers that use 1200 m<sup>3</sup> of gas a year and with direct debit and online billing, considering the bills in the Bologna, Ferrara, Forlì, Imola, Modena, Padua, Pesaro, Ravenna and Trieste municipalities. The grey areas refer to tariff components that are not attributable to Hera. A customer under market tariff protection conditions was considered, according to the economic conditions defined by Arera; 47% of Hera's residential customers are in this category. The complete data regarding gas supply tariffs are available on the Group's website.

For the same consumption, on average the 2017 gas bill of a Hera residential customer under market tariff protection conditions cost about Euro 3 more (+0.4%) than the previous year, remaining Euro 71 (7%) below 2015. The share of sales of raw materials increased by about Euro 16 as a result of the increase in gas prices during the year while the retail component decreased slightly by Euro 0.6 due to decrease in the variable share of sales. Distribution tariffs decreased by Euro 9; system charges also decreased by Euro 9, mainly due to the decrease in the component used to ensure that the total amounts paid by customers for the distribution tariff correspond to those paid to the various distribution companies to cover the costs of the service. Consumption tax and the regional tax are unchanged, while VAT increased by almost Euro 7 as a result of the above variations.

Gas **distribution tariffs** are set annually by Arera. Resolution 367/2014/R/GAS of July 2014 defined the regulation of the gas distribution and metering service tariffs for the 2014-2019 regulatory period. Tariffs are differentiated for the six macro-regional areas into which the country is divided, and are determined to guarantee coverage at the macro-area level of the cost of capital and operating costs incurred by distributors. The Consolidated Law for the regulation of the quality and rates of gas distribution and metering services for regulatory period 2014-2019 (TUDG) establishes that, from 1 January 2015, the fixed rates of the obligatory distribution tariffs are structured by metering unit class (meter class) while the G4 metering class has been taken as the reference for an average family that lives in the municipalities served. Specifically, the obligatory tariff levels for the distribution services and natural gas metering for January-December 2016 were approved by resolution 774/2016/R/gas of December 2016.

The distribution tariff impacted on average 12% of the total bill in 2017. Part of the distribution tariff includes components to cover general gas system charges (such as energy saving promotion costs) which the individual distributors treat as contra-items, paying the resulting revenue to the Cassa per i Servizi Energie e Ambientale (Energy and Environmental Services Fund). These bill components are included in the “system charges” item. In 2017, system charges were down Euro 9 compared to the previous year.

The sales quota relative to the economic conditions of the supply for the service subject to protection, defined by Arera, is governed by ARG/gas resolution 64/2009 (Consolidated act for the retail sale of gas). This resolution defines the protected service economic conditions for entitled customers. In 2011, AEEGSI started a reform of these conditions. Implementation commenced with ARG/gas resolution no. 116/2012, which, by transposing the indications laid down in Decree Law no. 1/2012, establishes the modification of the previous indexing mechanism (connected to a basket of oil products which the purchase formulas of the long-term procurement contracts entered into by leading Italian importers refer to) with gradually increasing indexing based upon the gas wholesale market. In 2016, raw material costs were indexed according to the gas price of the Dutch hub TTF, which reflects the costs of the European market. The tariff components that together make up the raw material purchase costs in 2017 account for 38% of the total bill. Resolution 817/2016/R/GAS updated the level of the retail sales component (QVD), recording a slight increase in the same, from January 2017 compared to 2016. In the event of payment of the amounts by automatic debiting and electronic billing, Resolution 610/2015/R/COM introduced, for the economic conditions of protection, a bonus that is worth Euro 5.4 for the year 2017. Lastly, in 2017, taxes account for 42% of the total, on average. These taxes are due to the State and regional government authorities (consumption tax, additional regional tax and VAT). Taxes are set by specific provisions by the Ministry of the Economy and Finance and the regional government authorities, and vary according to the use of the gas, whether for heating or only for cooking or industrial uses. Beginning from January 2008, VAT is applied at 10% for up to 480 cubic metres annually, and above that, VAT is set at 22% under Decree Law 76/2013.

In addition, in 2017 signing up for Hera Comm’s Prezzo Netto Special Web offer generated savings of approximately Euro 41, equal to 4% of the bill indicated in the table.

### The electricity bill

<b>Euro</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
Energy generation quota	167.16	133.83	161.42
Dispatching quota	34.20	40.08	34.86
Distribution and sales quota	100.87	120.53	146.44
System charges	134.66	131.19	104.21
Taxes	21.57	21.37	21.63
VAT (10%)	45.84	44.70	46.85
<b>Total</b>	<b>504.30</b>	<b>491.71</b>	<b>515.42</b>

Attributable to Hera: 28% of the bill's total

Weighted average on residents of a bill for a residential customer residing in the municipalities of Modena, Imola and Trieste with an installed capacity of 3 kW and annual consumption of 2700 kWh, with automatic debit and electronic

billing. The grey areas refer to tariff components that are not attributable to Hera. A customer of the market with the highest protection was considered; 21% of Hera's residential customers are in this category.

Considering equal consumption, the electricity bill of a residential customer to which the service subject to the highest protection is applied increased by 4.8% in 2017 compared to the previous year (Euro 23.76). The energy quota increased by Euro 27.59, due to the increase in the cost of raw materials, partly offset by the decrease in the dispatching fee of Euro 5.22 and by positive and negative changes in the other components. Only the distribution and sales quota is attributed to Hera for coverage of the management and maintenance costs of the power grid incurred by the distributor and of the costs for sales activities (invoicing, bill sending, etc.) which are incurred by the Hera Comm sales company. This portion accounts for only 28% of the total bill.

The 2017 bill is calculated by using the twin rate tariff and the profile type defined by Arera (one third of consumption in the peak period, from 8 am to 7 pm from Monday to Friday, and two-thirds during off-peak periods), which causes no difference between the twin rate and single rate prices.

The electricity bills include the following costs: sales costs, costs incurred to purchase energy and for the dispatching service, which ensures a balance between electricity supply and demand at all times, costs to cover the service for transporting electricity on the national transmission and local distribution grids through to the meter (transport, distribution and metering costs and system charges), and taxes;

In January 2016, implementing the European Directive 2012/27/EU on energy efficiency, Arera defined with resolution 582/2015/R/eel, a programmatic framework to implement the reform of network tariffs and tariff components to cover general system charges for residential customers. The Directive requires gradual adjustment of the tariff components to the costs of the service involved. The adjustment of the charging structure must be such as to stimulate virtuous behaviour by the residents and encourage achieving energy efficiency objectives. The Reform is designed to be carried out in several steps. The fees for network services (transmission, distribution and metering), were redefined starting 1 January 2016 to mitigate the effect of progressiveness on consumption (first step), while from 1 January 2017 (second step) the definitive non progressive tariff structure called "TD" was adopted, consisting of network services fees that are the same for all residential customers and that are compliant with the criterion of consistency of the tariffs with the costs of the underlying services. The fees for general system charges were redefined from 1 January 2017 to mitigate the effect of progressiveness on consumption and to limit the number of annual consumption brackets to two, and a fee expressed in Euro/year was introduced for non-resident residential customers only. The completion of the process (third step), initially scheduled for January 2018, was postponed by one year (by Resolution 867/2017/R/eel) and sets 1 January 2019 for the reform to be operational, applying also to system charges a tariff structure that is not progressive but rather differentiated between resident customers (to whom they will be fully applied as energy-related charges) and non-resident customers (to whom they will be applied partly as a fixed quota and partly as an energy-related charge).

Among the system charges, the highest cost component for final customers (equal to 76% of overall system charges) promotes the production of energy from renewable and similar sources through an incentive system which ensures definite compensation for the energy produced and special conditions for connecting the plants to the networks. This component has constantly increased over the past years, following the increase in production from renewable sources and the costs for adapting the network to these sources. For payments of electronic bills using automatic debit, resolution 610/2015/R/COM introduced a bonus for customers entitled to protective economic conditions, worth Euro 6 in 2017.

In addition, in 2017 signing up for Hera Comm's Prezzo Netto Special Web offer generated savings of approximately Euro 26, amounting to 5% of the bill shown in the table.

Hera Comm also informs residential customers of the advantages of its free market rate plans by providing a comparative sheet with an estimate of what the customer is likely to pay according to the economic conditions of the tariff protection conditions service defined by AEEGSI. The comparative sheets are drafted

in accordance with the criteria established by the Authorities (Arg/com resolution 104/2010) and are available on the Hera Comm website.

In 2016, 19% of the electricity sold by Hera Comm on the free market came from renewable sources and for the remainder, mainly from natural gas and coal. In addition, more than 75,000 customers (8.7% of the total) have signed up for a free market offer called "Pacchetto natura" [Nature Package] which guarantees that the electricity consumed comes from renewable sources.

### The water service bill

Euro	2015	2016	2017
Aqueduct	104.84	110.54	115.52
Sewage	30.87	32.57	34.05
Treatment	78.09	82.47	86.35
Fixed quota	19.32	20.37	21.25
VAT (10%)	23.31	24.59	25.72
<b>Total</b>	<b>256.44</b>	<b>270.54</b>	<b>282.89</b>

Attributable to Hera:  
91% of the bill's total

Weighted average on residents for residential customers (family of 3) that use 130 m<sup>3</sup> of water a year, considering the bills in the Bologna, Ferrara, Forli, Imola, Modena, Padua, Pesaro, Ravenna, Rimini and Trieste municipalities. The grey areas show tariff components that are not attributable to Hera.

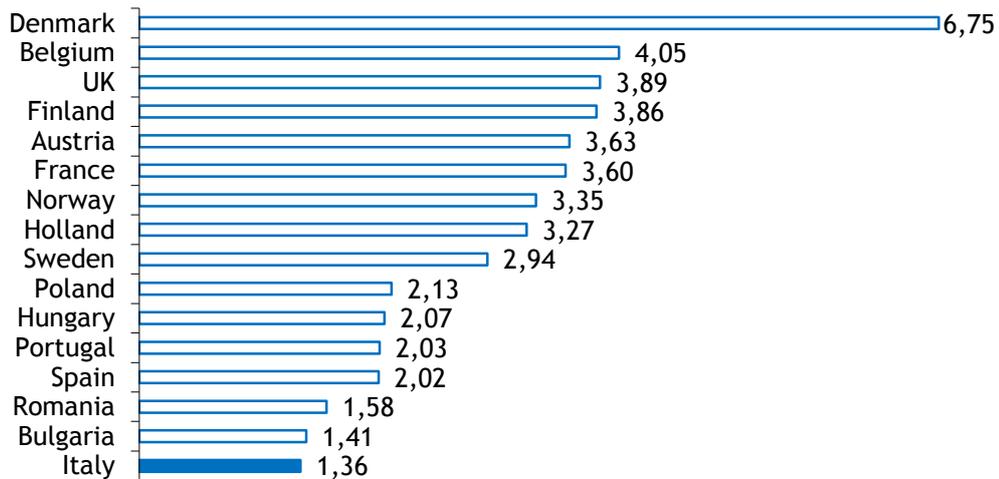
The average bill a residential customer that uses 130 m<sup>3</sup> of water a year rose from Euro 270.54 in 2016 to Euro 282.89 in 2017: there was a 4.6% rise in the last year.

Since 2012, Arera has been responsible for the regulation of the water service. It first of all set up a provisional tariff method for the 2012-2013 period and subsequently a permanent tariff method for 2014-2015, later updated for 2016-2019. The 2015 tariffs were approved by Aeegsi with resolution 433/2014/R/idr of 7 August 2014; those for 2016 and 2017 with resolution 715/2016/R/idr of 1 December 2016. The tariffs approved in the various years also include the balances from previous years, determined in compliance with the rules of the tariff method.

### *The cost of water in Italy and Europe*

In 2013, the International Water Association carried out research on the drinking water charges applied in 160 cities in 36 countries. In the 104 European cities, the cost of annual consumption of 200 m<sup>3</sup>/year ranges from between Euro 1.36 and 6.75 per m<sup>3</sup>. Italy has the lowest cost, with Milan, Naples, Rome Turin, and Bologna (Euro 1.36 per m<sup>3</sup>) among the cities considered by the analysis.

### Average cost of water in Europe (Euro per m<sup>3</sup>)



According to Federconsumatori's XV National sample survey on the 2016 tariffs of the integrated water service, the average cost in Italy for a typical family made up of three members and that uses 150 m<sup>3</sup> of water per year is Euro 1.89 per m<sup>3</sup>. In the provincial capitals served by Hera this cost is 15% higher (Euro 2.17), but still 18% lower than the weighted average on residents (Euro 2.66 per m<sup>3</sup>) of the main European cities analysed in the report published by the International Water Association.

Average expenditure for the integrated water service varies among the areas Hera serves since it depends on the specific structure of the water supply sources of the various areas, due to the availability of water resources and to the proximity of the withdrawal source.

The tariff mechanisms developed by Arera since 2012 helped us continue to make considerable investments, particularly for those sectors with a higher environmental impact, such as reclamation from sewage-purification.

In 2016, the portion of the tariff allocated to cover the investments made and to repay capital invested was 27% of the tariff, while the remaining 73% went to cover operating, maintenance and emergency costs for grids and plants and the fees paid to municipalities and asset companies for the use of infrastructures.

#### *The new water service regulation*

Arera has been the Italian regulatory agency for water services since 2012. Its initial objective was to define a tariff method capable of supporting (efficient) coverage of costs, of increasing investments and also promoting quality of service oriented mechanisms.

The measures that followed from 2012 onwards were all focused in this direction. In particular:

- from a tariff point of view, 2017 is part of the second regulatory period, when fully operational (2016-2019) which, in addition to confirming the criteria outlined above, initially with the 2012-2013 transitional tariff method and then with the first regulatory period (2014-2015), introduced the important new incentive of contractual quality, requiring minimum service levels but also forms of recognition of levels higher than the minimum required;
- 2017 was also the year in which some important measures were implemented, launched by Arera, on issues already anticipated in previous years. In particular, resolutions were passed on the regulation of water service tariff structures, which in the near future will be geared towards implementing the per capita tariff, recognizing a water bonus for disadvantaged users, and initiating technical quality monitoring by identifying minimum standards and the related reward/penalty mechanisms. These resolutions, adopted during 2017, will take effect from 2018;

- 2017 was also the year in which data collection was started for the first time on the economic and financial aspects of the water service, known as "accounting unbundling", similar to the activities of the gas and electricity services;

The matter of arrears management is still open, and the final measure is expected from Arera in early 2018.

#### The expense for waste collection and disposal

Euro	2015	2016	2017
Fixed quota	101.77	104.66	103.55
Variable quota	92.94	88.54	92.02
Fixed and variable quota not attributable to Hera	32.69	35.10	34.70
Additional province charges	11.37	11.41	11.52
<b>Total</b>	<b>238.78</b>	<b>239.71</b>	<b>241.79</b>

Attributable to Hera: 81% of the bill's total

Weighted average on residents for customers made up of a family of 3 living in an 80 m<sup>2</sup> flat, considering the areas served in the Bologna, Ferrara, Forlì, Imola, Modena, Padua, Pesaro, Ravenna, Rimini and Trieste municipalities. The grey areas show tariff components that are not attributable to Hera.

A family of 3 people, living in an apartment of 80 m<sup>2</sup> paid approximately Euro 242 for waste collection and disposal, an increase of 0.9% (or just over Euro 2) compared to 2016. The growth trend is therefore in line with that of 2015 and 2014. 19% of the amount bill is not attributable to Hera and is for additional provincial tax and other TARI tax items, mainly the coverage of uncollected amounts (unpaid portion).

A Waste Tax (TARI) was introduced in January 2014 in both the municipalities where the Environmental Hygiene Tariff (TIA) was applied and those where the Tax on Waste and Services (TARES) was applied. The new tax has to ensure full coverage of costs relating to the waste management service, which includes the sweeping and washing of roads, rubbish collection and transportation, separate waste collection, waste treatment and disposal, and administrative costs. The Municipalities can entrust collection of the tax to the waste service operators. 42 municipalities have chosen to do so, for 2017.

According to the national tariff method for defining urban waste management service tariffs, the tariff must fully cover the costs of the service, including a fair return on the capital invested. In the municipalities served by the Group, 98% of the costs of the service were covered in 2016. This percentage is the ratio between the waste management service costs set out in the financial plans and the actual costs incurred during the year.

By analysing the data of the collection centres, it can be calculated that a family of 3 that annually disposes of 261 kilograms of waste at separated waste collection centres (paper, cardboard, glass, tins, plastic, other materials such as oil, small appliances, etc.), obtains an average discount of Euro 30. This discount, added to the savings on the additional province charges, comes to 12% of an average family's spending. In the areas where incentives are provided for residential composting, the discount applicable to a household of 3 people ranges from Euro 15 in Ravenna to Euro 23 in Modena. Therefore, residents who bring their separated waste to the collection centres and also carry out residential composting can obtain an average discount of over Euro 48 on their bills which, added to savings on the additional province tax, amounts to 20% of their total yearly expense.

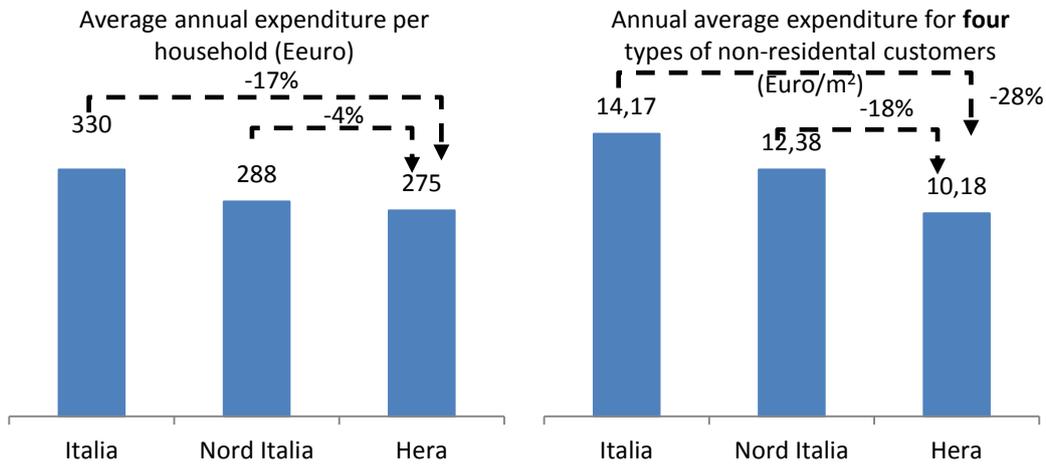
#### *The cost of waste management services for residential and non-residential customers*

In 2017, Hera charged its residential customers waste management costs that were 17% below the Italian average and 4.2% lower than the Northern Italy average: these were the findings of the Cittadinanzattiva Price and Tariff Study (Osservatorio prezzi e tariffe), which covered 106 province capitals. The study based its findings on a standard customer consisting of a family of 3 living in a 100 m<sup>2</sup> flat.

Also, a new Ref Ricerche study on the cost of the TARI waste tax in 2017 considered four types of non-residential users in 102 provincial capitals. In the areas served by Hera, restaurants spend 30% less than the

Italian average, and the savings was 22% for hotels, 38% for the food industry and 24% for supermarkets. For non-residential users of restaurants, supermarkets and food industry in the areas served by Hera, they are cheaper respectively by 26%, 16% and 0.5% as compared to the average of northern Italy: for hotels Hera charges more than the average of northern Italy by 7%. The average of the four types of users considered by the research shows therefore makes the Hera territory more competitive, with costs 28% below the Italian average and 18% below the average of northern Italy.

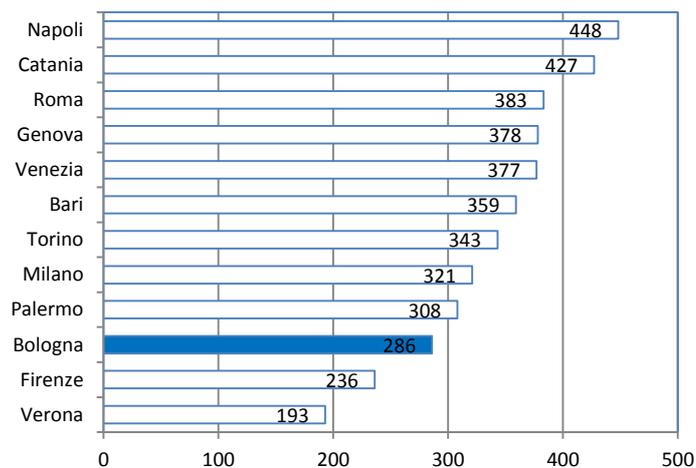
### The cost of waste management services for residential and non-residential customers



2017 data, 3 persons in 100 m<sup>2</sup>, Cittadinanzattiva      2017 data, REF Ricerche

Cittadinanzattiva's 2017 report also compares the 2017 cost for urban waste service in the Italian province capitals. With regard to the 12 large-sized municipalities (over 250,000 inhabitants), Bologna with a TARI waste tax of Euro 286 ranks among the cities with the lowest cost, together with Florence and Verona and a level 20% below the average of the 12 capital cities.

Total cost per user in cities with over 250,000 inhabitants (3 occupants, 100 m<sup>2</sup>, Euro)

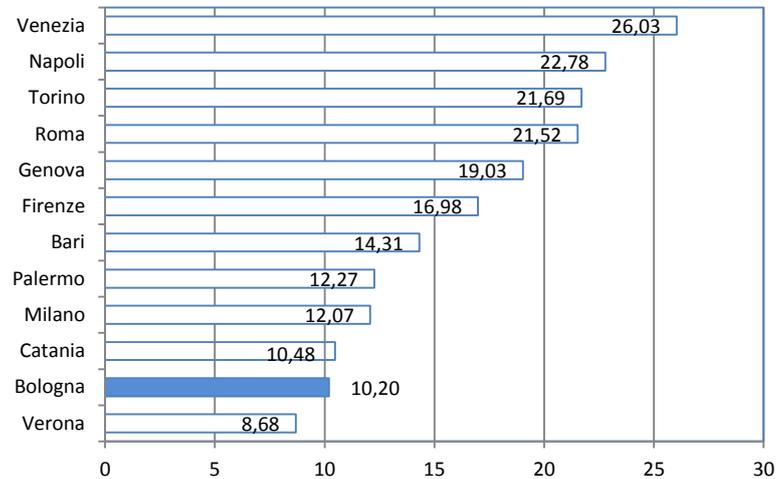


Cittadinanzattiva, 2017 data, 3 persons 100 m<sup>2</sup>

The 2017 Ref Ricerche report also compares the cost of the urban waste service for non-residential customers in Italian province capitals with over 250,000 inhabitants. Among them, Bologna ranks as one of

the cities with the lowest average costs for the 4 types of non-residential users considered by the study (restaurants, hotels, industry and supermarkets), with Euro 10.20 per m<sup>2</sup>.

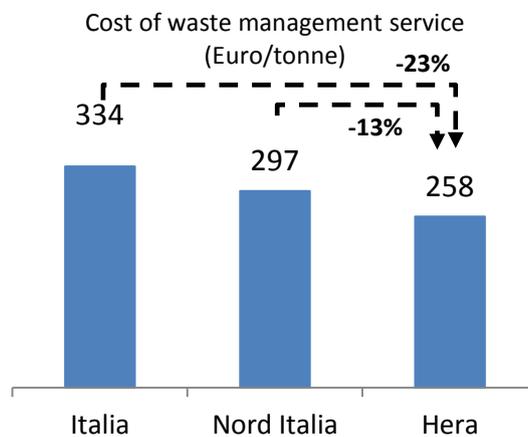
Waste management expenditure for non-residential users in cities with over 250,000 inhabitants (Euro/m<sup>2</sup>)



2017 data, (Types of non-domestic users represented in the search: hotels, restaurants, food industry and supermarkets.) REF Ricerche

### The cost of the waste management service

Hera has lower costs than the rest of Italy, also considering the cost per tonne of waste treated: 23% less than of the Italian average and 13% less than that of northern Italy (Ispra Report 2017, 2016 data). This result is also due to the higher amount of waste of non-residential customers being similar to municipal waste, which allows the fixed costs of the service to be spread over a higher quantity of waste.



2017 Ispra Report 2017, 2016 Ispra and Hera data.

## The district heating bill

Euro	2015	2016	2017
Meter rental	26.64	26.64	26.64
Variable quota	1,032.00	958.14	961.99
VAT 10%/22%	105.86	98.48	98.86
<b>Total</b>	<b>1,164.5</b>	<b>1,083.26</b>	<b>1,087.49</b>

Weighted average on citizens for the residential monomial tariff for 1,200 m<sup>3</sup> of methane measured at the meter, 8926 kWh, on the basis of the volume served in the Bologna, Cesena, Ferrara, Imola and Modena municipalities: 90% of Hera's customers are in this category and it amounts to 23% of residential volumes sold. The bill for Ferrara, one of the five considered for the average, was calculated excluding the tax incentives recognised due to the prevalent use of geothermal sources in that area. The grey areas show tariff components that are not attributable to Hera.

The average expenditure incurred by a household in 2017 for district heating service is slightly higher than it was in 2016 (+0.3%) but substantially in line with that of 2016. The effect is mainly due to an increase in the cost of gas at wholesale level, which contributes to determine the tariff.

In 2016, the Hera Group launched a new tariff for the district heating service, aimed at families with individual heat meters and with an annual consumption under 25,000 kWh. The new offer, called "Nuovo Teleriscaldamento Hera", offers a price for district heating that is fixed for 30 months, and a monthly fee for the meter rental (free for the first months of activation thanks to a special promotion that involved the launch of the offer on the market). This offer is designed to protect customers, with a price that does not change for 30 months, from possible increases in energy costs, while providing them with a simple and effective way to understand their consumption. Customers who subscribed to the offer at the end of 2016 thus saw their expenditure "protected" already during 2017, a year in which energy prices rose, since they were able to benefit, in many cases, from a lower expenditure than the residential monomial tariff. In the case of the average customer described above, with an annual consumption of 8,926 kWh, the offer involved a total expenditure for 2017 of 968.6 Euro/year: 119 Euro/year less than the monomial tariff, approximately 11%. The offer also includes, free of charge, the innovative "consumption analysis" service that allows customers, by simply reading report sent by email, to understand their consumption habits better, orienting them over time towards savings.

## The quality of our service

### *Electricity and gas*

The regulation of quality divides the standards to be met into "general" and "specific": failure to meet the latter due to causes attributable to Hera requires the payment of indemnities to customers or to the sales company requiring technical data from the distributor, which may vary depending on the type of supply (low or medium voltage for electricity, the meter category for gas), the delay in executing the service and the times required for compensation. Automatic compensation varies from Euro 24 to 140 based on the type of supply, and can increase based on the delay in the provision of the service or the fulfilment times.

The specific quality standards for the distribution service include, in particular, the time limits for executing works, activating supply, and the failure to comply with the punctuality bracket for appointments scheduled with customers (resolution 574/2013/R/Gas and 646/2015/R/Eel).

### *Water and waste management*

When managing the integrated water service and the urban waste management service, the operator is committed to complying with specific minimum quality standards set forth in the Service Charter. This document is drawn up on the basis of a template prepared by the Water and Waste Regulatory Authorities and annexed to the signed agreements.

AEEGSI's resolution 655/2015 has governed the contractual quality of the water service since 1 July 2016, defining minimum service levels that operators must respect for activities related to the requests of users,

emergency services, billing, access to branch offices and to the call centre and the management of complaints. The resolution also introduced the payment of an automatic indemnity of Euro 30 to be paid if the operator fails to comply with the specific quality standards.

It also allowed operators to access incentives for their commitment to pursue quality levels that improve on the minimum levels required by said resolution 655/2015. Hera Spa achieved the incentive for the Bologna and Modena areas, applying the improved levels set by Aterisir for 32 standards. For the Ferrara, Ravenna, Forlì-Cesena and Rimini areas, pending access to the same incentives provided to Bologna and Modena, branch offices are already open to customers on Saturday mornings, as an added convenience for users. The requirements of the contractual quality objectives shall also be adequately monitored and reported to the national regulator, to Aterisir and to users by publishing them in the bills.

The waste management Service Charter is in force in the Ferrara, Padua and Trieste areas.

#### *District heating service*

In 2008, and on a voluntary basis, Hera began monitoring the quality of the most significant services and automatically paid compensation to customers if it had not fulfilled the commitments set forth in its “District heating service quality charter” in force in the Emilia-Romagna area. Automatic compensation ranges from Euro 35 to 140 depending on the customer’s system and is paid if standards are not met, such as the time required to activate and terminate the supply, and reactivate it after having been disconnected due to late payment.

#### **Compliance with specific quality standards**

%	2015	2016	2017	Number of services provided (2017)
Gas	99.7%	99.9%	99.9%	2,754,062
Electricity	98.1%	98.6%	97.7%	65,860
Integrated water service	99.5%	98.9%	98.2%	206,058
District heating	99.8%	98.9%	97.8%	1,608
<b>Total</b>	<b>99.6%</b>	<b>99.8%</b>	<b>99.7%</b>	<b>3,027,588</b>

Includes the services for which customers must be automatically compensated if the company does not comply with the standard. The data on sales quality standards do not include Estenergy and AcegasAps Service.

Overall, the figures are in line with 2016: in 2017, 99.7% of cases, the Group provided the service requested by the customer within the timeframes set by Arera, the Italian regulatory authority for energy, network and the environment. This percentage has increased, on a like-for-like basis, from 95.8% in 2008 to 99.7% in 2017. Quality standards are close to full compliance (99.9%) in Hera's and AcegasApsAmga's gas services and Marche Multiservizi's water service.

## Compliance with specific gas and electricity quality standards

%	2015	2016	2017	Number of services provided (2017)
Gas sales	97.5%	97.4%	92.7%	16,043
Gas distribution (final customers and sales companies)	99.7%	99.9%	99.9%	2,738,019
<i>Gas total</i>	<i>99.7%</i>	<i>99.9%</i>	<i>99.9%</i>	<i>2,754,062</i>
Electricity sales	97.8%	97.6%	95.6%	13,933
Electricity distribution (final customers and sales companies)	98.3%	98.8%	98.2%	51,927
<i>Electricity total</i>	<i>98.2%</i>	<i>98.6%</i>	<i>97.7%</i>	<i>65,860</i>
Total	99.6%	99.8%	99.8%	2,819,922
<i>Of which gas and electricity distribution</i>	<i>99.6%</i>	<i>99.9%</i>	<i>99.9%</i>	<i>2,789,946</i>

Includes the services for which customers must be automatically compensated if the company does not comply with the standard. The data relating to the sales quality standards do not include Estenergy and AcegasAps Service.

In almost all cases, the individual services consolidated their good results compared with the times already recorded in 2016. In particular, this year showed a positive trend for some highly subscribed gas-related services such as the provision of estimates for simple gas works (from 98.6% to 98.8%), the activation of gas supply (from 99.8% to 99.9%), supply deactivation at the customer's request (from 98.1% to 100%) and re-activation after late payment (from 96.9% to 98.0%). For the electricity supply service, the activation of the electricity supply improved (from 98.7% to 99.1%), while the re-activation after late payment of electricity worsened slightly (from 99.5% to 98.4%). The standard frequency of collection of the measurement also includes the new remotely read gas service meters.

### Initiatives for improving the quality of readings

As regards the gas service, AEEGSI's resolution 117/2015/R/gas changed the frequency of readings, including a reading every 4 months, and the concept of periods relevant for meter reading. In response to this resolution, the Hera Group has presented an improvement plan, approved by AEEGSI, to maintain the benefits added by the new regulation and, at the same time, optimise reading loads throughout the year. Starting 1 January 2016, this has made it possible to start a new reading plan that includes:

- four attempts per year to take a reading for all customers with annual consumption between 501 and 5000 m<sup>3</sup> instead of the two required for customers with annual consumption between 501 and 1500 and the three required for customers with annual consumption between 1501 and 5000.
- two attempts per year to take a reading for all customers with annual consumption between 0 and 500 m<sup>3</sup>, instead of the single reading required.

By doing so the reading plan has made it possible to increase the quantity of readings collected by the distributor, optimize the reading workloads and reduce the number of readings that are estimated.

As regards the water service, AEEGSI's resolution 218/2016/R/idr added new reading frequencies, and the concept of minimum time between readings. In the face of this resolution, and thanks to Hera Group's orientation which already went in the direction of maximising the collection of measurement data, the new reading plan, initiated on 1 July 2016 includes:

- twelve attempts per year to take a reading for all customers with annual consumption above 1800 m<sup>3</sup> instead of the two required for customers with annual consumption between 1800 and 3000 and the three required for customers with annual consumption above 3000.
- four attempts per year to take a reading for all customers with annual consumption between 500 and 1800 m<sup>3</sup>, instead of the two required.

By doing so, the reading schedule has made it possible to increase the number of readings actually taken, making it easier to identify leaks, and improve the quality of the invoicing (a smaller percentage of consumption is estimated).

The year 2017 was a year of further refinement of the process of acquiring readings. One of the main improvements made at the end of the year was the optimization of algorithms and parameters for identifying readings that show consumption that is not in line with the customer's historical profile, so as to be able to concentrate complex verification and control activities on the cases that have the greatest probability of being anomalies, thus ensuring a high quality of the measurement data as a whole.

As regards the gas service, Arera's resolution 117/2015/R/gas changed the frequency of readings, including a reading every 4 months, and the concept of periods relevant for meter reading. In response to this resolution, the Hera Group has presented an improvement plan, approved by Arera, to maintain the benefits added by the new regulation and, at the same time, optimize reading loads throughout the year. Starting 1 January 2016, this has made it possible to start a new reading plan that includes:

- four attempts per year to take a reading for all customers with annual consumption between 501 and 5000 m<sup>3</sup> instead of the two required for customers with annual consumption between 501 and 1500 and the three required for customers with annual consumption between 1501 and 5000.
- two attempts per year to take a reading for all customers with annual consumption between 0 and 500 m<sup>3</sup>, instead of the single reading required.

By doing so the reading plan has made it possible to increase the quantity of readings collected by the distributor, optimize the reading workloads and reduce the number of readings that are estimated.

As regards the water service, Arera's resolution 218/2016/R/idr added new reading frequencies, and the concept of minimum time between readings. In the face of this resolution, and thanks to Hera Group's orientation which already went in the direction of maximising the collection of meter reading data, the new reading plan, initiated on 1 July 2016 includes:

- twelve attempts per year to take a reading for all customers with annual consumption above 1800 m<sup>3</sup> instead of the two required for customers with annual consumption between 1800 and 3000 and the three required for customers with annual consumption above 3000.
- four attempts per year to take a reading for all customers with annual consumption between 500 and 1800 m<sup>3</sup>, instead of the two required.

By doing so, the reading schedule has made it possible to increase the number of readings actually taken, making it easier to identify leaks, and improve the quality of the invoicing (a smaller percentage of consumption is estimated).

Also in the field of **remote readings**, intense operational and control and monitoring activities were carried out during the year from the remote reading systems control room, which is also fundamental for optimizing maintenance activities in the field, thus ensuring excellent availability of reading data. An optimization introduced during the year was the systematization of the management of the electronic meters undergoing temporary maintenance, by means of a manual reading run, always with the aim of minimizing the use of estimated readings.

Moreover, with the aim of further optimizing yields and therefore the availability of effective measures, testing has begun in the Modena and Ferrara areas of a new reading run planning system, characterized by seeking the maximum possible synergy of multiservice reading of each customer, subject to the constraints on the reading frequencies of the network services we manage.

In 2017, an additional water service reading attempt was made, within 30 days of two consecutive failed attempts, as required by Arera Resolution 218/2016.

As of the end of 2017, the Hera Group achieved its 2017 targets by installing over 402,626 electronic gas meters, amounting to 22% of the total (the target for the end of 2017 was 19%), 315,313 of which installed

in 2017. We expect to continue to implement the installation plan for electronic gas meters: to 30% electronic meters installed at end 2018 and 57% in 2021.

In 2017, the activities of the working group at the Italian gas committee (CIG), which issued the UNI/TR 11689 standard for remote management, were completed and will be used in 2018, in accordance with the sector regulations. The final value of the investments is consistent with the standard cost recognized by the Regulatory Authority in Resolution 904/2017. In 2017, the operating tools used to manage mass-market remote reading devices (G4-G6 meter classes) and to plan the remote reading radio network were consolidated, and the recovery of equipment malfunctioning in previous years continued.

**Procurement and installation** activities are now fully proceduralised and industrialised. Now the focus of the technical structures is on communication reliability and on the analysis of the factors that determine the yield of remote reading over specific timeframes (3 days, 7 days, etc..) in order to optimize the commercial performance of the system. At the same time, specific measures have been taken to optimize operating costs, with particular regard to communication costs, and activities were finalized to improve the commercial performance of the remote reading system, with particular regard to communication and rental costs for the facilities that house the concentrators.

The Hera Group has also developed an advanced version of the gas meter, prototypes of which were successfully introduced at the end of the year. In 2018, the metrology certification and large-scale industrialization phases of this innovative series of equipment will be planned.

### **Initiatives for improving billing quality**

When invoicing energy services, Hera Comm uses the data received from the distribution companies (and soon from the Integrated Information System of Arera) on the levels of consumption measured and the self-readings taken by customers and validated by the distribution companies.

For electricity, the almost total diffusion of electronic meters helps to provide accurate readings in line with the customer's real consumption levels. As for the measurement of gas consumption (considering the level of deployment of remotely managed meters as mentioned above) for most customers the consumption estimates are still essential and it is in this context that Hera Comm is working to make these estimates match actual customer consumption as closely as possible.

In 2017, specific areas were examined in detail in order to maximize the use of the actual readings, to act properly on customers with estimated bills, and to facilitate final customers in reading their own meters. In particular, a repeated check was carried out on the readings expected by the distributors and on the readings actually received, taking specific action on some specific distributors to encourage prompt delivery of reading data.

In addition, control processes were implemented to:

- minimise the use of estimates;
- increase the accuracy of estimates;
- create and use specific drawing curves;
- align the assumed annual consumption with the actual readings received in previous periods.

In 2017, work was also carried out on the "tracking and alert" project, which involves the introduction of a system that sends notifications to customers: thanks to this initiative, customers can already request information on the most appropriate time to send their self-reading in the first half of 2018, so as to reduce the use of estimates in their bills.

### **Quality of drinking water**

In 2017, to ensure control of the quality of water supplied, the Group's laboratories in Emilia-Romagna, Triveneto and Marche performed **398,983 analyses on drinking water**, including all the analyses performed

for the aqueduct process as a whole. This amounts to an average of almost 1,100 analyses per day. Of these, 63% were carried out on samples collected in the **distribution networks**.

Quality checks on the water used to produce water for drinking and for human consumption are governed by Italian Legislative Decrees 152/2006 and 31/2001, respectively.

The checks are carried out by the water service manager and the Local Health Authorities at the **source sampling points**, at the water treatment and accumulation plants, and along the **intake and distribution networks**.

Hera has developed a Group Control Plan which describes the **sampling points** and the **analysis methods used** (parameters and frequencies of the analyses). The Control Plan is developed on the basis of guidelines that focus on the water's chemical, **physical** and **bacteriological** characteristics, so as to fully comply with legal requirements and ensure a top-quality product. In 2017, preliminary checks of radioactivity in drinking water were started (as required by Legislative Decree 28/2016) and analyses of pollutants with a high environmental impact (e.g. glyphosate) were increased. This led to an extension of the type of checks used for risk assessment.

#### *How much water costs*

As well as benefiting the environment, drinking tap water instead of mineral water also saves money: considering an average yearly consumption 1000 litres for a household of three people and an average price in Italy of 27 cents per litre for certain retailed mineral waters, yearly spending on mineral water comes to around Euro 270 a year. The cost for the same quantity of mains water, meanwhile, would be Euro 2.08 a year (calculated as the 2017 average of the bills in the nine main cities served by Hera). Italy is third in the world for consumption of bottled water with 201 litres of water consumed per capita in 2014, after Mexico and Thailand (Source: International Bottled Water Association 2016).

Water quality also means controlling the effectiveness of the treatment processes. For example, the water is checked for chlorites and trihalomethanes, which come from, respectively, the use of chlorine dioxide and sodium hypochlorite as disinfectants. The **concentration of chlorites** and **trihalomethanes** in the distribution network is kept under constant control in line with the **regulatory limits**.

Since 2008, the average data recorded for the **pH, total hardness, dry solids at 180°, chloride, fluoride, sodium, nitrate, nitrite and ammonium** has been published on the Group's website, listed by individual municipality, and updated every six months. Since 2012, this set of parameters has been extended to include four others: **calcium, magnesium, sulphates, and total alkalinity**. These 13 parameters are considered to be representative of the quality of the **drinking water distributed** and can be used to draw comparisons with the quality of bottled water on the market.

Starting from the second half of 2014, the set of parameters was further expanded with 6 additional parameters as required by Arera: **conductivity, potassium, arsenic, bicarbonate, residual chlorine and manganese**. As such, 19 parameters are subject to publication, one more than the number determined by the regulator.

Since 15 September 2012, the tap water label has been present in Hera's bills as well as on its website. Customers can find the data on the quality of the water distributed by Hera in their municipality (updated every 6 months), directly on their bill. The communication concerns 165 municipalities in Emilia-Romagna where Hera manages the water distribution service and includes the values of 19 water quality parameters, compared with the regulatory limits (alkalinity from bicarbonates, total alkalinity, ammonium, arsenic, calcium, free chlorine, chloride, conductivity, pH, hardness, fluoride, magnesium, manganese, nitrate, nitrite, potassium, dry residue at 180 °C, sodium, and sulphate). Alongside the data, a message reminds customers that tap water is good, safe and better for the environment, and allows them to save Euro 270 per year. The AcegasApsAmga website includes water quality data for the municipalities served in the Padua and Trieste areas, which are updated constantly.

Since January 2009, all drinking water production plants in Romagna have been served by **Romagna Acque - Società delle Fonti**, the company set up for this purpose by the local regional administrations of Emilia-Romagna. As a result, the water distributed in the Forli-Cesena, Ravenna and Rimini areas is in large part purchased wholesale from that company, and Hera's involvement in quality is limited to **managing the network and the supplementary disinfection stations** along the distribution networks.

The assessments of the quality of distributed drinking water, as compared to the quality of mineral water, are carried out based on the analytic parameters which are commonly surveyed at the representative sampling points of the water networks: pH, total hardness, dry residue at 180°C, sodium, fluorides, nitrates, nitrite, chlorides, calcium, bicarbonate alkalinity, manganese, potassium, sulphate. The parameters chosen to measure the quality of distributed water refer primarily to the importance of distributing drinking water that contains a suitable amount of mineral salts. The parameters chosen to measure the quality of distributed water refer primarily to the importance of distributing drinking water that contains a suitable amount of mineral salts.

It is confirmed that once again in 2017 the average values for Hera water are comparable with those of commercial mineral waters and that no departures were granted from compliance with the limits set forth in Italian Legislative Decree 31/2001. The only average result found by Hera, higher than that found on the labels of 17 mineral waters on the market, is nitrates in the territories of Modena, Padua and Rimini; the average value found in 2017 in the waters distributed by Hera is in these cases below the regulatory limit of 66-78%.

#### Quality comparison between water distributed by Hera and mineral waters on the market

	Mineral waters (min-max)	Tap water limits Leg. Dec. 31/2001	Bologna	Ferrara	Forli-Cesena	Modena	Padova	Pesaro-Urbino	Ravenna	Rimini	Trieste
pH	5.8 - 8.0	6.5 - 9.5	7.4	7.6	7.7	7.5	7.6	7.7	7.9	7.6	7.7
Hardness (°F)	0.7-88	50*	32	23	27	37	27	29	22	28	19
Dry solids at 180°C (mg/l)	22-932	1.500*	408	320	356	557	320	434	334	387	240
Sodium (mg/l)	0.3-67	200	26	22	20	64	4	27	29	30	8
Fluorides (mg/l)	0.03-1	1.5	<0.10	<0.10	<0.10	<0.10	0.06	0.22	<0.10	<0.10	<0.1
Nitrates (mg/l)	1-9	50	8	6	8	17	17	6	5	11	7
Chlorides (mg/l)	0.2-80	250	33	31	25	94	11	34	37	37	14

\* Recommended value.

Comparison carried out with the data provided on the labels of 17 widely available mineral waters. The data on drinking water refer to the averages of 14,988 analyses carried out according to the frequency and withdrawal points on the distribution network set forth in the control and monitoring plan for the water cycle.

If even a single parameter is not compliant with regulatory limits, Hera takes immediate action to restore compliance of the water (by washing pipes, checking disinfection, etc.), also based on the instructions of the Local Health Authorities. For hygiene, health and public safety reasons, municipalities may issue orders declaring that the water is not fit for drinking for specific periods of time. In these cases, it may be prohibited to use water for cooking and drinking, or particular precautions will need to be adopted (e.g. boiling in case of microbiological non-compliance), while in general the water can continue to be used for all other purposes.

In 2017, 22 ordinances were issued, affecting a total of approximately 2,500 people:

- one order concerned an area of the Alto Reno Terme municipality in the Porretta Terme hamlet and affected 100 residents for 7 days;
- one order concerned an area of the Pennabilli municipality and affected 6 inhabitants for 3 days;
- 20 ordinances involved municipalities in the province of Pesaro Urbino and impacted on about 2,000 people for an average of 3 days.

All the ordinances were determined by the detection of microbiological contamination indicators, a phenomenon that disappeared with the resumption of disinfection and/or in the other case with network washing and an increase in disinfectant.

In the area served by AcegasApsAmga no orders were issued by mayors regarding the unsuitability of drinking water. As in previous years, the orders almost exclusively affected small municipalities or small areas of more populated municipalities. In almost all cases the unsuitable drinking water orders are related to problems at the disinfection plants of small and very small aqueducts where, due to the low flow rates and to their position, in isolated areas, monitoring and regulation is generally more difficult.

Regarding the presence of **cement-asbestos** pipes in the water network (see paragraph “Sustainable management of the water resources” for more data) it is noted that asbestos was used in construction and other industrial sectors until the end of the 1980s, and was definitively banned in 1992. While it has been recognised that the inhalation of asbestos fibres causes serious respiratory illnesses, there is no evidence of toxicity linked to the ingestion of asbestos. In fact, current regulations regarding the quality of water for human consumption (Legislative Decree 31/2001) does not set limits regarding the presence of asbestos fibres: in particular, Ministerial Decree of 14 May 1996, annex 3, references a WHO (World Health Organisation) document which states that “... there is no serious evidence that the ingestion of asbestos is hazardous to health”. The WHO reiterated this stance in the 2011 update of its Guidelines on drinking water quality (fourth edition-World Health Organisation 2011). European and Italian legislation is aligned with the position of the WHO and does not set limits for the eventual presence of asbestos in water destined for human consumption. In 2015, the Istituto Superiore di Sanità (Higher Institute of Health) reiterated these positions once again in a communication of its own in which, among other things, it states that: “On the basis of our current knowledge and the conclusions of the international institutions of reference, the water situation must not be regarded as an imminent risk for public health either in terms of eventual fibres ingested or as regards concentrations potentially transferred from the water to the air”.

In the same communication, the Italian National Health Institute indicates, as the only reference limit, (not a parameter value) the one defined by the US EPA (Environmental Protection Agency) as 7 million fibres/litre for fibres of longer than 10 µm.

In terms of monitoring, Hera carries out regular checks to determine if asbestos fibre is present in the water it distributes and the level of maintenance of the pipes. Every year since 2003, Hera has prepared and applied a specific Asbestos Control Plan which outlines the details of the sampling points that are most representative for the presence of asbestos cement, the frequencies and the analytical parameters to analyse. Over 200 inspections were carried out during 2017 and they confirm that most of the samples (over 80%) contain no asbestos fibres. The EPA limit of 7 million F/L was not exceeded under any circumstances. The average of the values found is more than 400 times lower than the EPA limit referenced above. The water distributed by Hera has aggressiveness levels generally above 12 (non-aggressive with respect to the cement base).

For further details on the quality of tap water distributed by Hera, refer to the appointment with In buone acque, the report entirely dedicated to the quality of tap water that Hera publishes annually since 2009 with the collaboration of local health authorities and Romagna Acque.

## Service safety and continuity

### Safety and continuity of the electricity service

In 2017, the distribution grids operated by Hera Inrete distributed approximately 2,204 GWh of electricity to around **261,000 users** in 24 municipalities of the Bologna, Modena and Ravenna provinces in Emilia-Romagna. In addition, **over 163,000** users are served in the Trieste and Gorizia area, where the distribution networks operated by AcegasApsAmga have distributed about 1500 GWh of electricity in the municipalities of Gorizia and Trieste.

The electricity grids operated by Hera Inrete in Emilia-Romagna are 10,341 kilometres long, 73.2% of them carry low voltage, 26.5% medium voltage, and 0.3% high voltage. 42.6% of the lines are underground, and the rest are above ground. On the other hand, in the Triveneto region AcegasApsAmga operated 2,276 kilometres of network, 64.8% of them carry low voltage, 35.0% medium voltage, and 0.2% high voltage. 98.5% of the lines are underground.

The continuity of electricity distribution service is regulated by Arera provisions on the service quality of distribution, measurement and sales of electricity for the 2016-2023 regulatory period, approved by resolution 646/2015/R/eel.

That resolution also identifies the indicators to use to measure power cuts, the monitoring systems and the reference standards.

The indicators related to power cuts originating in the medium and low voltage grids express:

- the total annual duration of long power cuts without advance notice for low voltage customers;
- the total annual number of long and short power cuts without advance notice for low voltage customers.

For the 2016-2023 regulatory period, **Inrete** and **AcegasApsAmga** have approved the reduction of power cuts originating from the medium and low voltage grids and attributable to external causes. The above indicators, therefore, are calculated inclusive of external causes. Target levels and trend levels for these indicators have been set for each area served by Inrete by Arera's 702/2016/R/eel resolution, applicable to this regulatory period (2016-2023). The trend levels assigned by Arera for 2016 were complied with in all areas managed.

### Continuity of the electricity service

	2016	2017	2016-2017 average	2017 trend
Average number of power cuts per customer in high concentration areas	0.86	1.11	0.99	1.22
Duration of power cuts (minutes) per customer in high concentration areas	7.96	11.66	9.81	28.00
Average number of power cuts per customer in medium concentration areas	1.05	2.81	1.93	2.78
Duration of power cuts (minutes) per customer in medium concentration areas	18.51	38.03	28.27	45.00
Average number of power cuts per customer in low concentration areas	5.13	5.39	5.26	5.01
Duration of power cuts (minutes) per customer in low concentration areas	53.41	66.24	59.83	68.00

The average figure refers to power cuts of the low voltage service, without advance notice and due to causes for which the operator is responsible. The power cut duration minutes refer to power cuts lasting more than 3 minutes. The 2017 trend is the objective of the indicator for 2016-2017. The trend level for the number of power cuts in low concentration areas is 4.30 for Imola-Faenza and 5.19 for Modena compared to the final values of 2.50 and 6.15.

In 2017, for the reference indicators of the **average number** and **average duration** of power cuts per user, there was a worsening compared to 2016 with results, in almost all areas, however below the trend level assigned by Arera. The reason for this worsening is the consequence of some extreme weather events that affected the province of Modena. In order to reduce the number of power cuts and electrical stress on the Group's equipment, the project to install Petersen coils continued. The long-term plan for the installation of automatic devices in the medium-voltage grid secondary stations capable of cutting off the fault current along the line also continued, involving the lowest number of users possible.

In February 2017, we activated the Petersen coils installed in the primary substations of Strettara and San Michele, in the Modena area. We will continue to implement measures in 2018 in the main stations and on the electricity grids in order to improve the continuity and reliability of the electrical distribution service.

In 2016, notification 33177/17 of 11/10/2017 awarded Inrete a total approximately Euro 496,000 as incentives related to continuity recoveries of the electricity distribution service and issued penalties for around Euro 168,000. By 30 November 2018, the Italian Regulatory Authority will publish the results achieved by the distribution companies in 2017. The balance of premiums and penalties for Hera Spa is expected to be approximately Euro 170 thousand. AcegasApsAmga also takes part in the incentive and penalty system for continuity recoveries related to the electricity distribution service, set forth in ARG/elt resolution 646/15; in 2017, on the basis of the duration and number of unannounced interruptions relating to the reference year 2016, bonuses were paid for the two areas for approximately Euro 210,000.

The **number of requests for connection** to the distribution network operated by Inrete in 2017 was substantially identical to that of 2016 (481 requests with respect to the 492 in 2016). The total input power demand for connection of manufacturing plants was 13.9 MW, up compared to the 15.4 MW of 2016.

### **Gas distribution service safety and continuity**

The Hera Group manages the gas distribution service with the objective of ensuring high safety and service continuity levels.

Resolution 574/2013/R/gas, which governs the quality of the gas distribution service, has further increased the safety standards for the current regulatory period (2014-2019). This rise was largely in line with the previous standards observed by Hera and with the company's mid- and long-term goals. The changes to the regulations did not therefore have any particular impact on Hera or any significant negative impact on the continuity of its goals and activities. Specifically, the resolution added more stringent requirements on the inspection of networks, on odouring and on incentives to upgrade the odouring systems.

Since 2010, gas distribution companies have been obliged to participate in a system of incentives for safety improvements in the service defined by Arera, which assesses four aspects:

- compliance with **service obligations, absence of gas accidents** falling under the responsibility of the operator, **absence of breaches** in this area connected with Arera's controls or inspections;
- the number of measurements of the **level of gas odouring** compared to the required minimum;
- the number of conventional leaks reported by third parties compared to the objective set by ARERA for the period.
- the number of upgraded **odouring systems** (flow-proportional and remote controlled injection-type odourisation systems).

For 2016, the Regulatory Authority has not yet approved the economic values of **bonuses and penalties** for Inrete. The previous financial statements have been updated on the basis of certain data linked to the operating situation in the Ravenna area. In any case, we expect Inrete to achieve positive results both for the gas odourisation component and for the component regarding leaks reported by third parties. The balance between premiums and penalties for the gas distribution service for the provincial areas served in Emilia-Romagna is expected to amount to approximately Euro 2.2 million. In 2018 The Italian Regulatory Authority is expected to publish the measure that determines these values as well as the results obtained by the distribution companies in 2017. A positive balance between premiums and penalties of

approximately Euro 1.5 million is expected for 2017, a decrease compared to the previous year due to the progressive increase in the target thresholds set by the Regulatory Authority. In AcegasApsAmga, for 2017, incentives for odorization are estimated at Euro 207 thousand, as well as incentives for dispersions for Euro 588 thousand, net of the penalties expected mainly for the plants in the province of Gorizia. No incentives are expected for the Trieste plants since the requirements relating to the adaptation of the protection of steel pipes have not been met. The 95% upgrade of Trieste's unprotected steel pipelines is expected to be completed during the next financial year.

### Gas emergency service

	2015	2016	2017
Average arrival time at the call location (min.)	35.9	34.9	37.4
Calls with arrival time at the call location within 60 minutes (%) (service obligation 90%)	97.7%	97.5%	96.2%

Resolution Aegsi 574/2013 "Consolidated Law for the regulation of the quality and rates of gas distribution and metering services for regulatory period 2014-2019" (TUDG) establishes that the distribution company must comply with the minimum annual percentage service obligation of 90% of calls with arrival time at the place of call for emergency services within the maximum time of 60 minutes.

Final data on emergency response activities in 2017 show an increase in calls to toll-free numbers, especially for the Bologna (linked to the massive replacement of gas meters) and Ravenna (linked to the introduction of a new odorizer that has generated a greater perception of gas odor even for small dispersions) areas. Overall, this increase led to a decrease in the percentage of calls with intervention within 60 minutes. Despite this, an increase in the number of calls received, the positive levels of the security and continuity indicators however confirm that the Group is firmly above the levels set by Arera: compared to the minimum service obligation required by Arera of 90%, in 2017 the Group intervened **within 60 minutes for 96.2% of the over 24,000 calls** received. AcegasApsAmga recorded 99.5% for this indicator while Marche Multiservizi recorded 96.6%.

We expect that the number of calls for the Bologna area will also remain high in 2018, given the ongoing extraordinary massive replacement of gas meters. When this operation ends, as planned for 2019, we expect the number to be substantially lower. In any case, specific indicator monitoring initiatives will be implemented during 2018 in order to ensure a higher service level than in 2017. For the Ravenna area, on the other hand, we expect the impact of the new odorant to be overcome, also thanks to the massive search for aerial dispersions carried out as a preventive activity.

### Inspections and leaks in the gas network

	2015	2016	2017
Percentage of total high and medium pressure network inspected (service obligation 100% in 3 years)	53.3%	56.3%	58.0%
Percentage of total low pressure network inspected (service obligation 100% in 4 years)	68.9%	78.1%	74.7%
Number of leaks on distribution network located upon inspection per kilometre of network	0.085	0.065	0.059
Number of leaks on distribution network located upon notification by third parties, per kilometre of network	0.043	0.041	0.037

In 2017, **the percentage of the grid that was inspected was significantly higher than the minimum standard** required by Arera (100% for the high and medium pressure grid in 3 years and 100% of the low pressure grid in 4 years). In fact, at Group level, the high and medium pressure grid inspected reached 58% and the low pressure grid was 75%.

In 2017, as in 2016, scheduled inspections of the network, network elements and gas metering units were carried out by both internal and external personnel, ensuring the highest quality of service and compliance with Arera's regulations and Group guidelines.

In addition to applying the criteria and rationale contained in the Group's operating instructions, the data obtained from a prediction algorithm of the predisposition to pipeline failure, empirically applied and adapted to the planned gas dispersion research activity, were also taken into consideration.

Consistently, and in continuity with what has been put in place for the year 2017 (application of the forecasting algorithm), we decided to start another project consisting in the development of a dynamic optimization workframe for leak research processes planned on gas networks, which will be available from January 2019.

2017 is the **first year of the second three-year period of application of the regulatory period** in accordance with Aegsi Resolution 574/2013. The results achieved in 2017 must therefore be evaluated in relation to future performance in 2018 and 2019 and to the standards set in Resolution 574/2013.

In 2017, in the Group's entire gas distribution network, **37 leaks were reported by third parties**, per thousand kilometres of network, compared to 41 in 2016. On the other hand, **in 2017, 59** leaks were identified by means of inspections on the Group's distribution network per thousand kilometres of network, compared to 65 in 2016.

Inrete has adopted some additional criteria that are more precautionary than those required by Res. 574/2013 for scheduling inspections of the gas network, in accordance with what was carried out in the 2014-2016 three-year period, requiring the inspection of 100% of the network classified as having a high probability of leakage, defined as the sum of:

- high pressure network;
- network mad of non-compliant materials according to the requirements of 574/2013 (steel with ineffective cathodic protection, materials other than steel and polyethylene);
- network laid in areas subject to hydrogeological instability.

The **network with high probability of leakage that was inspected** was consistent with the network inspected in 2016. Some small changes compared to 2016 are due to the change in network extension as a result of the performance of cathodic protection systems.

In 2017, the criteria for planning and carrying out gas network inspections, as set out in the Group's operating instructions, were applied, with the objective of increasing the inspection effectiveness pursuant to Aegsi's Resolution 574/2013. Furthermore, in 2017, gas network inspections were carried out completely by internal personnel thus ensuring a high quality service. In addition, in 2017 Inrete planned and carried out a series of inspection campaigns for underground and air connections in the Ravenna area.

Scheduled searches for gas leaks continued throughout 2017, applied also to above-ground system components, in particular:

- the **systematic check for the absence of leaks** on network elements (valves, vents, crossings, etc.) is carried out during scheduled periodic operating/maintenance activities;
- Concurrent with routine operations on meters, (e.g. activations, closures, checks on metering assemblies), an **instrumental check on the absence of leaks on the above-ground connection** and the **meter affected** is carried out.

## The technical call centre

Receiving and diagnosing the telephone calls made to the toll-free emergency service numbers is of key importance, since the calls can be used as actual reports of irregularity in the service provided.

The technical call centre service has toll-free numbers for each service (gas, integrated water service and district heating), and area (Emilia-Romagna and Triveneto) in addition to a joint toll-free number for the entire Group for public bodies (fire service, municipalities, provincial administrations, prefectures, police stations, AUSL local health authorities, ARPA environmental protection agency, law enforcement agencies, port authorities, etc.).

### Percentage of calls received by the technical call centre answered (within or after 120 seconds) or abandoned within 120 seconds

	2016	2017
Gas	98.8%	98.8%
<i>of which for gas emergencies (general level 90%)</i>	97.2%	97.5%
Water	98.0%	96.9%
<i>of which for water emergencies (general level 90%)</i>	94.3%	93.1%

Excluding Marche Multiservizi. The percentage of emergency gas and water calls is calculated according to criteria defined by Arera, considering the calls received, answered or abandoned within 120 seconds.

### Average technical call centre waiting times

s	2016	2017
Gas	16.8	49.4
Other services (water and district heating)	20.9	67.8
Number of calls	364,023	428,350
<i>of which for the gas emergency service</i>	<i>102,092</i>	<i>98,942</i>
<i>of which for other emergency services</i>	<i>261,931</i>	<i>329,408</i>

In 2017, the total calls received by the technical call centre of Forlì were about 428,000, up 17% compared to 2016. The decrease in the percentage for the water service, which fell from 98.0% to 96.9%, was due essentially to two factors: the significant increase in calls due essentially to frost-related malfunctions (leaks due to broken connections and/or meters and blocked meters with no service) and malfunctions caused by the prolonged water scarcity that caused breaks in the pipes of the catchment areas served.

A wide range of actions started in 2016 was completed in 2017 and had a significant impact on work organization, processes and instruments. To these were added further actions such as: setting up simulators for forecasting and monitoring performance KPIs which, by extracting data records for historical calls and the distribution of the presence of personnel in the room, made it possible to carefully adjust the presence according to the size of the target and to the specific requirements of hourly coverage. In addition, monitoring was carried out by means of a monitoring system using dynamic heat maps.

Two projects were also tested: one for outsourcing, where excess calls were conveyed at peak times in order to maximize performance; the other for dynamic work flow, aimed at maximizing quality and safety. In the latter case, it is a software that supports the operators to rationalize their work through a new workflow function that records processes, procedures and activities. The software guides operators in real time to respond to customers, allowing them faster and more stringent timing and reducing the discretion with which operators can interact in the few minutes they have on the telephone with customers.

In 2017 further initiatives were carried out, such as massive training on the management of customer relations and technical training, which was accompanied by a role-playing project: a process of work

support among colleagues consisting of an inspection at the main plants of the integrated water or gas cycle, with a general illustration of the distribution cycle and the peculiarities of the service to supplement the theoretical learning elements of operation.

In order to prevent critical situations such as those due to frost, we set up **an extraordinary management of frost events with deferred recording**, i.e. calls forwarded of to a virtual operator (except for critical user types) for subsequent management by the back office.

Lastly, in order to improve the quality aspects and reduce the workload of ineffective response by the emergency operators, **a visibility tool was implemented for meters blocked due to late payment** by providing updated information on the customer's status with regard to commercial issues, in order to avoid activating the Emergency Services for customers whose service has been stopped due to late payment.

### **Safety downstream of the meter**

As a result of Aeegsi Resolution 40/2014/R/gas, after a request to activate a gas supply and in some cases to reactivate a gas supply, the safety of the gas system is checked. The scope of application of the inspection regards only user systems with non-technological use of gas (e.g. home use, boilers for heating etc.).

In 2017, a total of 5,218 safety inspections were carried out, of which 4,155 were for new systems and 1,063 were inspections on modified or transformed systems. Of the 5,218 investigations, 4,855 passed and 363 did not pass. In addition to the activities of the assessment structure, 146 cases were also found to not be subject to assessment (e.g. Tariff T1 - Production) and were cancelled by the reference seller.

When activating gas supplies, Inrete carries out another key safety check: **the inspection of the actual integrity of the user system** (downstream of the meter) to ensure that there are no gas leaks from the customer's system, before activation of the gas supply. Also, if a fault occurs downstream of the meter, and Inrete's emergency service locates a gas leak in a final customer's system, it immediately cuts off the supply in order to eliminate the dangerous situation. The supply is then reactivated only after a qualified installer fixes the system so that it no longer leaks and issues the resulting technical documentation that proves the integrity of the user's system.

As of 1 January 2017, the new enhanced insurance policy for final customers is in force in the event of accidents caused by the use of natural gas and LPG supplied through the network. The new policy lasts for four years (1 January 2017-31 December 2020) and has higher limits in case of fire and accidents. The changes were introduced by Aeegsi's resolution 223/2016/R/gas. In particular, under the policy, anyone using combustible gas (natural gas or LPG) provided by urban distribution or transport networks, automatically receives an insurance coverage against accidents that is valid throughout Italy. Final customers other than residential or condominium customers using meters above G25 class and users of automotive methane are not covered. Coverage is provided for civil liability toward third parties, fires and accidents that originate in the systems and/or devices downstream of the meter. The insurance policy is stipulated by Comitato Italiano Gas [Italian Gas Committee].

### **The continuity of the water service**

The water network control activity index is expressed as a percentage of the network inspected for leaks.

On the whole, in 2017 over 9,300 kilometres of network were inspected by the Group, (including over 4,000 kilometres inspected using innovative satellite leak detection technology) amounting to 26.8% of the total network. In Emilia-Romagna the organization of the leak search activity was based on a criticality analysis in terms of network losses, breakage indexes of the pipes and possible issues concerning the availability of water resources (in particular during the summer). Thanks to the satellite-based leak search technology, 100% of the network in Trieste was inspected; the operation will be replicated for Padua in 2018.

## Continuity of the water service

	2015	2016	2017
Percentage of network subject to active searches for leaks	18.1%	18.5%	26.8%
Number of breakages per km of network*	1.16	1.09	1.20

\* Excluding AcegasApsAmga and Marche Multiservizi; considers the number of breakages on the network, on connections and meters and kilometres of network excluding connections.

The index of the status of the water network is expressed as the number of breakages per kilometre of network and has slightly increased for Hera Spa, compared to last year. The meter replacement figure is also up (15,357 in 2017 against 11,149 in 2016).

## Customer relations

In 2017, the company confirmed its strong commitment to making final customer management more efficient, simpler and quicker by further improving its contact channels: the call centre for residential customers, the call centre for business customers, online services and email.

### Customer service requests

(%)	2015	2016	2017
Call centre	53.5%	55.7%	60.4%
Branch offices	28.4%	26.1%	24.0%
Online services	11.7%	11.7%	9.5%
Email	6.4%	6.5%	6.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Excluding AcegasApsAmga and Marche Multiservizi

In 2017, the total volume of requests handled by the contact channels increased by 9%. The channel that increased the most was the call centre (+18%), followed by the traditional mail channel (+3.2%).

### The call centre

The increase of informative and commercial contacts confirms our customers' appreciation for this channel, which they use to resolve their needs practically and effectively. The growing number of customers that call the call centre from a mobile phone testifies to the success of the company's decision in 2016 to make this method free of charge.

The direct debit and electronic billing campaigns in 2017 were successful, as shown by the high number of customers that chose these options.

At the end of the year, a special toll-free number was set up for the "quantity-based tariff" for waste management services, which gives residents in the affected municipalities a dedicated information service. The number will remain active to support the launch of this service in the municipalities that gradually switch to this charging method.

In 2017, the structure of the interactive voice service dedicated to the residential market was significantly simplified to improve the experience of customers who access it.

## Call centre quality

	2015	2016	2017
Average waiting time at the call centre for residential customers (s)	38	40	34
Calls with satisfactory outcomes for residential customers (%)	94.7%	94.0%	95.7%
Number of residential customer contacts at the call centre (thousands)	2,311	2,732	3,082
Average waiting time at the call centre for business customers (s)	26	36	38
Calls with satisfactory outcomes for business customers (%)	96.3%	94.8%	94.7%
Number of business customer contacts at the call centre (thousands)	370	375	393

The average waiting time, based on a telephone call by a customer that wishes to speak to an operator, is the time between the moment a request is made to talk with an operator and the beginning of the conversation. It does not take into account the initial information provided by the automatic answering system. The data refer to the call centres of Hera Comm, AcegasApsAmga, EstEnergy and Marche Multiservizi.

The technical indicators of the **residential market call centre** improved in 2017 despite the 13% increase in calls handled compared to 2016. The service level reached 95.7% for residential customers, improving compared to 2016 by almost two points, while the average waiting time confirms the positive trend that has fallen to 35 seconds.

The service level provided by the **business call centre** was in line with the previous year, despite a 5% increase in the number of calls handled.

Another important result for Hera Comm is the ratio between the number of calls handled and the customers served, which is among the lowest in the industry, as published in Arera's annual report on the quality of telephone services. The overall values achieved by Hera Comm for the technical indicators of the call centres have largely improved compared to the levels required by Arera.

In 2017, important releases were made to the Customer Relationship Manager to support operators both in managing commercial activities and in all management activities requested by customers through the call centre channel. Another important and innovative action concerns the sale of value-added services to customers (as indicated in the section on commercial policies), thus laying the foundations for the new commercial objective that will consolidate in 2018 by offering innovative products aimed primarily at saving energy and optimizing consumption.

An important communication project involved all call centre operators in a training course to guide operators to use a **new language**. The project aims to improve the **customer experience** of our customers by incorporating the suggestions they provided during the workshops held last year.

In 2017, a great deal of effort was put into caring, feedback and prevention of critical situations, ensuring proactive support for customers facing potentially complex situations.

The **business call centre** continued to innovate its service offering for business customers. Innovations in the ways critical cases are handled have improved problem solving, prevented many complaints and improved customer relations.

As regards Hera Group's commercial call centre, calls are handled both by internal staff and by the staff of specialised Italian companies who have their operations located exclusively in Italy and in particular in Bologna, Padua and Venice.

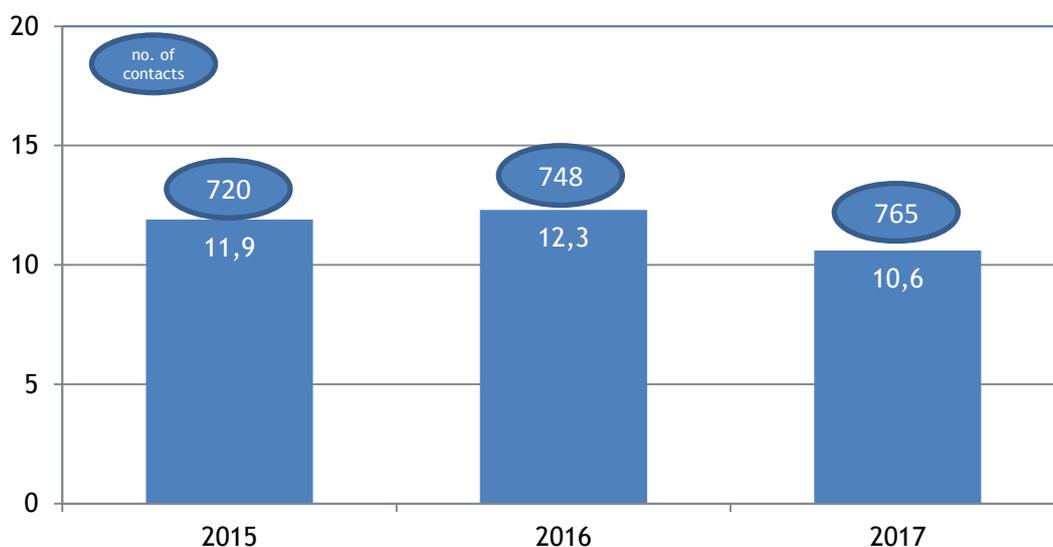
The trade promotion activity is carried out by Italian-based and Italian-owned sales agencies, that rely on operating units both in Italy (predominantly) and abroad. Their staff is employed directly by these sales organizations, who have signed with Hera Comm a standard agency mandate.

Also, considering management of the emergency service call centre for gas, water and district heating, which is always active in the event of failures and emergencies and manned by dedicated staff inside the company and located at Forlì, during 2017, over 90% of the calls was handled from Italy.

### The branch offices

The average waiting time at branches has improved compared to 2016 both at Group level and in each individual company.

#### Average waiting times at branch offices



#### Average waiting times at branch offices

Min	2015	2016	2017
Hera	8.9	10.4	9.7
AcegasApsAmga	27.5	21.8	16.0
Amga Energia&Servizi	9.7	9.3	7.7
Marche Multiservizi	11.7	14.6	12.5
<b>Weighted average on contacts</b>	<b>11.9</b>	<b>12.3</b>	<b>10.6</b>
Number of contacts	719,584	747,964	764,640

The performance of the Group's branches improved throughout the territory served, also with respect to the improvement objectives we had set. The higher number of customers compared to 2016, especially in Emilia-Romagna (in particular in Modena) and Pesaro, did not have a negative impact on the results obtained.

Throughout the various territorial areas the excellent performance achieved in 2017 was positively influenced by the following activities and projects:

- **Emilia-Romagna Area:** starting from November 2017 customers can book their visit in advance at the branch offices, choosing the day and time from those available. This type of activity has been launched as a pilot project at some branches and will be extended to other branches in 2018. In

addition, to help customers who come to the branch offices, a paper reminder was prepared with a list of the documents needed to carry out certain activities (e.g. new activations, takeovers, etc.);

- **Triveneto Area:** introduction in 2017 of an important update of the contents of the knowledge base system in order to standardize the procedures adopted by the contact channels and introduce a new queue management system that has made it possible to improve the fluidity of customer service at the counters;
- **Marche Area:** implementation of the project aimed at reorganising the structure and logistics of branch offices by introducing the figure of the branch coordinator.

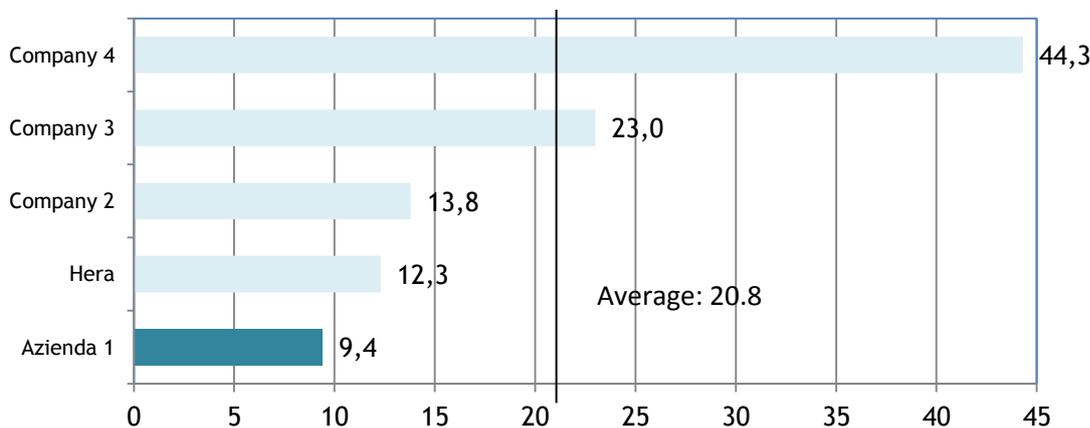
The results achieved by Hera Comm, which manages the majority of the branches (72 out of 107), have improved on forecasts both in terms of average waiting time (9.4 minutes) and in terms of satisfaction among final customers, which stood at 84.4 points (+1.5 points compared to 2016). Considering only Hera Comm, 3.4% of customers waited at branch offices for over 40 minutes (4.5% in 2016).

The Group has 72 branches in Emilia-Romagna, 10 of which are in larger municipalities and open for at least 33 hours a week, from Monday to Friday. In the territories served by AcegasApsAmga including the provinces of Udine, Pordenone and Gorizia, there are 15 branches, 4 of which have a weekly opening time of at least 33 hours, In the area served by Marche Multiservizi, there are 20 branches. In total, considering the entire area served by Hera and its subsidiaries AcegasApsAmga, Marche Multiservizi and Amga Energia & Servizi, there are 107 branches, in line with 2016. In addition, the branches managed by Hera Comm Marche and Gran Sasso in Abruzzo bring the total number of branches of the Group to 128.

#### *Waiting times at the branch offices of the main Italian utilities*

According to a comparison analysis carried out by Utilitatis among the main Italian utility companies, the average waiting time at Hera's branch offices in 2016 was 13.3 minutes, 38% lower than the average of the 15 companies considered (19.8 minutes). Performance improved further compared to the 4 main Italian multi-utility companies (-40%).

Waiting times at branch offices, min (2016)



#### **Complaint management**

In 2017, there was an increase compared to the previous year: about more 9,700 complaints, about 24% more than in 2016. The increases, however, depend on the type of service: gas (+37%) electricity (+16%), water sector (+20%) and environment (+17%).

Despite the complexity of the situations, the time taken to manage the procedures improved compared to 2016: in fact, **average response times decreased to around 18 calendar days** compared to the 19 in 2016 and **the percentage of complaints handled within the standard time increased by 6 percentage points**, reaching 94.1%.

## Complaints received

	2015	2016	2017
Average complaint response time (days)	16.7	19.1	18.3
Percentage of complaints that were dealt with within the standard timeframe (%)	93.4%	87.8%	94.1%
<i>of which electricity and gas complaints relating to sales</i>	<i>92.9%</i>	<i>87.4%</i>	<i>89.6%</i>
Number of complaints received	31,198	41,050	50,773

Excluding AcegasApsAmga and Marche Multiservizi. The complaint response time is indicated in calendar days, with a reference standard of 40 days. There were 30,359 complaints relating to gas and electricity sales in 2017.

Excluding AcegasApsAmga and Marche Multiservizi, in 2017 the volume of complaints sharply increased reaching 58,000, +18% compared to 2016. In fact, the complaints rate rose from 1.34% to 1.53%. The average response times improved with respect to 2016, reaching 18 average calendar days, compared to 19 days in 2016. Handling times were similar for gas and waste; while those for water and electricity services were lower and however always in line.

In 2017, activities to improve the communication style towards end customers continued, thanks to the implementation of the **new language project** for both handling written requests and customer contact (call centre and counter).

For **AcegasApsamga**, the average response times to complaints are 18 calendar days (27 in 2016) and the percentage of complaints answered within the standard time was 99.9%. In **Marche Multiservizi**, the average response time to complaints was 8 calendar days (9 in 2016) and the percentage of complaints answered within the standard was 99.4%.

## Conciliation

Joint mediation for out-of-court dispute resolution can be used for residential customers of the gas, electricity and integrated water service customers, with the sole exception of breakages to private systems and meters due to adverse weather conditions.

In 2017, 69 requests for mediation were received, 45 of which were accepted. 13 of them were for the gas service, 7 for the electricity service, 3 for both services and 22 for the water service.

Out of the 45 eligible requests received, 14 were settled with mediation, 4 failed to be settled through mediation, 1 withdrew, while the rest, mainly arrived in the last few months of 2017, are currently being negotiated.

Regarding the 24 requests which could not be accepted:

- 10 regarded services excluded from the mediation regulations;
- 6 were submitted by customers that were not entitled to submit them;
- 6 lacked other requisites laid down in the regulations.
- 2 requests for which the deadline for replying to the complaint had not yet passed, or for which a complaint had not been submitted;

From 2010 to 2017, 436 requests were processed or are being processed, 281 of which concluded with a settlement, 115 with a failure to reach a settlement and 14 with the request being abandoned since the problem had been solved in the meantime. The remaining 26 cases are currently being dealt with.

AcegasApsAmga gas and electricity customers may resort to joint mediation as set out by a specific protocol agreed with consumer groups. In 2017 13 requests for mediation were received, of them, 6 were eligible, for 3 the mediation was successful, for 3 it was not and 1 was being dealt with at the end of 2017.

## Disputes with customers

At the close of 2017 there were 479 disputes pending with customers (187 of which initiated during the year) mainly regarding the application of the tariffs applied to the services provided and the recovery of payments. Of these 187 disputes, 155 refer to the gas, electricity and district heating service, 22 to the water service and 10 to the waste management service. The disputes with customers mainly concern the energy sector, and in particular objections to the protective system to which customers are assigned by the competent distributor, to billing, and complaints requesting reactivation of electricity or gas supplies that had been disconnected due to the customer paying late. In the water sector, instead, disputes mainly regards customers objecting to injunctions.

In 2017, 467 disputes were settled, 169 with customers, 8 with suppliers, and another 201 regarding disconnections of gas supplies to late-paying final customers and the remaining 89 regarding different issues (e.g. claims for damages associated with the management of the services performed by Hera or Group companies).

## The security of information and the protection of personal data

In 2017, the synergy in managing Personal Data and Logical Security was strengthened, with a view to sharing analyses on information security and personal data protection, conducted with a unified method and presented to the Risk Committee.

The main threats to information security that arose during 2017 were analysed in depth to identify the most appropriate prevention measures. Specifically, the analysis of the impact of disastrous events on the business, that could affect IT services was updated to revise and update the disaster recovery plan for information systems.

In compliance with the requirements set by recent European regulations on the protection of personal data and the security of critical infrastructures, we have drawn up specific procedures to assess the impact on the processing of personal data and to notify the relevant Authorities of IT security incidents.

In collaboration with Acantho, we have successfully tested a technological solution to control access to IT networks, for future adoption on all the IT networks of the Hera Group that are managed by Acantho.

As regards the observance and propagation of regulatory changes, requests for advice and specialized legal support were handled by preparing specific detailed regulatory studies and by preparing the documentation, also for service contracts, needed to ensure regulatory compliance as pertains to data confidentiality within the Group's processes.

The most significant activities for the Group's processes include in-depth analyses on video surveillance for the risk of break-ins to the waste collection centres, on the privacy-related impacts of credit recovery, on apps for company smartphones and on apps for intelligent thermostats, as well as the verification of compliance with the **departure from home to travel to a worksite** project. Updating continued of the standard personal data privacy forms concerning information, consent and releases, as did the implementation of new regulations, including that for the collection of **Quantity-based charging** and the **Environmental Services Charter**.

A special focus was dedicated to customers, with prompt support to Hera Comm Srl in handling complaints, monitoring call centre activities in the online services review project, the introduction of electronic signatures, analysis of impacts for Hera Comm's new telephone platform in collaboration with Acantho and definition of rules for operators of Hera Comm, and of the companies it outsources services to that involve contact with the public.

We initiated significant coordination work with the Group companies to implement management standards that are compliant with the new European Privacy Regulation (EU Reg. 2016/679), by implementing the standard Register of computerized processes, reviewing the personal data privacy forms and updating the privacy-related content of the tender specifications.

## Case study

### *In buone acque: transparent management Hera water's cycle in a single report*

In 2017, for the ninth consecutive year, Hera published "In buone acque" [In Good Waters], its report on tap water. The report is still the first and only thematic report published in Italy on the topic of tap water and its benefits in both environmental and economic terms.

On the basis of the new data for 2016, it has once again shown that the mains water in the areas served by Hera is a good, convenient, widespread, safe and inexpensive resource, as well as being rich in trace elements and low in sodium, comparable in quality to the leading bottled waters on the market. Reassuring results, guaranteed by **2,400 analyses per day** on tap water (carried out by Hera, by ASL - the local health authorities, and by Romagna Acque) proven by the fact that **99.9% of the checks carried out** showed the water is compliant with the water quality standards set by law.

The report also contains, area by area, the data of the analyses of **29 parameters**. The analyses also concern pesticides and parameters not required by law, such as emerging pollutants and asbestos fibre: again, the results confirmed the quality and safety of the mains water distributed by Hera.

The report, in a completely new layout compared to previous years and with extended contents in its online version, shows that besides being a sustainable choice for the environment, drinking tap water is also good for our customers' wallets. In fact, tap water in the area served by Hera makes it possible to avoid the production, transport and disposal of almost **250 million plastic bottles** that would fill over **3 million bins** and to save on average up to Euro 270 per year, for a family of 3 people.

To ensure maximum transparency and reliability of the data reported, the report was examined and certified by DNV GL.

The extended contents of the report are available at [www.gruppohera.it/report](http://www.gruppohera.it/report).

### *At Hera we drink tap water*

The Hera<sub>2</sub>O project, launched in 2008, encourages Hera's employees to use tap water. By drinking over 552,000 litres of tap water in 2017 from the dispensers installed in Hera's canteens and offices, workers avoided the production of almost 17 tonnes of plastic, equivalent to around 555 bins, and over 847,000 plastic bottles (0.5 litre bottles were considered for canteens and individual use, and 1.5 litre bottles for offices and meeting rooms). This virtuous behaviour generated an energy savings of approximately 57 tonnes of oil equivalent and reduced greenhouse gas emissions by 159 tonnes.

### *Urban Springs*

Residents can also have good and checked drinking water by obtaining it from the Urban Springs, public dispensers of drinking water, located throughout the area served by the Hera Group. The water they provide is identical to that in the taps of homes but is cooler (refrigerated) and sparkling water is also dispensed. In 2017 the number of "Urban Springs" in the area served by the Hera Group decreased by one unit compared to the previous year, from 70 to 69 because the one in Portomaggiore (FE) is no longer operated by Hera. The number of dispensers located in the area served by AcegasApsAmga remained the same as in the previous year (a total of 5), while the number of "Urban Springs", set up jointly with Marche Multiservizi, increased to a total of 8.

We would like to mention the considerable environmental benefits deriving from the decision to drink tap water, which is good, safe and scrupulously checked by the Hera Group. For example, in 2017 the Group's "Urban Springs" supplied a total of more than 21.5 million litres of water, 30% of which was sparkling water, determining a remarkable saving in terms of plastic, as that amounts to over 14 million bottles, and in turn means around 18,000 fewer bins to empty (bins with an average capacity of 800 1.5 litre PET bottles), thus reducing CO<sub>2</sub> emissions by over 2600 tonnes. The savings for families, of the average expense to purchase mineral water, is around Euro 4 million.

## People

### The objectives and the results

What we said we would do	What we have done	Scope
<ul style="list-style-type: none"> <li>Continue to promote Herasolidale, the solidarity initiative that supports local non-profit organisations and plan the new 2018-19 edition</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, over Euro 45 thousand were donated by the workforce to support 11 local non-profit organisations, taking the overall sum donated in the 2016-17 edition to over Euro 64 thousand. The third edition 2018-2019 was also planned and launched in 2018.</li> </ul>	ER T
<ul style="list-style-type: none"> <li>Continue to implement actions to optimise work time through the digitisation of internal processes and innovative tools. Carry out a survey on workers to define new actions</li> </ul>	<ul style="list-style-type: none"> <li>6 smartworking projects were started, involving 375 people. A digital inclination survey (HER@futura) was carried out on workers.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Continue to implement coaching activities for workers returning to work after leave and carry out initiatives for raising disability awareness in the company</li> </ul>	<ul style="list-style-type: none"> <li>20 people were involved in 2017 in coaching activities and in individual counselling following periods of leave. Initiatives for raising awareness on disabilities were rescheduled to 2018.</li> </ul>	ER
<ul style="list-style-type: none"> <li>Continue to promote Hextra, the Hera Group's welfare system: increase the share available to employees by 80% in 2017</li> </ul>	<ul style="list-style-type: none"> <li>The share available to employees increased by 80% in 2017 and reached Euro 360 to be used in 5 welfare areas. 98% of the workforce used this share. 3,689 workers also used the additional share for education services for overall Euro 490,000.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Disseminate the 4th edition of the Code of Ethics with the involvement of the workforce. Continue to train newly hired resources with AlphabEthics (H, AAA, MMS)</li> </ul>	<ul style="list-style-type: none"> <li>The Code of Ethics was distributed to the entire workforce. In 2018, 24 middle managers/management employees were involved in the long-term project "CSR and the Code of Ethics in day-to-day management". New recruits were trained in the first quarter of 2018 with an updated version of AlphabEthics.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Disseminate Hera Group's new Leadership model</li> </ul>	<ul style="list-style-type: none"> <li>The Group's new Leadership model was disseminated to employees through 12 training sessions involving 600 people, targeted meetings, online platforms and seminars.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Launch a digital innovation community</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, we launched a digital innovation community that involved 36 people. The digital innovation work groups met 4 times in 2017 to discuss the progress of 7 projects.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Continue the HerAcademy activities: guarantee an average of 24 training hours per capita in 2017</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, an average of 28.6 training hours per capita were delivered.</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Accident prevention: 18.9 frequency index in 2017 (-6% compared to the average of the last three years)</li> </ul>	<ul style="list-style-type: none"> <li>The accident frequency index was 17.1 in 2017 (-14% compared to the average of the three year period 2014-2016)</li> </ul>	ER T M
<ul style="list-style-type: none"> <li>Accident prevention: Carry out training and awareness raising actions (also on road safety)</li> </ul>	<ul style="list-style-type: none"> <li>46 training activities were organised at the Imola operational training site in 2017, involving around 850 workers for a total of 5,388 hours.</li> </ul>	ER

What we will do	Scope*		
Involve workers in the new edition of HeraSolidale for the benefit of non-profit organisations chosen for their reputation and level of accountability, contribution to achieving the UN 2030 Agenda, level of accountability and relevance to Hera services (accessory criterion)	ER	T	
Enter into specific trade-union agreements for: - promoting solidarity systems among employees, through the free transfer of leaves and holidays - promoting the reconciliation of work and private life.	ER	T	M
Digitization and smart working: - implement the change management plan defined on the basis of the Her@futura survey carried out in 2017; - evaluate the results of the 6 smartworking projects launched in 2017 and plan their possible extension.	ER	T	M
Continue to implement coaching activities for workers returning to work after leave and carry out initiatives for raising disability awareness in the company.	ER		
Continue to promote Hextra, Hera Group's welfare system and promote the possibility of allocating a share of the performance bonus to the corporate welfare system. Increase the "welfare quota" by 7%.	ER	T	M
Continue the HerAcademy training activities: guarantee an average of 25 training hours per capita in 2018	ER	T	M
Accident prevention: 17.9 frequency index in 2018 (-2% compared to the average of 2015/2017) Carry out specific awareness-raising initiatives on safe driving.	ER	T	M

\* Geographic scope of the ER improvement objectives: Emilia-Romagna T: Triveneto M: Marche.

## Workforce

### The organisational structure and the workforce

As at 31 December 2017, the **total workers with open-ended contracts** in Group companies amounted to 8,683, while the **workers with a non-open ended contract** were 164. Compared to 2016, the Group's workforce increased by 345 units.

During the course of the year, the following companies were consolidated within the Group's scope: Teseco (46 workers) and Aliplast (342 workers), dealing with waste treatment and plastic recycling, respectively, and Verducci (3 workers), a gas sale company located in Abruzzo. Furthermore, the South and Islands branch (14 workers) within the heat management activities of Sinergie was acquired. At the same time, Sigas (8 workers) - previously controlled by AcegasApsAmga - left the Group scope.

2017 further confirmed the consolidation of the Group's organisational and corporate structure, both through expansion of the reference scope and businesses managed and through ongoing attention towards simplifying the operating mechanisms.

The personnel policy is to back up the process of integration of companies within Hera with a plan for efficient use of the workforce made available as a result of processes of internal rationalisation and further outsourcing of activities that generate low added value. Since the founding of the group and following acquisitions, Hera is engaged in a process of far-reaching corporate reorganisation with no recourse to **social shock absorber measures**.

New employees are generally hired for top-ranking professional positions (both specialised and operative), which are difficult to cover with internal personnel. Internal personnel is generally chosen for white-collar and blue-collar positions.

### Staff figures at the end of the year

no.	2015	2016	2017
Managers	146	151	154
Middle managers	526	524	537
White-collar workers	4,449	4,514	4,612
Blue-collar workers	3,305	3,185	3,380
<i>Open-ended contract employees</i>	<i>8,426</i>	<i>8,374</i>	<i>8,683</i>
Fixed-term contract workers	109	101	137
Job training and entrance contracts, apprenticeships	18	12	2
<i>Fixed-term contract employees</i>	<i>127</i>	<i>113</i>	<i>139</i>
Staff leasing contracts	17	15	25
Project based contract workers	1	0	0
<b>Total</b>	<b>8,571</b>	<b>8,502</b>	<b>8,847</b>

Data as at 31 December.

The increase in managers (3 units) is due to 1 recruitment, 8 moves from the role of middle manager to manager, and the exit of 6 managers during 2017. The number of middle managers increased by 13 units, which is the result of 13 entries due to the change in the scope of Aliplast and Teseco, 2 new entries, 20 promotions to middle manager, 8 moves from the role of middle manager to manager and 14 exits. The increase in white-collar workers of 98 units is due to the entry of 238 new workers (77 of whom as a result of changes in scope) and 22 career advancements, offset by 162 exits. The number of blue-collar workers increased by 195 units since 2016 due to the entry of 386 blue-collar workers (266 of whom as a result of changes in scope) and to the exit of 149 blue-collar workers and 42 moves from the role of blue-collar worker to white-collar workers. Furthermore, 110 entries of fixed term blue-collar workers included in open-ended contract consolidation processes are reported. Overall, the growth percentage of the Group's workforce is equal to 4.1%, resulting from an increase in scope of +4.7% and a turnover of -0.6%.

### Workforce by function

no.	2015	2016	2017
Grid services	2,834	2,848	2,793
Waste management services	2,493	2,431	2,805
Other services	752	751	800
Commercial	783	782	848
Coordination activities	1,564	1,562	1,601
<b>Total</b>	<b>8,426</b>	<b>8,374</b>	<b>8,847</b>

Data as at 31 December. The figures for 2015 and 2016 refer to workers with open-ended contracts.

Of the workforce, 32% operated in grid services (gas, electricity, water service and district heating) and 32% operate in the waste management sector. 10% of the workforce were employed in the commercial structure and a further 9% in other services (information technology systems, fleet management, laboratories, public lighting):

The increase in waste management services recorded in 2017 is a result of the acquisition of companies specialised in this business.

### Workforce by type of contract and gender (2017)

no.	Men	Women	Total
Open-ended contract	6,593	2,090	8,683
Fixed term contract and other	104	60	164
<b>Total</b>	<b>6,697</b>	<b>2,150</b>	<b>8,847</b>

Data as at 31 December

### Workforce by type of contract and geographical breakdown (2017)

no.	Italy	Abroad	Total
Open-ended contract	8,535	148	8,683
Fixed term contract and other	160	4	164
<b>Total</b>	<b>8,695</b>	<b>152</b>	<b>8,847</b>

Data as at 31 December

### Workforce by workplace

no.	2015	2016	2017	% 2017
Emilia Romagna	5,708	5,667	5,733	65%
Triveneto	1824	1800	1805	20%
Marche	582	569	576	7%
Other	312	338	733	8%
Bologna area	1,730	1,746	1,784	20%
<b>Total</b>	<b>8,426</b>	<b>8,374</b>	<b>8,847</b>	<b>100%</b>

Data as at 31 December. The figures for 2015 and 2016 refer to workers with open-ended contracts.

### Open-ended contract employees by educational qualification and position (2017)

no.	Managers	Middle managers	White-collar workers	Blue-collar workers	Total
Primary education	0	0	9	31	40
Junior secondary education	1	6	571	1,515	2,093
High school diploma	17	147	2,078	1,138	3,380
University degree	120	310	1,165	14	1,609
<b>Total</b>	<b>138</b>	<b>463</b>	<b>3,823</b>	<b>2,698</b>	<b>7,122</b>

Data as at 31 December, excluding AcegasApsAmga

The overall percentage of employees holding high school diplomas and university degrees is equal to 70%, two percentage points higher compared to 2016; the increase is sharper for university degrees.

### Workforce by gender and type of contract (2017)

no.	Men	Women	Total
Full time	6,658	1,842	8,500
Part-time	39	308	347
<b>Total</b>	<b>6,697</b>	<b>2,150</b>	<b>8,847</b>

Data as at 31 December

### Average age and average seniority of total employees by role (2017)

Years	Age	Years of service
Managers	51.9	16.7
Middle managers	50.0	18.5
White-collar workers	47.1	18.1
Blue-collar workers	49.9	18.3
<b>Total</b>	<b>48.4</b>	<b>18.2</b>

Data as at 31 December

The average age of employees with open-ended contracts is 48.4 (basically in line with 2016 which recorded an age of 48.5). Average seniority is 18.2 years.

### Hours of absence and hours worked per capita for employees with open-ended contracts (by type)

Hours	2015	2016	2017
Illness	64.5	62.7	62.4
Maternity/paternity and parental leave	12.4	13.1	13.2
Accidents	6.8	5.1	4.9
Strikes	0.1	1.7	1.7
Union meetings	0.9	1.0	0.8
Union leave	6.1	6.8	6.6
Other	30.9	32.6	36.3
<b>Total absences (h)</b>	<b>121.7</b>	<b>122.9</b>	<b>125.9</b>
Regular hours worked	1,547.5	1,537.8	1,546.2
Overtime hours worked	43.2	39.7	38.3
<b>Total hours worked</b>	<b>1,590.7</b>	<b>1,577.4</b>	<b>1,584.5</b>

The data refer to 31 December and to the following companies: Hera Spa, Acantho, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Heratech, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi, Sinergie, Uniflotte, and Waste Recycling. The hours worked are calculated net of overtime hours for recovery.

The **hours of absence per capita** are substantially in line with the last three years. The “other” item in the table mainly refers to leave requested to assist family members with disabilities or illness, leave for medical check-ups and therapy, and leave for academic purposes.

### Career progress during the year (breakdown by position)

No.	2015	2016	2017
Managers	5	9	8
Middle managers	39	14	21
White-collar workers	416	377	403
Blue-collar workers	204	188	196
<b>Total</b>	<b>664</b>	<b>588</b>	<b>628</b>

Career progress has increased compared to 2016 also as a result of the professional interventions carried out. **Career advancement** involved 166 **female personnel**, totalling 26% of all cases (33% in Hera Spa). Excluding blue-collar workers, where women are around 3%, career progress involving female personnel represented 38% of the total. 38% of the new middle managers and managers are women, and the same incidence applies to the parent company.

### Ad interim positions covered

No.	2015	2016	2017
Ad interim positions at the end of the year	13	12	16
Ad interim positions covered	8	4	8
<i>of which by internal personnel</i>	7	4	8

In the company organisational chart, there are a number of organisational positions for which management has been assigned ad interim. Specific attention was focused on reducing the number of ad interim positions in the organisation, by promoting internal resources. With regard to the 12 ad interim or open positions for divisions and departments at the beginning of 2016, four positions were covered during the year, all with internal personnel.

In the course of 2017, a total of 55 intragroup transfers were made, mainly in the General Operations Division. Since 2008, the corporate intranet has included a section dedicated to internal mobility, so employees can view announcements for open positions within the Group and apply for those positions. Since its creation, the **dedicated page** has received 933,935 visits, and there have been 330 announcements published and 179 positions filled; only in 2017, 100,866 visits were posted for the page, and there were 30 announcements published and 25 positions filled.

### Diversity and welfare

The commitment for equal opportunities and enhancement of the value of diversity in the Hera Group is set out and confirmed also in the Code of Ethics. Already in October 2009, Hera signed the “Charter for equal opportunities and equality in the workplace” which contains 10 commitments contributing to the fight against all forms of discrimination in the workplace and the enhancement of diversity within the company. A Diversity Manager was appointed in March 2011, in line with the commitments taken when joining the “Charter for equal opportunities and equality in the workplace”.

#### Positive return policies

The project activities continued in 2017: coaching groups and individual counselling organised for employees returning to work after a leave of at least two months for maternity/paternity or family care reasons (20 individuals involved in 2017).

#### Staying in shape at the desk

This company initiative promoted by Diversity Management together with the Regional Healthcare Service of Emilia-Romagna and the Local Health Unit of Bologna continued, aiming to promote a culture of physical well-being among Group employees.

Exercises are shown in four videos available on the corporate intranet especially for women who perform office tasks and who usually find it more difficult to achieve work-life balance due to family duties. In 2017, video tutorials were shown, reaching around 1,800 views.

#### Health courses

The project, in cooperation with Europa Donna, included seminars on breast cancer prevention and treatment for employees from all Group areas. Every meeting consisted of an introduction and of specific interventions regarding information, prevention, treatment opportunities and the performance of a testimonial. The last meeting was carried out in Trieste in October 2017.

#### Thematic Seminars

Diversity Management’s aim to organise meetings at HerAcademy, regarding topics of interest to Group workers, with the participation of experts and the possibility of taking part in workshops, continued in 2017. In 2016, three thematic meetings were held entitled “From CV to happiness”, to support the professional development of women who tackle the difficulties of the world of work on a daily basis. In

2017, the meetings focused on the topic “Beyond gender culture, what kind of culture”, regarding gender stereotypes; the meetings had great success, especially the satirical monologue by Alessandra Faiella “Barbie’s Version”.

### Women staff with open-ended and fixed-term contracts (breakdown by position)

%	2015 Women	2016 Women	2017 Women	2017 Men
Managers	18.5%	19.9%	18.8%	81.2%
Middle managers	29.2%	30.3%	30.7%	69.3%
<i>Total managers and middle managers</i>	<i>26.9%</i>	<i>28.0%</i>	<i>28.0%</i>	<i>72.0%</i>
Management employees	32.0%	32.3%	32.9%	67.1%
<i>Total managers, middle managers and management employees</i>	<i>30.3%</i>	<i>30.9%</i>	<i>31.3%</i>	<i>68.7%</i>
Non-management employees	40.9%	40.7%	42.0%	58.0%
<i>Total employees</i>	<i>38.2%</i>	<i>38.1%</i>	<i>39.2%</i>	<i>60.8%</i>
Blue-collar workers	3.6%	3.5%	3.2%	96.8%
<b>Total</b>	<b>23.7%</b>	<b>24.2%</b>	<b>24.3%</b>	<b>75.7%</b>

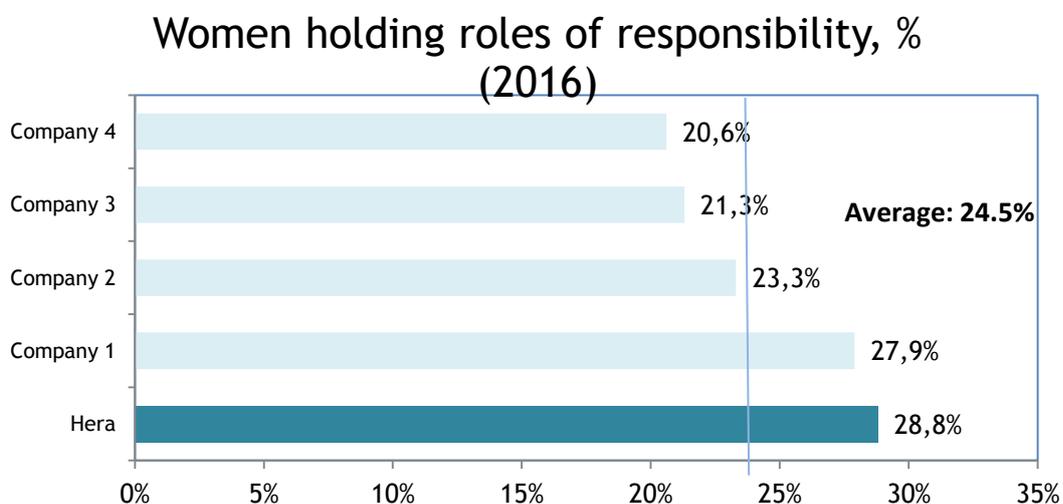
Data as at 31 December. The figures for 2015 and 2016 refer to workers with open-ended contracts.

Women staff levels among open-ended contract workers reached 24.3% in 2017 (28.2 in Hera Spa), compared to a national average in the energy-water-waste management sector of 15.9% (Eurostat 2014, most recent data available).

The impact of female personnel among managers and middle managers was in line with the previous year settling at 28.0%. Considering all contractual qualifications that provide for a managerial role (managers, middle managers and management employees), women comprise 31.3% (41.1% in Hera Spa). To complete the picture regarding roles of responsibility, 28% of women (39% in Hera Spa) were involved in career advancements in 2017 (middle managers and managers). Finally, with regard to the composition of the Board of Directors, members are appointed in full compliance with the equal balance of gender required by law 120/2011: the share reserved to women is 1/3 of the Board of Directors in office.

### Women holding roles of responsibility in the main Italian utilities

According to a comparative analysis carried out among the main Italian utilities by Utilitatis, Hera ranks first among the 5 companies considered, for the percentage of women holding roles of responsibility (middle managers and managers). In 2016, 28.8% of women in Hera held these roles compared to a sector average of all 17 companies in the sample of 24.5%.



### Personnel by age group

%	2015	2016	2017
Under 30 years of age	2.9%	2.7%	4.0%
between 30 and 50 years of age	52.1%	48.8%	47.6%
between 50 and 60 years of age	45.0%	43.6%	43.4%
over 60		4.9%	5.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100%</b>

Data as at 31 December. The figures for 2015 and 2016 refer to workers with open-ended contracts.

There are over 4,285 workers who are over 50 years of age: 448 of these are over 60 years of age. The portion of over 50-year olds increased compared to 2016 (+5%), confirming the ongoing upward trend of the last 3 years.

### Personnel by age group and role (2017)

%	Managers	Middle managers	White-collar workers	Blue-collar workers	Total
Under 30 years of age	0.0%	0.0%	4.7%	3.8%	4.0%
between 30 and 50 years of age	37.0%	49.6%	52.3%	41.3%	47.6%
over 50	63.0%	50.4%	43.0%	54.9%	48.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Data as at 31 December.

### Part-time contracts

No.	2015	2016	2017
Men	47	44	39
Women	294	298	308
<b>Total</b>	<b>341</b>	<b>342</b>	<b>347</b>

Data as at 31 December.

### Workforce by gender and type of contract (2017)

no.	Men	Women	Total
Full-time	6,658	1,842	8,500
Part-time	39	308	347
<b>Total</b>	<b>6,697</b>	<b>2,150</b>	<b>8,847</b>

Data as at 31 December

**Part-time** arrangements, as regulated by current labour agreements, are considered a valid instrument in providing a response to **labour flexibility** needs both in terms of organisational and employee needs. They are characterised by the voluntariness, reversibility and compatibility with the technical, organisational and productive needs of the company and the needs of workers. Family and health needs, the need to help others with disabilities, and cases of serious illness (duly certified as such) are our priority considerations in assessing applications. The persons to whom staff members report must consider how viable the contracts the applicants seek are in terms of corporate needs: if it is concluded that the contract is viable, the changes will be made.

In 2017, 250 requests for part-time arrangements were submitted, 245 of which were accepted. Preference towards part-time work among female workers continued to be strong. In 2017, all 12 requests submitted for part-time arrangements from women following maternity leave were accepted.

### Maternity, paternity and parental leave

	2015	2016	2017
Maternity leave taken (no.)	39	43	35
Paternity leave taken (no.)	247	252	257
Duration of parental leave taken, per capita (days)	29	25	23

In 2017, 35 employees took maternity leave; all employees returned to work following maternity leave (no employees resigned within 3 months of returning to work from maternity leave). The number of leaves taken by men amounted to 112, rising compared to the previous year, following the recent measures to support parenting according to which working fathers must take 2 days of leave within 5 months from the birth of their child. The average duration of paternity leave taken was in line with the previous year.

### Training and professional development

At Group level, 237,588 (approximately 29 hours per capita) training hours were provided overall: around 52% were delivered using internal trainers. This increase is mainly due to the organisation of extraordinary training activities: new leadership model, smart working, change management plans, on-the-job training and the Quantity-based Tariff project.

#### Total training hours per area of intervention

hours	2015	2016	2017
Sales and market	13,942	15,542	15,728
Managerial	26,555	35,308	30,320
Quality, safety, environment, Sa 8000 social responsibility	95,852	72,257	66,741
Information systems	23,468	30,827	13,044
Technical-operational	81,212	73,602	87,168
Ethical values and corporate culture	21,096	18,048	24,587
<b>Total</b>	<b>262,125</b>	<b>245,583</b>	<b>237,588</b>

**Ethical values and corporate culture** include the annual meetings of the Executive Chairman and the Managing Director, top-down meetings regarding the Word-of-Mouth project - aimed at spreading knowledge of the main company projects among Group employees - as well as the initiatives set up for disseminating the Code of Ethics. The managerial area specifically includes the training initiatives on the new leadership model, institutional training activities for managers, the Elective programme (process aimed at improving managerial performance) and other initiatives related to HerAcademy, the Group's corporate university.

With regard to **Sales and Market**, training was delivered connected to the New CRM Language project with a view to developing Hera Comm's sales language and so achieving greater accessibility and distinctiveness. Information meetings were organised within Hera Comm aimed at presenting the organisational development logics implemented during the second half of 2017. Cross-cutting information/training activities were also started regarding the **Quantity-based tariff**, involving resources belonging to affected organisational areas.

In the **Quality, Safety and Environment** area, ongoing commitment and investment was achieved with regard to work health and safety topics, especially training on the State-Region Agreement and training activities regarding emergency teams, security positions and work equipment.

Lastly, in the **technical-operational** area, we gave further continuity to the scuola dei mestieri (school of trades), especially to on-the-job training activities in the operations area; whilst in the **information systems** area of note is the continuation of the widespread and cross-cutting training activities related to the unbundling project and to Office Automation, as well as the information and widespread awareness-raising programmes on information security.

#### Training hours (average, per capita)

Hours	2015	2016	2017
Managers	51.3	59.2	61.4
Middle managers	53.6	53.3	46.6
White-collar workers	30.3	28.2	27.5
Blue-collar workers	28.8	25.4	25.1
Project based contract workers and workers with staff leasing contracts	27.8	40.2	91.3
<b>Average</b>	<b>31.4</b>	<b>29.3</b>	<b>28.6</b>

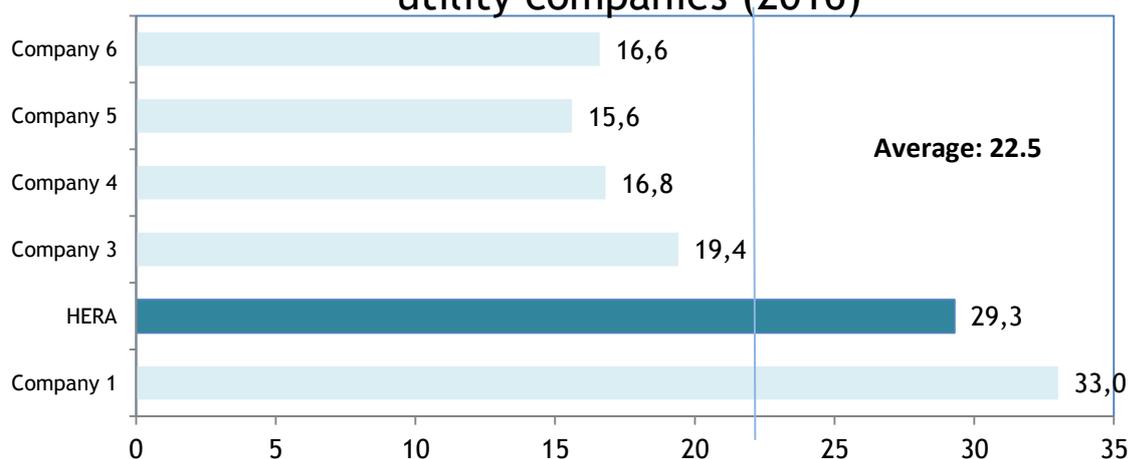
Data does not include Aliplast and Aresgas. The workers of these companies are equal to 4.7% of the total.

There were 28.6 training hours per capita (25.8 in Hera Spa). Average training per capita in female workers amounted to 28 hours against 28.8 average hours in male workers.

#### Professional training in the main Italian utility companies

Hera is in second place among the 6 main Italian utility companies considered in the comparative analysis between the main Italian utility companies carried out by Utilitatis in terms of training hours per capita delivered to workers: the 2016 Hera value was 29.3 hours, 30% higher than the 22.5 average of the 18 multiutility companies considered.

#### Professional training hours per capita in the main utility companies (2016)



### Percentage of workforce attending at least one training course

%	2015	2016	2017
Managers	100.0%	100.0%	100.0%
Middle managers	99.5%	100.0%	100.0%
White-collar workers	99.8%	99.4%	99.4%
Blue-collar workers	98.7%	95.9%	95.1%
Project based contract workers and workers with staff leasing contracts	100.0%	99.2%	100.0%
<b>Total</b>	<b>99.3%</b>	<b>98.1%</b>	<b>97.9%</b>

98% of workers were involved in at least one training event: the reason for this was the development of widespread initiatives, including the extraordinary training activities mentioned above.

### Assessment of training

%	2015	2016	2017
Degree of satisfaction of trainees (quality perceived on a scale from 1 to 5)	4.38	4.43	4.43
Outcomes (correspondence with needs) (% of replies with assessment score of 4 or 5)	74%	75%	75%

Excluding AcegasApsAmga and Marche Multiservizi

Training, including hands-on training, is planned based upon a needs analysis in accordance with the Group's roles and competences model. This analysis is followed by detailed planning which includes cost forecasts. The activities are monitored and assessed during the year and after training.

Hera uses a training assessment system that considers the degree of satisfaction expressed by the workforce attending the courses, alongside the assessments of the department managers with respect to the impact of training actions on the skill profile development of co-workers and their application in the performance of the working activities.

The degree of satisfaction is generated by assessments conducted by trainees once the course is over, on a scale of 1 to 5. The above table shows the overall average assessment measured: the degree of satisfaction is in line with 2016. The outcomes are the result of the assessments carried out by managers in terms of collective impact of the training provided for each role. The reported percentage values indicate scores of 4 or 5 (1 - 5 scale).

### Total training cost per area of intervention

Thousands of Euro	2015	2016	2017
Sales and market	55	52	44
Managerial	398	589	606
Quality, safety, environment	604	541	448
Information systems	21	60	28
Technical-operational	430	361	499
Ethical values and corporate culture	9	15	3
Other	213	135	189
<b>Total</b>	<b>1,730</b>	<b>1,753</b>	<b>1,817</b>

The data refer to: Hera Spa, Acantho, AcegasApsAmga, Herambiente, Hestambiente, Hera Comm, Hera Luce, Heratech, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi and Uniflotte.

The overall financial investment made by the Group in 2017 exceeded Euro 1.8 million, net of costs for staff undergoing training and internal trainers, around Euro 736 thousand of which related to the use of financed training funds.

### **Main training initiatives**

In the **Ethical values and corporate culture** area, in addition to annual meetings with top management (for a total of 7,933 hours), of note is the continuation of the transversal training programme **Corporate social responsibility and the code of ethics in day-to-day management** (200 hours delivered):

The training sessions on the Code of Ethics for new recruits were planned and organised during the first quarter of 2018 (around 340 people involved) following the update of the AlphasEthics programme which was adjusted to the fourth version of the Code of Ethics approved by the Board of Directors on 15 February 2017. The programme was updated to emphasise the main changes to the Code that regarded responsibility and decision-making powers, reporting duties, relations with suppliers and social responsibility in procurement, Hera's suppliers and its image and reputation, relations with the community and citizens, the promotion of the spirit and content of the Code and, finally, the validity of the Code. More specifically, 14 new questions were added to the programme, 11 of which regarded modifications introduced following the revision of the Code and 3 of which introduced on the basis of the experience gained when delivering classroom games, which brought out some of the participants' information needs. Lastly, with regard to the **Word-of-Mouth** project, aimed at spreading knowledge of the main company projects among Group workers, training sessions were organised and the related e-learning module was created for the speakers, prior to the start of the first cycle of information meetings (over 4,000 hours delivered).

In the **managerial** training area, in addition to significant training actions related to the new **leadership model** for over 6,000 hours, the second edition of the **institutional management training** programme (760 hours) was developed. This latter initiative involved managers either recently appointed or coming from outside and was organised with the contribution of some Group directors who were involved in the planning and teaching activities.

The training course **Elective programme** was also developed in collaboration with Bologna Business School aimed at improving managerial performances (1,400 hours delivered).

Lastly, the **lean sigma / lean organisation** training and certification programmes continued with over 1,600 training hours delivered; of these, 352 hours were yellow belt, 628 hours green belt, 204 hours black belt and around 460 hours on application of the lean methodology to projects.

With regard to **Sales and market**, training was continued with regard to the **New CRM Language** project with a view to developing Hera Comm's sales language and so achieving greater **accessibility** and **distinctiveness**. The project involved around 250 resources with approximately 3,000 hours delivered. Start of the training activities on Quantity-based Tariff regulatory content and technical-management impact (around 1500 hours delivered).

In the **technical-operational** area, further continuity was given to the **School of Trade** initiatives and significant on-the-job training activities were implemented, mainly in the general operations department area, with 25,830 hours delivered. In the **economics and finance** area, business English training activities were organised aimed at strengthening the knowledge of economic and financial dynamics across all levels. **Data analytics workshops** were also organised with a view to involving Group resources in the development of data management topics, also for the purpose of assessing the opportunities that may be achieved in the various corporate areas.

The Group's training actions continued to give key importance to training on safety in daily work practices: 42,000 training hours were provided overall in the **quality, safety and environment** area, with particular reference to training required by the State-Regions Agreement. The project on individual protection

devices with a view to gender difference continued in 2017, showing positive results among workers. It involved roles directly in contact with workers such as supervisors and health and safety representatives.

With regard to **AcegasApsAmga**, the change management and related integration activities continued, with particular reference to the activities regarding alignment to the Group's procedures and information systems. Regarding the development of managerial skills, of note is the training programme "Role Awareness Development". In addition, technical-professional training was also delivered, aimed at developing technical skills especially associated with operating methods and the use of new tools, such as the organisation of the training course "Supervision of works", "Management of contracts and services" and "Raising awareness on cathodic protection".

In **Marche Multiservizi**, among the main training initiatives, the training programme on culture and safety, behavioural and managerial training, and Hergo and ESA system harmonisation training are worth mentioning.

### **The Scuola dei Mestieri (School of Trades) and its progress**

The **Scuola dei Mestieri** is a consolidated system that for over ten years has developed, strengthened and enhanced the technical and operational skills of the Hera Group, also with a view to knowledge management. The purpose is to raise the level of awareness of professional conduct and of know-how transfer within the company.

Since its creation, the Hera Group has felt the need to arrange the distinctive skills of the various operational trades which are typical of the company (for example workers dealing with network services and workers dealing with remote control and management) in notebooks. Sixteen notebooks have been created to share and preserve the Group's distinctive know-how over time: in 2015, they became available in digital format and are updated continually. Training activities were set up in 2017 following publication of the Group notebook "Gas emergency service operator", together with AcegasApsAmga.

Furthermore, in 2017, the professional Academy system was started with the launch of the first two Academies: **Engineering and Purchases** and **Contracts**. In the first year of activity, the Academies focused mainly on consolidating the roles and competences system and on its application within training processes.

Improving organisational results and strengthening the Group's sense of belonging are among the objectives that brought us to further extend the Scuola dei mestieri model, together with knowledge management projects, to the **Apprenticeship Communities by professional and thematic categories**. They are groups aimed at producing and sharing action procedures and practical knowledge with the use of wikis and forums on the corporate platform.

In 2017, we continued the activities and projects regarding sales and market, Heratech (with focus on specific issues, including non-payment and price lists), regulation matters and energy tariffs, and energy management (relating to Iso 50001 certification on energy efficiency). Over the past years, attention has been paid to cross-cutting areas, such as new communities with regard to tax matters (available across all Group companies) and to the updating process of the Code of Ethics, as well as to data analytics, by testing new supporting tools.

### **The leadership model**

A good number of leadership model dissemination initiatives continued to be carried out in 2017. In February, meetings were organised to present the new model to managers and middle-managers (for a total of 980 training hours delivered).

Between May and July, 12 training courses on the new leadership model skills were delivered to directors, managers and middle-managers: around 600 managers, who thanks to the collaboration with the non-profit organisation Raise against Hunger - created with the aim of reducing hunger in the world - worked to allow the preparation of 160,000 meals for children in Zimbabwe. The initiative allowed over 400 children to have a meal for one year.

A platform was also created in which multimedia content was introduced (articles, videos, e-learning courses, slides, tests) to spread and examine the model contents, open to all staff (over 5,000 people).

In December, Ornella Chinotti, Managing Director West Europe at CEB-Gatner and Eugenio Sidoli, Chairman and Managing Director of Philip Morris Italia, held a workshop for managers.

During 2017, training on the leadership model involved a total of over 6,800 hours.

### **Agreements with universities, business schools and research centres**

The Hera Group has entered into several framework agreements over the past years with leading universities in the Emilia-Romagna area, such as the University of Bologna, the University of Modena and Reggio Emilia, and the University of Ferrara, which include the assignment of six-monthly scholarships for final year students and for recent graduates. The Group also works actively with various business schools including the Bologna Business School (BBS), the Consorzio MIB School of Management in Trieste, ISTAO (Adriano Olivetti Institute), the MIP-Polytechnic in Milan and the SAFE Study and Research Centre; it is also a member of the Assoknowledge-Confindustria scientific committee - Innovative and Technological Services. Lastly, scientific cooperation with the University of Milan – Bicocca and CRISP (Inter-university Research Centre for Public Utility Services) continued, with the general aim of supporting the development and implementation of activities within the Group's Corporate University.

### **Health and Safety**

Ever since its establishment, prevention and safety at work have been among Hera's founding principles; improving conduct and strengthening corporate awareness at all organisational levels towards health and safety is an ongoing target for the Group.

Several initiatives have been developed over the past years: one of the most recent and significant is certainly "A year for safety in the Hera Group" which in 2010 developed a coordinated set of projects aimed at stimulating virtuous and proactive conduct both during work and in other daily life contexts featuring the effective involvement of workers.

These initiatives, together with ongoing training and coaching of staff, specific actions for the improvement of vehicles and equipment, and timely analysis and investigation of accidents and near misses have allowed us to achieve important results. The specific indicators, reported below and illustrated, are a tangible sign of the improvements attained by the Group in this important field.

#### **Accident indices**

	<b>2015</b>	<b>2016</b>	<b>2017</b>
Frequency index	20.6	17.8	17.1
<i>of which for ongoing accidents</i>	4.0	4.0	3.3
Severity index	1.28	0.56	1.04
Rate index	3.2	2.9	2.8
Average accident duration (days)	62.1	31.0	62.2
Number of accidents	264	226	240
<i>of which for ongoing accidents</i>	52	51	48

The frequency index is the number of accidents per million hours worked. The severity index is the number of days of absence per accident divided by thousands of hours worked. The rate index is obtained by dividing the number of accidents by the number of workers, multiplied by 100. The data referring to accidents reported to INAIL which lasted more than 3 days were considered.

2015 and 2016 data refer to the following companies: Hera Spa, AcegasApsAmga, Aliplast, Amga Calore&impianti, Aresgas, Black Sea Technology Company, Fea, Hera Comm, Hera Luce, Herambiente, Hestambiente, Inrete Distribuzione Energia, Marche Multiservizi, Sinergie, Uniflotte and Waste Recycling.

The accident frequency index at Group level further improved compared to the previous years (-4.7% compared to 2016 and -18% compared to the last three years on a like-for-like basis). The positive result obtained by Hera Spa (frequency index of 15.9 in 2017, down 10% compared to the previous year on a like-for-like basis) and by Marche Multiservizi (frequency index of 16.6 in 2017, rising by almost 21% compared to the previous year) improved the Group's overall figure. If we consider accidents lasting less than 3 days (28 in 2017), the frequency index drops to 18.7 (-8.1% compared to the previous year, on a like-for-like basis).

The female accident index is 10.4 instead of 13.0 and refers to the following companies: Hera Spa, AcegasApsAmga, Marche Multiservizi, Hera Comm Uniflotte Acantho Hera Trading Hera Servizi Energia Hera Comm Marche Amga Energia and Servizi Medea Hera Luce Sinergie.

Due to a fatal traffic accident that occurred during working hours and involved a worker of Hera Servizi Energia, the overall Group severity index increased compared to previous years. Without considering the days of absence for this accident (7,500 days of absence according to the INAIL tables), the overall Group severity index would be 0.52 which on a like-for-like basis shows a 6% improvement. On a like-for-like basis with the previous year, the overall number of accidents for the Hera Group declined further in 2016 (-5% compared to 2016). On a like-for-like basis with 2016, the number of days of absence due to accident in 2017 was 6% lower.

The number of ongoing accidents (while travelling to/from work) accounted for 21% of the total, dropping slightly in absolute terms as a percentage compared to the figure of the previous year. In 2016, the number of days of absence due to accidents attributable to ongoing accidents (while travelling to/from work) accounts for 21% of the total days of absence.

If we analyse the single accidents that occurred during 2017, there were no critical situations as regards how they occurred or their consequences. Slipping and ongoing accidents, 32% and 24% respectively, are the two main causes of accidents in Hera Spa.

With regard to the mortal accident that occurred at the incinerator of Bologna in December 2010, following the request for committal to trial of a Hera Spa employee, a Frullo Energia Ambiente employee and a Herambiente employee notified in January 2014, the judge acquitted all three defendants of the crime charged by way of judgement of 24 October 2014 "since the fact does not constitute an offence". In October 2015, the public prosecutor challenged the decision: the hearing has not yet been set.

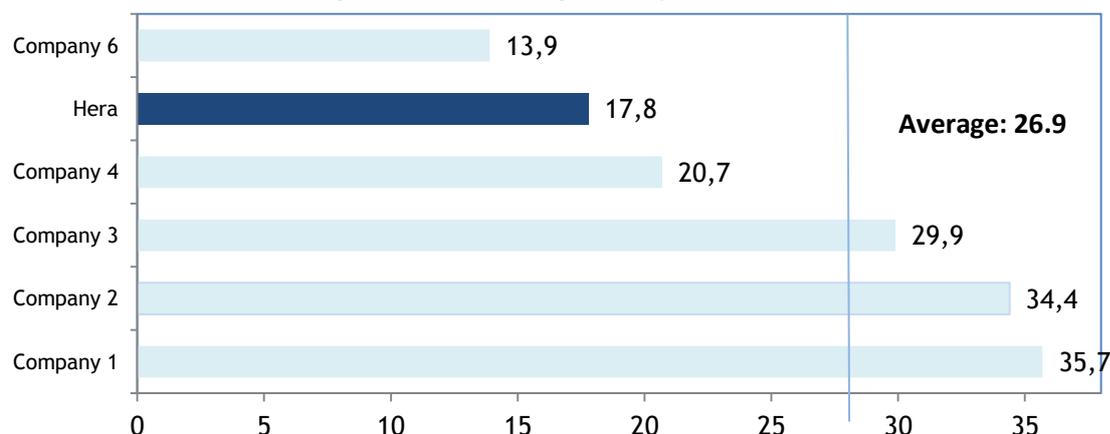
With regard to the mortal accident in 2009 that occurred at the waste-to-energy plant of Forlì, following the committal to trial of 3 Hera Spa employees and 1 Herambiente employee, the preliminary hearing was held on 3 April 2014. At the hearings of 13 May and 30 May 2016, the witnesses and experts were examined. On 31 March 2017, the judge ordered the conviction of the defendants granting suspension of the sentence. On 28 June 2017, the convicted employees filed an appeal against the first instance ruling. The date of the hearing is yet to be scheduled.

Italian legislation (Italian Leg. Decree 81/2008) requires that workers be represented by Workers' Safety Representatives. There are 72 Workers' Safety Representatives in the Hera Group, covering 98% of the Group's total employees. The Workers' Safety Representatives (WSR) are individuals chosen by the employees of a company according to the procedures established by law, who are required to monitor compliance with the rules on workers' safety. Their task is to liaison with the employer, in order to report any non-compliance with the rules on health and safety and potential risks. With regard to suppliers, periodic checks on health and safety at work are carried out as set out in internal procedures.

#### *Occupational safety in the main Italian utility companies*

In a comparative analysis between the main Italian utilities, Utilitatis considered frequency index of accidents lasting more than three days: the 2016 index of Hera (17.8) is 34% lower than the average index of the 6 companies considered (equal to 26.9).

## Occupational safety in the main multi-utility companies, frequency index (2016)



### Accident frequency index (by function)

	2015	2016	2017
Grid services	17.0	13.2	14.0
Waste management services	43.3	37.6	40.9
Coordination activities	9.4	10.7	8.2
<b>Average</b>	<b>21.5</b>	<b>18.4</b>	<b>18.9</b>

Data refer to Hera Spa, AcegasApsAmga and Marche Multiservizi.

As already pointed out over the past years, waste management services reveal a higher number of accidents compared to network services and coordination activities (due to a higher number of operations by respective staff).

For the first time, the sustainability report calculates the frequency index by gender. 2017 figures show a slight difference in accidents depending on gender (an accident frequency index of 20.5 for men and 13.0 for women).

### Accident frequency index (by blue-collar workers)

	2014	2015	2016	2017
<b>Total</b>	<b>43.8</b>	<b>39.0</b>	<b>34.9</b>	<b>38.2</b>
Of which grid services	30.0	28.1	22.2	26.1
Of which waste management services	58.8	53.3	50.9	55.1

Data refer to Hera Spa, AcegasApsAmga and Marche Multiservizi.

Accident indices are higher for workers, since they are more at risk of accidents given the nature of the activities they perform. With regard to blue-collar workers, waste management services show a higher frequency index compared to other services (55.1). The 2017 figure was influenced by the results of AcegasApsAmga where single and well-defined episodes of distraction of some network service workers caused accidents due to falling, slipping, collisions and distractions.

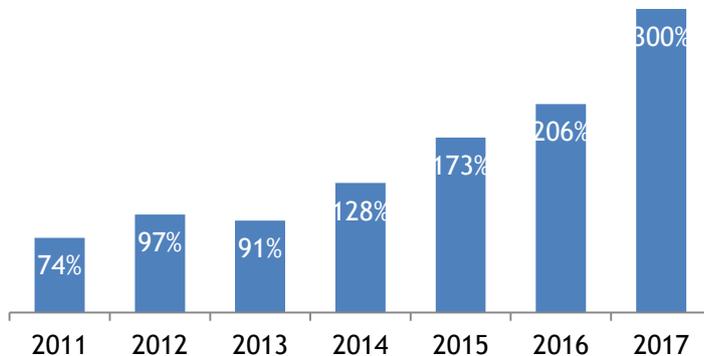
### Accident indexes of some subsidiaries (2017)

	AcegasApsAmga Group	Herambiente Group	Marche Multiservizi	Hera Comm	Uniflotte
Frequency index	20.4	22.3	16.6	1.1	9.4
Severity index	0.68	0.61	0.73	0.04	1.24
Rate index	3.5	3.8	2.8	0.2	1.6
Workforce	1,817	1,279	502	581	127

Regarding accidents in Hera Group companies included in the scope of consolidation, some improvements may be seen in the accident frequency indices for companies such as Marche Multiservizi (from 21.0 to 16.6), Hera Comm (from 3.4 to 1.1) and Uniflotte (from 42.3 to 9.4).

A key topic for the purpose of preventing accidents and improving workplace health and safety conditions is the ability to report, collect and analyse accidents and near misses. Near misses are accidental events that could have potentially generated an accident. Their correct analysis and examination prevents the occurrence of accidents. The Hera Group places great emphasis on correctly reporting, analysing and examining near misses. The trend of near misses is monitored on a monthly basis to check compliance with the specific objectives assigned to the various departments and business units.

### Ratio between near misses and accidents



The data refer to the following companies: Hera Spa, AcegasApsAmga, Fea, Hera Comm, Hera Luce, Herambiente, Inrete Distribuzione, Heratech, Marche Multiservizi, Sinergie, Uniflotte and Waste Recycling.

In 2017, the ratio between near misses reported and accidents that occurred for Hera Group's scope of reporting was 300% (173% in 2015 and 206% in 2016). The indicator shows a constant rise over the past three years. Of note in the Group's overall result are the results achieved by Hera Spa (223%), AcegasApsAmga (325%) and Herambiente (873%). The level of accidents reported in Marche Multiservizi reached 53%, showing that there is still considerable room for improvement.

The main types of near misses analysed by the prevention and protection service regarded road accidents, falling or slipping to the ground, collisions and crushing. In 30% of cases, the analysis of the events allowed specific corrective actions to be implemented aimed at eliminating the causes that generated the event.

During 2017, training and safety information activities (in compliance with the State-Regions agreement) directed towards the entire workforce continued. Several hands-on training activities were carried out for Hera personnel at the dedicated structure set up in Imola (hands-on training on access and work in

confined spaces, fire-fighting, work at height and work in the presence of moving vehicles). More specifically, 46 training activities were organised at the training site in 2017, involving around 850 Hera Group workers for a total of 5,388 hours.

Again during 2017, the new training procedure for Hera Spa safety supervisors, which had been planned and tested during 2015, was completed. The new training module which involved around 350 supervisors provided important experience-based knowledge aimed at strengthening safety at work culture and enhancing safety communication and leadership skills. Again for the year 2017, in addition to extending the training project to other group companies, a further training campaign was planned and started for all project participants in order to gather and share their feedback and to further consolidate safety culture/awareness.

A communication, awareness-raising and training initiative was planned in 2017 on road safety issues. This project will be applied during 2018 and following years. A new road risk assessment strategy was also set up on the basis of the European project PRAISE of the European Transport Safety Council. The Project involved the Risk management and insurance department of Hera SpA (for sharing the purposes and events database) and of Uniflotte (for corporate vehicle management).

Furthermore, during 2017, with the active participation of the operating lines and cooperation of the prevention and protection service, the new health and safety **IT system** (SAP EHS) was further **implemented** in some Group companies and business units (Hera Spa, especially the Water Division and InRete Distribuzione) and at the same time, specific training was provided to the managers and supervisors of the structures involved. In 2018, the instrument is planned to be consolidated at the business units/companies involved through further implementation and integration into the operational processes.

The **new organisational model** adopted for managing emergencies in corporate sites (e.g. fire safety, first aid) was **consolidated** during 2017. The project optimised the entire operational flow (Emergency Plan preparation, emergency management simulation) and also ensured a smooth approach in all areas managed. All the emergency drills were carried out as scheduled.

The “**Healthy lifestyles**” project, which was set up to promote healthy behaviour in Hera Group employees, identified two spheres of action: promotion of a healthy diet. The healthy diet project was launched in 2014 by awarding the tender for the company canteen and organising a number of meetings with the canteen provider aimed at planning and gathering information on the dietary lifestyles of Hera’s population. This was achieved through a survey on the corporate population’s eating habits and lifestyles.

Specific information activities regarding healthy diets for employees were started over the following years. A nutritionist was available on the company premises on certain days and upon appointment. The installation of information banner stands and monitors in the canteens continued. Furthermore, a specific information section was included in the corporate portal and made available to all workers. This section allows workers to view the weekly menus, ask for personalised diets (in case of ascertained food allergies or intolerances), set up personalised nutrition counselling and receive health advice.

The process for monitoring the accidents of suppliers through the SAP platform IT tool was consolidated during 2017. Entry of the single accidents and submission of the annual summary is now carried out exclusively through the IT system, allowing closer monitoring by company representatives and effective periodic reporting of the data set out in this Report.

On the occasion of the world safety day (28 April 2017), promoted by the International Labour Organization, the Group developed an internal communication and awareness-raising campaign to spread a culture of safety and of ever-healthier lifestyles to all workers. The campaign had three topics:

- road safety (mobile phone use while driving)
- healthy lifestyles (checking body weight)
- reporting near misses.

For future years, in compliance with the indications set out in the Group's Business plan and with the health and safety improvement actions both implemented and scheduled, a further reduction in the accident indices and an increase in the near misses reported by the employees are envisaged.

Of note is the Group's attention to **personal protection** devices, with specific focus on the comfort of workers, and its aim to create prototypes of **gender-based** personal protection devices. This led to a new supply of safety footwear, chosen not only in compliance with the technical and ergonomic criteria provided for by law but also on the basis of indications received from company staff. In 2017, the project obtained a certification of **good practice** from Inail and was submitted to the Ministry of Labour and Social Policies in order to obtain good practice in workplace health and safety.

## Remuneration and incentives

The Hera Group defines and applies a general remuneration policy aimed at attracting, motivating and retaining resources having the professional qualities requested to profitably achieve the Group's objectives.

The policy is defined so as to align the interest of various stakeholders and to achieve the priority objective of creating sustainable value in the medium-long period, through consolidation of the connection between remuneration and performance, both individual and Group-related.

All Group employees are hired through national collective labour agreements.

With reference to the labour agreements that govern the employment relationships of all Group workers, the table illustrates the gaps between gross monthly remunerations (net of accrued 13th and 14th monthly pay and of performance bonus) and those specified by the labour agreement. Comparison between the minimum pay/salary conditions of all the national collective labour agreements applied in the company and the minimum ones applied in the company was conducted by considering the minimum classification conditions for the three employment classes.

### Ratio between minimum monthly pay and salary conditions according to labour agreements and Hera monthly pay and salary levels (2017)

Euro	Min. monthly pay/salary (according to lab. agr.)	Min. monthly pay/salary (Hera)	Average monthly pay/salary (Hera)
Middle managers	2,988	3,086	4,743
White-collar workers	1,468	1,568	2,816
Blue-collar workers	1,361	1,374	2,345

The data refer to the following companies: Hera Spa, Acantho, Fea, Hera Comm, Hera Luce, Hera Trading, Herambiente, Herambiente Servizi industriali, Heratech, Inrete Distribuzione Energia, Uniflotte, AcegasApsAmga, Sinergie, Hestambiente, Marche Multiservizi and Waste Recycling where 90% of Group employees work.

The average salary applied is higher than the minimum labour agreement conditions for all three positions: +58% for middle managers, +91% for white-collar workers and +72% for blue-collar workers.

Even the minimum salary applied is 3% higher than that envisaged by the labour agreement for middle managers, 7% higher for white-collar workers and 1% for blue-collar workers.

These differences are directly related to the average age level of the corporate population, which is 48.4 years of age, and connected to the policies aimed at favouring internal professional growth.

### Ratio between senior management monthly salaries according to labour agreements and Hera levels (Utilitalia contract)

Euro	2017
Minimum according to labour agr.	5,077
Minimum Hera Group	5,692
Average Hera Group salary	9,677
Average market salary for managers	10,288

The table illustrates the gaps between average gross monthly salary levels in Hera (net of the accrued 13th monthly pay and variable remuneration) and those envisaged by the national collective labour agreement. The contract of reference for this qualification is the Utilitalia contract. The average salary of Hera managers is 90% higher than the minimum according to the labour agreement, while the minimum salary applied by Hera is 12% higher than the Utilitalia contract. The average salary of Hera managers is 6% lower than the average market salaries for managers, as reported in the Hay Compensation Report – Total Cash Italia 2017.

For this position also, the differences between the salaries applied and labour agreement references are the result of the application of previous economic schemes, also with regard to age (on average 51.9 years) and of years of stay in the Group (on average 16.7 years) for the category of managers.

### Average monthly salaries by gender (2017)

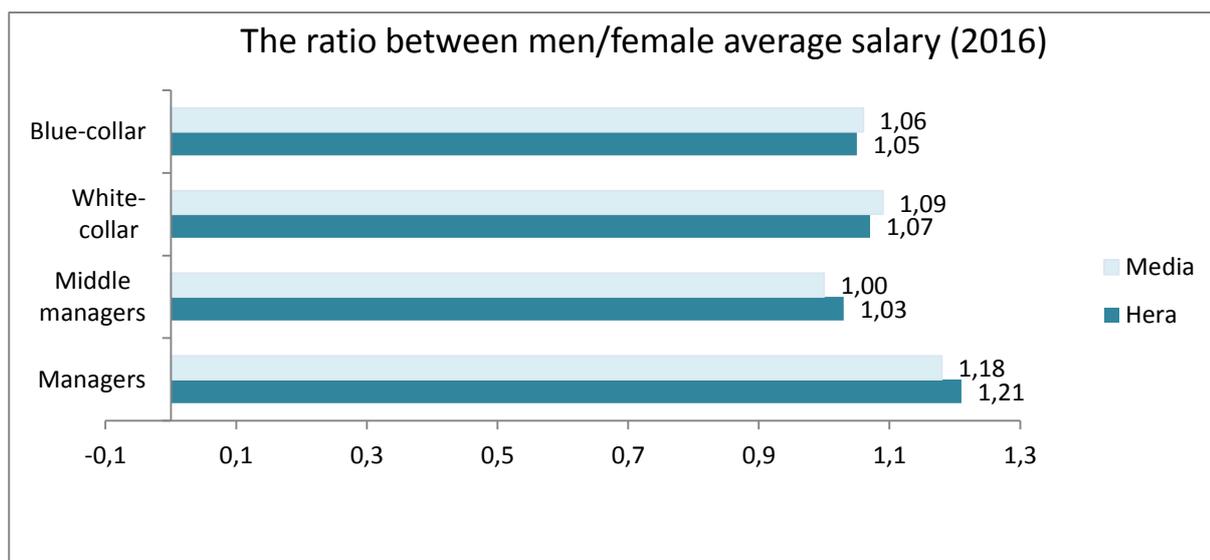
Euro	Men	Women
Managers	9,962	8,480
Middle managers	4,783	4,654
White-collar workers	2,894	2,692
Blue-collar workers	2,347	2,272

The data refer to the following companies: Hera Spa, Acantho, Fea, Hera Comm, Hera Luce, Hera Trading, Herambiente, Herambiente Servizi industriali, Heratech, Inrete Distribuzione Energia, Uniflotte, AcegasApsAmga, Sinergie, Hestambiente, Marche Multiservizi and Waste Recycling where 90% of Group employees work.

The **salary gap between men and women** within the management class is significant (Euro 1,482): this figure is influenced by the number of female directors (5 out of 37). Much lower salary gap for middle-managers, white-collar workers and blue-collar workers. The salary gap between men and women is due to the fact that 67% of management employees are male. Regarding managers, white-collar workers and blue-collar workers, the ratio of the remuneration of women to that of men (95%) is significantly higher than the national average (81% in 2014) and than that of the energy, water and waste management sectors - 92% in 2014 (Source: Eurostat 2014, most recent figure available).

### Ratio between average salary by gender in main Italian utility companies

Utilitatis carried out a comparative analysis among the main Italian utility companies and considered the ratio between the average salary of male workers and the average gross salary of female workers by different company classification levels. Specifically, Hera has a male/female ratio of 1.21 for managers, 1.03 for middle-managers, 1.07 for white-collar workers and 1.05 for blue-collar workers.



In 2017, the ratio in the Hera Group between the gross annual salary (excluding performance bonuses and variable remuneration) of the person with the highest salary and the median value of workers was equal to 10.5. The remuneration of the person with the highest salary did not vary compared to the previous year.

#### Gross performance bonus (per capita)

Euro	2015	2016	2017
Middle managers	2,038	2,054	2,015
White-collar workers	1,766	1,780	1,743
Blue-collar workers	1,628	1,642	1,602
<b>Weighted average on workers</b>	<b>1,733</b>	<b>1,747</b>	<b>1,706</b>

The figures refer to the following companies: Hera SpA, Fea, Hera Comm, Hera Luce, Hera Trading, Herambiente, Herambiente Servizi Industriali, Heratech, Hestambiente, Inrete distribuzione energia, Uniflotte, AcegasApsAmga, and Marche Multiservizi

The performance bonus of middle-managers, white-collar workers and blue-collar workers is defined within the Group supplementary collective labour agreement and is based on profitability, productivity, sustainability and sector-specific indicators. The expansion of the company scope in 2017 affected the slight decrease in the average value of the performance bonus for workers.

Starting from 2018, as required by current legislation, employees will have the opportunity, on a voluntary basis, to convert their performance bonus into corporate welfare services for a maximum value of 50% of the yearly bonus, with significant tax advantages for workers.

#### Bonus system related to short-variable remuneration

Starting from 2006, the incentive system of the Hera Group has been linked to the balanced scorecard system: according to this system, the variable component of each manager and middle manager is calculated as a percentage value of gross annual salaries and is defined on the basis of results obtained relative to the objectives defined at the start of the year. The balanced individual scorecard is structured in three parts:

- the first consists of specific **project-objectives** deriving from translation in operating terms of the objectives contained in the Group's strategic map;
- the second contains the **economic objectives** defined in the budget for the year;

- the third involves an assessment on the behaviours set forth in the Group leadership model.

The structure of the balanced individual scorecard, or the weights assigned to the three areas, vary according to the seniority of the employee and the department he/she belongs to.

The final assignment of the bonus is weighted, furthermore, according to the results reached insofar as certain Group parameters: financial-economic business results and customer satisfaction index for residential customers.

The assignment of the objectives to employees and the assessment of their achievement take place through a clearly defined process which is based on the decision of top management for the individual balanced scorecards of the directors and managers and of the directors for the individual balanced scorecards of the middle managers. The activity takes place with the coordination of the Balanced Scorecard System Management function within the Corporate Social Responsibility department.

In 2017, 52% of the variable remuneration of Hera Group managers was linked to the completion of the project-objectives planned in the balanced scorecard system: 31% was linked to the achievement of the economic and financial budget objectives and the remaining 17% to compliance with the behaviours set forth in the leadership model. The balanced scorecard system involves 98% of Group middle managers and managers.

For managers, 70% of variable remuneration was linked to the completion of the project-objectives planned in the balanced scorecard system and/or achievement of the economic and financial budget objectives, while the remaining 30% to compliance with the behaviours set forth in the leadership model.

## Pension funds

The number of employees participating in the pension funds as at December 2017 was 5,390, or around 64% of total Group employees, showing a stable figure compared to 2016. The main pension funds are: Pegaso for employees under the gas-water and electricity national collective labour agreements; Previambiente for employees under the Federambiente national collective labour agreement; and Previndai for managers. 90% of total employees enrolled in pension funds are enrolled in these three funds.

### Yield of the main pension funds (balanced sub-fund)

%	2015	2016	2017
<b>Pegaso</b>	2.30%	3.46%	2.81%
<b>Previambiente</b>	3.11%	3.15%	2.31%
<b>Previndai</b>	3.05%	0.33%	6.50%

## Industrial relations

The renewal of the **Supplementary Collective Labour Agreement** was signed on 25 May 2017 between the company management and the national, regional and territorial trade unions and the RSU (Trade Union Representatives) for all the personnel of the Hera Group operating in Emilia Romagna, Friuli Venezia Giulia, Marche and Veneto. With this renewal, completion was reached, following the integration of Marche Multiservizi, of the process for the harmonisation of the Group's performance bonus, already achieved previously in all other companies, which will be valid for 2016, 2017, 2018 and 2019.

The most significant new features included in the agreement were:

- recognition of an overall average increase over the four-year period (2016-2019) of Euro 650 at parameter 100 of the Group's parametric scale;
- in line with the previous system, the performance bonus will continue to be based on Group profitability, productivity and sector specific indicators;
- starting from 2018, as required by current legislation, employees will have the opportunity, on a voluntary basis, to replace their performance bonus with corporate welfare services for a maximum

value of 50% of the yearly bonus, with significant tax advantages for workers; this share will be added to the “flexible welfare package” which the company already grants individually to employees;

- in order to obtain the benefits of using part of their performance bonus to reduce contributions, the parties were involved in the experimental set up of a participatory system through the establishment of a Participation Committee and through joint working groups identified to reach equal involvement by workers and improve production performance and work quality.

Furthermore, together with national, regional and local trade unions, and energy-sector trade union representatives, following cancellation by Enel of the so-called “Reciprocity Agreement” regarding the **application of tariff concessions on energy supplies**, a memorandum of understanding was signed for employees of the Hera Group companies, retired employees and “extra-network” spouses still interested in the benefit. These benefits will continue to be guaranteed to entitled users: the Group’s sales companies will offer them a free market commercial offer with application of a discount in the electricity bill that reproduces the same discount system applied until now.

In September 2017, two meeting reports were signed regarding the voluntary implementation of **smart working** operational methods for Group employees. More specifically, a training plan was launched for employees working in areas potentially affected by the pilot project, and testing was started in the identified areas. The testing activities will end in March 2018. The parties have decided to meet within March 2018 for an overall check and reaching of an agreement.

Steps have already been taken to renew the Gas and Water sector National Collective Labour Agreement as regards **overcoming driving indemnity and money handling**.

Again at Group level, a memorandum of understanding was signed with national trade unions regarding the **2017 Financed Training Plan** and the 2017 Training Plan was presented to them, as provided for by the Industrial Relations Protocol.

In the **Emilia Romagna Area**, an Agreement was signed with the local trade unions of Modena regarding the establishment of “**multi-period**” **working hours** in the Waste Management Services Department - Modena - mountain area, in order to increase weekly working hours to 40 in the summer period, which is a more critical period for the service, thereby reducing overtime, alternated with less critical periods with weekly working hours of between 36 and 38 hours.

Furthermore, following an Agreement with the Trade Union Representatives of the Gas and Water sector of the Ravenna area, new working hours for HERAtech S.r.l. Laboratory - Waste sector personnel were defined.

In the area of Ferrara, in the Aqueduct Networks sector of the Water Department, a Trade Union Agreement was entered into in order redistribute working hours over 6 days per week, during the summer (with better coverage during the ordinary time slot), thereby reducing on-call overtime. These new working hours for the summer period were also introduced in the Imola area and reviewed for the Ravenna area, allowing full harmonisation to be reached throughout all local areas.

With regard to Herambiente S.p.A, specific agreements were taken together with local Trade Unions for the Bologna and Rimini areas in order to set up an on-call system for the Selection and Recovery Plants. In Uniflotte S.r.l, the joint examination for setting up an **on-call system outside working hours** for emergency management was completed. Following introduction on 1 January of the new working hours (38 weekly hours) for personnel with a National Collective Labour Agreement for waste management services, from the month of April, the Trade Unions checked the new working hours applied in the various companies and any improvement actions were implemented.

Again in the Emilia Romagna area, with reference to the topic “departure from home to travel to a worksite”, following conclusion of dialogue with the trade unions, this new operational approach, aimed at recovering efficiency margins and increasing productivity by optimising the presence of personnel involved

in scheduled technical/operational activities and support staff in the Networks and Plants sector, was set up in the areas of Ferrara, Imola-Faenza, Modena and Ravenna, and also implemented in the Bologna area where it had already been tested. This new operational approach was also set up in the Forlì-Cesena area following the signing of a Memorandum of Understanding with the Trade Union Representatives for Gas and Water on 10 July 2017.

Together with the trade union representatives of reference, a joint examination procedure was carried out regarding the transfer of Hera S.p.A - Waste Management Services Department - Rimini Area personnel, from Coriano to Rimini, starting in October 2017, with the aim to achieve greater technical and organisational efficiency.

At the end of October, an Agreement regarding the **snow emergency service** for the 2017-2018 winter season was signed in Modena with the trade unions of the waste management sector. This agreement allows an increasingly more functional management of the service with respect to the needs expressed by the Municipality of Modena.

At the end of November, the joint examination procedure regarding the assignment by ATERSIR of the integrated urban waste management service in the Forlì-Cesena province basin area, managed by Hera Spa, to AleaAmbiente Spa according to a procedure of in-house providing, was performed. Therefore, the employees of Hera S.p.A., Hera Comm S.r.l. and Uniflotte S.r.l., involved in the services covered by the assignment, were transferred to Alea Ambiente S.p.A., with effect beginning on 1 January 2018.

The procedure for the joint examination, provided for by law, regarding transfer of the company branch from AcegasApsAmga S.p.A. to Hera Luce S.r.l., concerning public lighting, was also completed. This transaction made it possible to merge the entire public lighting business and at the same time to enhance the complementarity between different companies.

In the area of Ferrara and Modena, the Agreements on the 2018 production calendar regarding collection services during holiday periods were signed.

In line with the Regulatory Code concerning the procedures for exercising the right to strike provided for by the National Collective Labour Agreement for Waste Management Services, the new minimum services to be performed in the event of a strike were defined with a Memorandum of Understanding dated 14 November 2017 between Hera Spa, the Regional Trade Unions of the waste management sector and the Trade Union Representatives for the National Collective Labour Agreement for Waste Management Services of Hera S.p.A.

The agreement makes it possible to edit and update the currently existing services downstream of the organisational changes in the Waste Management Services Department.

Hera continued to cooperate with employers' associations by taking part in commissions and delegations to prepare the Gas/Water, Waste Management Services and Electricity NCLAs. We particularly recall the negotiation that during 2017 led to the renewal of the Gas Water NCLA and saw the active participation of the Hera delegation.

In the **Friuli Venezia Giulia and Veneto Areas**, dialogue with Trade Union Representatives continued during 2017, regarding various local issues.

More specifically, as regards communication within the area of reference, meetings were carried out to reach an agreement with the Trade Unions and Trade Union Representatives of the National Collective Labour Agreement for Gas and Water, in the Udine area, following alienation of the Casa per Ferie in Lignano. The negotiation ended with the signing of an agreement.

As exchange of ideas with the trade unions was started, together with the Group's Industrial relations department, regarding the new operational approach "departure from home to travel to a worksite".

Negotiations were also carried out, again ending with an agreement, regarding the cancellation of certain local instruments such as national half-day holidays and reimbursement of expenses incurred for the renewal of driving licenses.

With reference to the corporate transactions with effect beginning on 1 January 2018, the joint examination procedures provided for by law were completed: transfer of public lighting branch from AcegasApsAmga S.p.A. to Hera Luce S.r.l., merger by incorporation of Amga Calore Impianti S.r.l. into Sinergie S.p.A.

In the **Marche** area, an Agreement was signed on 2 February 2017 regarding the use of “black box” systems for locating the position of company vehicles and for installing equipment for the Hergo Ambiente project.

On 9 March 2017, an Agreement was signed regarding “2017 closing of facilities”. It was agreed that the facilities would close for 3 days during 2017 in order to recover untaken holidays.

On 11 July 2017, on the basis of the renewal of the Gas and Water sector National Collective Labour Agreement as regards cancelling driving indemnity and money handling, an Agreement for cancelling the indemnities regarding chlorine, odorants and waste water was signed, since they were obsolete and no longer met truly unfavourable operating conditions.

On 13 October 2017, a Meeting Report was signed regarding the performance of a joint examination procedure concerning the transfer from Marche Multiservizi S.p.A. to Hera Comm Marche S.r.l. of the company branch involved in “energy” (gas, water and electricity) marketing activities, with relative transfer of 14 workers from 1 January 2018.

Furthermore, the training plan was approved together with 3 agreements: the first regarded “working in a team”, with the aim to strengthen the ability to analyse customers’ needs, to understand what designing a service/product capable of meeting customers’ needs means, and to acquire methods and tools for designing quality services; the second regarded “Mission is possible” aimed at enhancing and complementing the awareness and skills of staff involved in the field of effective behaviour for safety and teamwork purposes; the third regarded “Opposites touch each other” with the aim of improving and increasing the awareness and ability to handle situations, with a view to improving the work climate and promoting internal relationships.

### Open-ended contract workers that are members of unions (breakdown by trade union)

No.	2015	2016	2017
CGIL	2,467	2,398	2,331
CISL	788	775	727
UIL	716	697	595
CISAL Federenergia	45	40	42
FIADEL	238	241	232
RDB	0	5	1
ADL	8	8	0
UGL	30	23	8
USB	29	10	12
FESICA CONFISAL	12	9	2
FEDERMANAGER	13	14	13
CIU MIDDLE MANAGERS	1	1	1
SNALV	5	6	8
CONFIAL	1	1	1
Basic confederation	0	1	1
Basic trade union	0	13	12
<b>Total</b>	<b>4,353</b>	<b>4,242</b>	<b>4,007</b>
<b>Percentage of workforce as at 31/12</b>	<b>53%</b>	<b>50%</b>	<b>48%</b>

Figures refer to 31 December and to Hera Spa, Acantho, Fea, Hasi, Hera Comm, Hera Luce, Hera Trading, Herateck, Herambiente, Medea, Uniflotte, Hera Comm Marche, Hera Servizi Energia, Asa, Inrete Distribuzione Energia, Waste Recycling, Amga Energia & Servizi, Amga Calore & Impianti, and Hestambiente.

48% of the Group's open-ended contract workers are members of a union: the percentage value is around three points less than in 2016. Analysis of the figures by position shows that the union membership rate of blue-collar workers (61%) dropped by one percentage point, while the rate of middle managers increased by one percentage point (22%) and the rate of white-collar workers dropped by three percentage points (45%).

### Open-ended contract workers that are members of unions (breakdown by position)

%	2015	2016	2017
Middle managers	23%	21%	22%
White-collar workers	49%	47%	45%
Blue-collar workers	65%	60%	61%
<b>Total</b>	<b>53%</b>	<b>50%</b>	<b>48%</b>

Figures refer to 31 December and to Hera Spa, Acantho, Fea, Hasi, Hera Comm, Hera Luce, Hera Trading, Herateck, Herambiente, Medea, Uniflotte, Hera Comm Marche, Hera Servizi Energia, Asa, Inrete Distribuzione Energia, Waste Recycling, Amga Energia & Servizi, Amga Calore & Impianti, and Hestambiente.

### Strikes (hours)

Hours	2015	2016	2017
Total time on strike (hours)	727	13,682	14,204
Time on strike (per capita)	0.1	1.7	1.7

The data refer to 31 December and to the following companies: Hera Spa, Acantho, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Herateck, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi, Sinergie, Uniflotte, and Waste Recycling. The hours worked are calculated net of overtime hours for recovery.

In 2017, a **national strike** of 8 hours was announced by Filctem – Cgil, Femca – Cisl, Uiltec – Uil and UGL Chimici, following the failure to renew the Gas and Water National Collective Labour Agreement. A strike

was also announced by the Local Filctem Cgil Delegations of Bologna, Ferrara, Imola, Modena, Ravenna and Rimini, with interruption of extraordinary services from Saturday 11 November 2017 to Sunday 10 December 2017 with regard to topic of departure from home to travel to the worksite. Further three strikes were announced by national independent trade unions, for overall 24 hours, regarded political, economic and social issues.

### Litigation with the workforce

No.	2015	2016	2017
Litigation pending at the close of the year	43	34	32

As at 31 December 2017, 32 cases of **litigation** were **pending** in the Group: Excluding AcegasApsAmga and Marche Multiservizi, there were 16 cases of litigation pending at year end: Of these; one was for recognition of a higher employment level, six for dismissals for just cause, two for recognition of an open-ended employment agreement with Hera or subsidiary, six for compensation of damages and payment of contractual indemnity, and, lastly, one was promoted by the company. In 2017, nine cases were initiated. The AcegasApsAmga Group has 15 occupational cases pending. Among these: three requests for recognition of an open-ended employment agreement by former temporary workers, three for recognition of an open-ended employment agreement by cooperative members, one for recognition of occupational illness, five objections to dismissal (conduct and disciplinary measures), and three for compensation of damages. Marche Multiservizi had only one case in 2017 brought by an employee for recognition of a higher job level.

In 2017, 162 **disciplinary measures** were taken against Group employees, in compliance with the applicable national labour agreements: they involved oral or written reprimands (55 cases), withholdings on salary (57 cases) and 42 temporary suspensions from work. In 8 cases, it was necessary to resort to termination, 3 with notice and 5 without notice.

### Case study

#### *HextRA is Hera Group's new welfare plan*

The HEXTRA experience continued in 2017, Hera Group's welfare system offering a wide range of initiatives and services tailored to meet workers' needs and to increase individual and family well-being in economic and social terms. A flexible welfare share of Euro 360 (up compared to Euro 200 in 2016 and which will reach 385 in 2018) was assigned to each employee, to be used for the HEXTRA offer.

This positive experience counted on **8,569 members** in 2017, equal to **98%** of the potential population, with **Euro 3,313,560** used by employees thanks to an important new feature. First of all, extension of the plan to colleagues with non-open ended contracts with at least six months' experience in the company, the introduction of a "prize" in the form of an individual scholarship for university students (40 scholarships for a sum of Euro 750 each); opportunities to encourage a greater knowledge of languages *A summer in the world with inter-culture*, (10 scholarships for a sum of Euro 2,000 each) for secondary school students; management of the IV edition of the summer camps and, in line with the previous year, the allocation of an additional education quota for employees who have school-age children for a total investment of over Euro 490,000. *My Junior Chef*, the awareness-raising event promoting healthy diets involved parents and children in amusing labs to learn through play the principles of the food pyramid and prepare a traditional Italian dish together. Furthermore, with *in Hera energy is worth more* users can have access to a promotion for the supply of free market gas and electricity and can benefit directly from the value that all employees, day after day with their jobs, help create with a view to reaching an increasingly shared and participated welfare.

All these decisions bear witness to the Group's constant attention towards its workers as a key factor to achieve its corporate objectives through continuous investment in the development of the Plan and place us among the main national companies in the field of corporate welfare.

This direction is confirmed by the results of the *1 year of HEXTRA* questionnaire: a satisfaction survey on the current offer of services and on the emerging needs of employees in order to emphasise the central role played by people in the development of the plan and to stimulate the creation of a common participatory welfare culture. The start was excellent as proved by **91% of overall satisfaction** towards the HEXTRA proposal. This result was achieved thanks to clear information and presentation of the portal services, to the usefulness attributed to each of them and to the positive impact on work-life balance. In fact, access to HEXTRA to request the reimbursement of expenses or the digital purchase of goods and services, either in the office or at home, positively affects daily organisation and is in line with the Group's sustainability principles and agility.

### *Social certification Sa 8000*

In May 2017, Hera Spa successfully passed the maintenance inspection of the **SA8000 management system** for renewal of the system validity, certified by DNV GL. The good outcome of the verification ended with no non-compliance being detected, just one finding classified as observation and 4 improvement opportunities. During the inspection, DNV GL closed all the findings of the previous years.

Among the many **strengths highlighted**, the awareness of working for a company that guarantees excellent working conditions, the constant **attention to training and development**, and strict **central monitoring of compliance with the standard by suppliers**. Within this context, the Group is involved in significant activities to raise awareness in suppliers. Among the positive results, the certifying agency also detected the start of activities by the **Social Performance Team** on specific issues such as the laundering and supply of work clothing and Personal Protection Equipment. It also checked that all the reports received during the year were handled by seeking shared solutions. The need for a more effective involvement by colleagues not provided with a PC station, was among the **opportunities for improvement**, while the only observation concerned the supply of working clothes. The Social Performance Team examined this issue in further detail assisted by an inter-functional work group.

2017 was also the year in which the adjustment activities to the **new SA8000:2014** standard continued. The new SA8000 standard provides important and significant changes to the requirements needed to comply with the standard. The main innovation is the creation of a new governance tool, featuring joint and balanced participation by management and workers' representatives, the Social Performance Team. This body met twice during 2017 and performed the required monitoring and risk assessment activities regarding work conditions and SA8000 requirements. The aim of this activity is to suggest to Top Management any corrective or improvement actions for the functioning of the system. In 2017, 3 reports were opened and addressed within the SA8000 management system.

In 2017, even AcegasApsAmga obtained Sa 8000 certification and set up a Social Performance Team composed of AcegasApsAmga and Sinergie representatives. The Group companies with this certification in 2017 rose to 4 (53% of the Group's workforce).

### *Over Euro 63,500 collected by employees towards local non-profit organisations*

The second edition of HeraSolidale - Hera Group's internal initiative to promote support by employees to local social realities - was completed. Relaunched in April 2016, associations were chosen as part of HeraLAB (with the exception of the areas of Forlì-Cesena, Padua, Trieste, Udine and Gorizia where the non-profit organisations were chosen by the company), the local multi-stakeholder committee established by the company to provide a structured channel for listening to and discussing with local communities. 44 associations were identified, four for each local area, on which workers expressed their preference by using a real voting system and so established the 11 beneficiary associations.

Ending in December 2017, 575 workers joined the project, accepting to donate Euro 1, 3, or 5 (or another amount) every month which was withheld directly from their payslip. This successful project allowed employees to collect Euro 33,275 over this two-year period: an amount that, in emphasising its commitment towards Corporate Social Responsibility, Hera decided to double and to which Euro 30,276 must also be added, donated from employees through Hextra, the integrated corporate welfare system.

The third edition of the project is expected to be carried out during 2018. The Group employees will vote for 5 non-profit organisations out of 15 proposals selected according to the following criteria: reputation and transparency of activities, contribution to one or more goals of the 2030 UN Agenda, and intervention areas of relevance to Hera services (accessory criterion).

#### *Diversity and inclusion index: Hera in the top 100 world ranking*

Hera ranked 14th in the world in the diversity and inclusion index of Thomson Reuters with a score of 77.25 out of 100, improving its performance by almost six points compared to 2016 (71.5) and rising 46 positions in the global ranking. The ranking compiled by Thomson Reuters, one of the leading companies in the field of economic and financial information, analyses more than 6,000 global companies for their diversity and inclusion performance through environmental, social and governance information. The 100 companies included in the index are those that obtain the highest scores with regard to a range of factors spread across four areas: diversity, inclusion, people development and controversies. Hera also ranked second in the world in the utility sector, and first in Italy.

#### *HerAcademy: the strengthening of Hera Group's corporate university*

The contribution of HerAcademy initiatives to producing and sharing strategic know-how both for the Group and its stakeholders continued in 2017. Hera's Corporate University was founded at the end of 2011 with the aim to enhance liaison and dialogue with the eco-system of reference, that is with institutional academic stakeholders, business schools and with national and international corporate universities.

Specifically, the "Industrial system transformation: how organisational models and the labour market change" workshop was organised in Bologna in 2017, during which the results of the "New Horizons of the Possible" research produced by Harvard Business Review Italia and The Ruling Companies were anticipated. Furthermore, the sixth edition of the university orientation initiative for the children of employees approaching university enrolment was carried out: the event was organised by the University of Bologna with the participation of academic guests and some Group directors. The fourth edition of the orientation initiative that supports the children of employees approaching the world of work was developed. Furthermore, the same edition was also delivered for the first time to a NEET (not engaged in education, employment or training) group, with the support of a cooperative from Bologna.

#### *The System for the development of potential*

The process for Group's development was launched in 2015 and is based on the evaluation of performance and managerial skills. The aim is to optimise development actions focusing on the management and growth of individuals. The scope of application includes the entire Group and involved around 5 thousand persons including white-collar workers, middle managers and managers (57.8% of the total). Regarding training in 2017, 822 evaluators were involved and training classrooms were set up for the new evaluators (22 classrooms) and 19 information desks for all employees. A total of 126 meetings for calibration of the performed assessments were also carried out.

In compliance with the results of the development process, specific training initiatives were set up, including targeted technical training courses, high-level training, Executive MBA, access to exclusive dialogue networks and the already mentioned elective programme: a training process organised together with the Bologna Business School aimed at providing an integrated view of corporate actions and at strengthening managerial skills.

### *Sustainability in the management bonus system and in the performance bonus*

Aspects that refer to sustainability are present in the bonus system for managers and middle managers and the systems for the determination of the performance bonus used by the Group. The performance bonus is influenced by indicators that are associated with quality, work and service safety and the environment while the incentive system, which is connected to the balanced scorecard, provides for a part of the incentive to be connected to the achievement of sustainability projects.

In 2017, 25% of the variable remuneration of Group managers and middle managers was linked to sustainability project objectives: improvement of quality, environmental impact, image, personnel involvement, professional development and involvement of stakeholders.

Up to 25% of the performance bonus for managers, white-collar workers and blue-collar workers is related to shared objectives related to quality, environment and occupational safety.

## Suppliers

### The objectives and the results

What we said we would do	What we have done	Scope		
<ul style="list-style-type: none"> <li>SA8000 certification: collect an additional 70 assessment questionnaires and perform 21 audits care of the suppliers (headquarters and Hera sites) in 2017.</li> </ul>	<ul style="list-style-type: none"> <li>During 2017, 95 SA8000 assessment questionnaires were collected and 24 audits were carried out care of the headquarters and sites of Hera's suppliers</li> </ul>	ER		
<ul style="list-style-type: none"> <li>Complete compliance of Marche Multiservizi with the Group platform for qualification, selection and assessment of the suppliers by the end of 2017.</li> </ul>	<ul style="list-style-type: none"> <li>During 2017, March Multiservizi launched a process for the adoption of the platform for the qualification, selection and assessment of the Group suppliers, which will conclude in 2018.</li> </ul>			M
<ul style="list-style-type: none"> <li>Continue to show preference for the economically most advantageous bid (taking into consideration the legislative innovations) and ensure an average score of at least 20/100 reserved for sustainability.</li> </ul>	<ul style="list-style-type: none"> <li>In 2017, 67% of the total awards was achieved using the economically most advantageous offer method and the average score reserved for sustainability was 25/100.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue with the development of the quality, safety and environmental management systems and corporate responsibility in the choice of the suppliers within Hera Spa.</li> </ul>	<ul style="list-style-type: none"> <li>All the values within the quality management systems sphere increased with respect to 2016: 89% of the value of the ISO 9001 supplies, 61% Emas/ISO 14001, 52% OHSAS 18001, 24% SA 8000.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Workplace health and safety: Monitor accidents for 70% of the value of supplies of services and work and make the suppliers aware of safety in the workplace.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring of the accidents carried out on 73% of the value.</li> </ul>	ER	T	

What we will do	Scope*		
<ul style="list-style-type: none"> <li>SA8000 certification: collect an additional 90 assessment questionnaires and perform 19 audits care of the suppliers (headquarters and Hera sites) in 2018.</li> </ul>	ER		
<ul style="list-style-type: none"> <li>New supplier portal: simplify the qualification process, the up-dating of the data and the usability of the information, guiding the uploading of the data to be input in the system.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue to assign a relevant score to the environmental and social sustainability aspects in the tenders held with the most economically advantageous bid.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Continue with the development of the quality, safety, environmental and social responsibility management systems and corporate responsibility in the choice of the suppliers within Hera Spa.</li> </ul>	ER	T	M
<ul style="list-style-type: none"> <li>Workplace health and safety: Monitor accidents for 70% of the value of supplies of services and work and make the suppliers aware of safety in the workplace.</li> </ul>	ER	T	

\* Geographic scope of the ER improvement objectives: Emilia-Romagna T: Triveneto M: Marche.

## Our suppliers

At the end of 2017, the companies supplying goods, services, professional activities and work to the Hera Group included in the pool numbered 4,765. The presence of a single list of qualified suppliers for the entire Group is an opportunity for suppliers to expand business for all goods/services categories associated with them. It is hereby specified that most suppliers are included in the pool of suppliers in several goods/services categories.

All data provided in this section, unless otherwise indicated, refers to the companies Hera Spa, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Hera Comm, Hera Luce, Inrete Distribuzione Energia, Heratech, Marche Multiservizi and Uniflotte; intercompany purchases are excluded.

With regard to Marche Multiservizi, during the first quarter of 2017 the process for complete compliance with the Group procurement policy was launched and will conclude during 2018. Accordingly, certain information does not include Marche Multiservizi.

### Pool of suppliers

No.	2015	2016	2017
Goods	2,433	2,532	2,331
Services	3,423	3,599	3,359
Job orders	761	879	819
<b>Total</b>	<b>4,881</b>	<b>5,139</b>	<b>4,765</b>
of which suppliers who received at least one order during the year	2,920	3,076	2,935

The table provides a breakdown of suppliers by goods/service class. Because some suppliers belong to more than one class, thus the sum of the individual items does not tally with the total number of suppliers. Excluding Marche Multiservizi.

More than 60% of the total suppliers on the list are qualified for the supply of services and work, while more than 61% (around 3,000 suppliers) had at least one contract active in 2017.

The **main activities outsourced** by the Hera Group within the sphere of waste management services concern the refuse collection services using rear-loading or small-load compactors, the door-to-door refuse collection service, street cleaning and washing (manual and mechanised), the cleaning of street refuse skips and the management of the Separated waste collection centres. With regard to the grid services, the company mainly resorts to outside suppliers for the activities concerning highly specialised maintenance, plant engineering activities and meter services (readings, closures, initialisations, etc.). Furthermore, facility management (global service), call centre, commercial and contact activities are outsourced.

In terms of economic value, in 2017 Hera commissioned purchases for Euro 891.5 million, of which over Euro 6 million for purchases in other European nations outside Italy.

The impacts generated by the supply chain of the Hera Group mainly concern the observance of the health and safety in the workplace standards and the environmental impacts of the outsourced activities.

### Raw material supplies

In 2017, the **natural gas** sold by the Group companies controlled by Hera Comm was purchased for around 12% from Eni Gas & Power, approximately 46% was purchased from Edison, around 6% from Enel Trade and 36% via Hera Trading (which, in turn, purchased spot gas on the main European hubs and at the virtual exchange point).

With regard to the **electricity market**, 40% of sales to final customers on the eligible and protected market were covered by bilateral purchases from other operators, with 60% sourced on the electricity market. The methods for trading electricity, both via sourcing on the electricity exchange and, more generally through

bilateral agreements, do not allow for the tracing of the sources of energy in order to be able to certify the type of production upstream.

The composition of the **energy mix** used for the generation of electricity sold by Hera Comm in 2016 is calculated according to the matters established by the decree of the Ministry for Economic Development dated 31 July 2009, and involves a portion from renewable sources equal to 19% (from the 30% of the previous year) for the customers of the free market and 17% (from the 27% of the previous year) for customers of the non-eligible market. The decrease in this percentage depends on the change in the Italian complementary mix, which for the renewable sources passed from 26.8% in 2015 to 16% in 2016.

## **The qualification, selection and assessment of suppliers**

Supplier qualification and assessment system makes it possible to check the technical, economic, and organisational quality requirements, as well as the compliance with environmental and safety regulations and corporate social responsibility requisites, and the acceptance of the Group Code of Ethics.

### **The Vendor Management system**

Since 2012 the **vendor management system** has represented the model for the self-registration and qualification of the suppliers and addresses all the companies interested in spontaneously proposing themselves in the Hera Group suppliers list, for any commodities category. Via the portal, the Group's suppliers can avail themselves of a number of tangible benefits in terms of transparency, opportunity, competitiveness and integrity of the data.

Within the qualification area of the supplier portal, the companies can access the procurement product categories, making it possible to use the following **services**:

- independently update the profiles of interest, putting oneself forward for any new commodity groups within the accredited suppliers system;
- keep ones details up-to-date independently, as well as the schedule of the supplier qualification documents;
- check one's qualification and periodic assessment status;
- gain the possibility of being called more frequently to present bids;
- gain the possibility of receiving information relating to the awarding of a contract;
- being updated on the Group's initiatives of economic interest.

Supplier **qualification** and **assessment** is regulated by the checking of the technical, economic, and organisational quality requirements, compliance with environmental and safety regulations and corporate social responsibility requisites, as well as acceptance of the Group Code of Ethics. In this connection, the supply contracts envisage a termination clause in the event of the failure of suppliers to comply with the principles of the Code. Therefore all qualified suppliers are subjected to this evaluation system.

Inclusion in the Hera supplier qualification system, managed using the e-procurement platform, envisages an annual membership fee in keeping with the number of commodity sub-categories of goods groups which the supplier shows interest in which varies from Euro 50 to 250.

In the qualification phase, the suppliers are required to register with the **white list** care of the related Prefect's Office for the sectors of interest identified by the Italian Prime Minister's Decree dated 18 April 2013, or rather: transportation of materials to landfills on behalf of third parties, transportation and disposal of waste on behalf of third parties, supply and transportation of earth, aggregates, concrete, bitumen, rental of machinery without skilled operators, supply of processed iron, road haulage on behalf of third parties, worksite security. The white list is the list of the suppliers who provide services and executors, as things stand, not subject to the risk of mafia infiltration.

Another important aspect of the Vendor Management system is the **monitoring of the companies** who jointly take part in the performance of the contracts for the Hera Group in the role of sub-contractors, consortium executors or principals in temporary joint ventures. By means of the reporting generated by the monitoring activities, it is possible to improve the governance of the purchases, as well as extend the mechanisms for valuation and control envisaged by the Group procedures to all the companies involved in the execution of the tender, overseeing the entire chain of the economic parties involved in the service for various reasons.

A process for the **up-dating of the qualification documentation** of all the suppliers continued during 2017, further to the publication of the New Tender Code (Italian Legislative Decree No. 50/2016). These activities will also have continuity in 2018, so as to complete the adaptations introduced by Italian Legislative Decree No. 56/2017 containing supplementing and corrective provisions to Italian Legislative Decree No. 50/2016.

Within the sphere of the **process innovation** projects, the Hera Group will launch a computerised project for the re-engineering of the supplier qualification portal in 2018, with the purpose of simplifying the qualification process, the up-dating of the data and the usability of the information, guiding the uploading of the data to be input in the system.

During 2017, March Multiservizi launched a process for the adoption of the platform for the qualification, selection and assessment of the Group suppliers, which will conclude in 2018.

In the last few months of 2017, an automatic and traceable system was introduced for the **alternation of the invitations to the suppliers to participate in private tenders** which, basing itself on a series of parameters including the number of invitations received, their distribution over time and the Vendor Rating score, guarantees the transparency of the supplier selection process also on a consistent basis with the Hera Group Guidelines.

### **The E-procurement system**

In addition to the suppliers portal, an additional instrument useful for communication between the Hera Group and its suppliers is the integrated **e-procurement** platform for the on-line management of the procurement. Having extended this instrument to public tenders as well as from 2011, the Hera Group confirms it as a best practice at Italian level in the use of evolved tools in the e-commerce sphere.

During 2017, Hera traded almost 100% of the total volumes on the e-procurement platform.

When using this platform, the suppliers are supported by a dedicated help desk service. In 2017, there were 15,114 requests for information received, all sorted out in the timescales envisaged by company procedures.

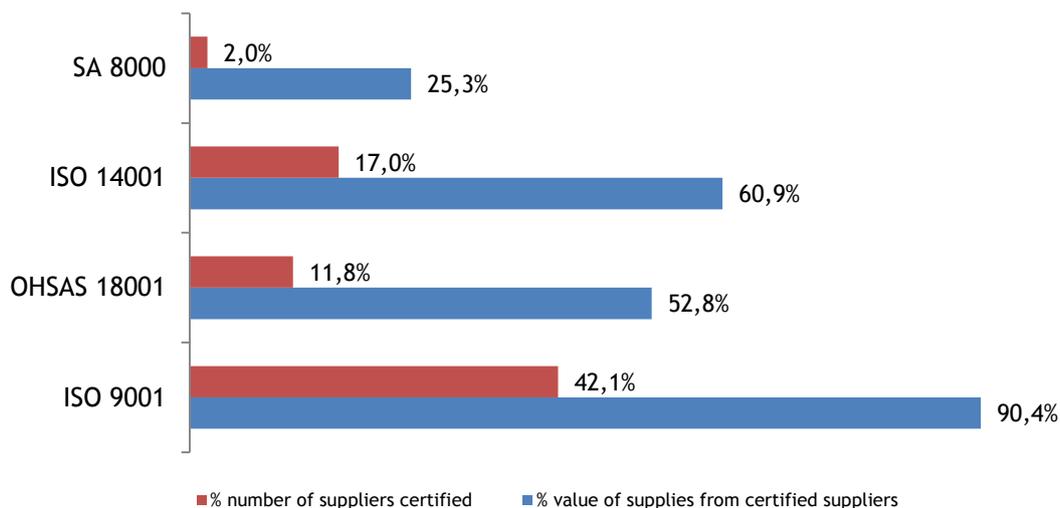
### **Suppliers: breakdown by type of certification**

The percentage of supplies from **certified suppliers** reported an increase with respect to 2016 at Group level for the ISO 9001, ISO 14001 and OHSAS 18001 certification; this result is the consequence of both direct **action** taken by the Group companies, which systematically include the possession of certification in the calls for tenders or in the supplier qualification stage as a requirement for participation and/or incentive for the tender, and of the **greater sensitivity acquired by the companies** in considering the certification as a component of greater competitiveness.

### Procurement from suppliers - value breakdown by type of certification (% of total supplies)

%	2015	2016	2017
Quality certification (Iso 9001)	81.9%	87.1%	88.9%
Environmental certification (Iso 14001-Emas)	52.0%	58.0%	60.6%
Occupational safety (Ohsas 18001)	44.2%	49.5%	51.8%
Social certification (Sa 8000)	23.4%	25.8%	24.1%
<i>Total supplies (in millions of Euro)</i>	<i>770.5</i>	<i>815.7</i>	<i>888.6</i>

### Quotas of suppliers with respect to the number of suppliers on the list (2017)



Excluding Marche Multiservizi

### Supplier assessment and checking

The changes developed to improve the **model for the monitoring and management of the periodic assessment of the suppliers** was consolidated in 2017. Specifically, the coding and traceability of the parties grouped together in temporary joint ventures (representative and principals), consortiums and specific executing companies, sub-contractors and the like relating to the individual service purchase document (order and/or contract) was fully finalised.

The periodic assessment makes it possible for the active supplier to receive an up-date of their scoring for each individual qualified commodity in the vendor rating system, with an increase in the event of total absence of anomalies, or with a decrease in relation to the seriousness of the anomalies detected. The assessment can always be consulted autonomously by the supplier in their specific area of the supplier portal.

The scores have been divided up into three categories which contribute towards channelling the rotation, selection and invitation - by the individual buyers - of the qualified suppliers by specific commodity class affected by the private tenders carried out by the Hera Group. The score assigned to each supplier via the rating system influences the list of the firms invited to participate in tenders.

Area type	Scoring interval	Level of reliability
GREEN area	= 75 pts. and ≤ 100 pts.	from averagely reliable to very reliable
YELLOW area	= 60 pts. and ≤ 74 pts.	from sufficiently reliable to averagely reliable
RED area	≤ 59 pt.	critical

The **supplier assessment management and monitoring model** continues to ensure, via the maintenance of the reporting active since 2011, the quarterly frequency with regard to the concession of the bonuses, while the method for calculating the decreases takes place on conclusion of the analysis of the anomalies and the definition of the specific corrective action. By means of the formalities introduced it is therefore possible to proportion the decrease over the supplier firms responsible for the anomaly (who can be inferred from the field monitoring documentation compiled by the contract contact individual or their appointee). This allows the Company contact individual/Director of works to check the contractual performances of the suppliers in the fundamental areas of quality, safety and the environment with the addition of a fourth concerning corporate social responsibility. In the event of serious or very serious non-compliance of the supplier, there is also the possibility of temporary suspension from new invitations to private tenders for a period which ranges from three to six months. In 2017, the suspension was activated for three suppliers due to very serious non-compliances. In all the cases, the suspension was for six months.

The **control of the suppliers** takes place by means of the checks carried out by the company contact individuals (in turn subject to internal audits on the observance of the procedures) and via inspection visits care of the premises of the suppliers carried out by a third party so as to check the observance of the requirements of the SA8000 standard.

The checks carried out by the company contact personnel take place for the deliveries of goods on receipt, while for the services and work it takes place during the progressive execution of the service, for each related quarter: the check takes place by means of the compilation and signing of specific monitoring check-lists. These check-lists are compiled and signed also in relation to sub-contractors and similar if present. During 2017, another eleven check-lists of services were standardised, for the purpose of ensuring an increasingly greater coherence and equity of the assessments: once streamlined and standardised, the check lists are made available on the company information portal to the contract managers, together with the specific instructions for use and the standardisation of the various anomalies (specific non-compliances). These activities will make it possible, in an increasing manner, to ensure coherence and equity in the assessments made.

The classification of the “**quality warnings**”, sent to the supplier as a consequence of the detection also helps to ensure the prompt and correct periodic evaluation of the qualified suppliers. The four categories identified essentially reflect the main certifications obtained by the Hera Group: ISO 9001, ISO 14001, OHSAS 18001 and SA 8000.

The number of checks on services and work is defined on the basis of the contractual amount, the duration of the contract, and the impact on quality, safety, the environment and on the corporate social responsibility of the services monitored.

Once again in 2017, the **internal audits** of the Quality, Safety and Environment Department and the Procurement and Tender Contracts Department of Hera Spa continued, for checking the procedures adopted care of the contract contact individuals: these audits were increased to 17 during the year, and on the basis of the problematic elements detected a new training plan was developed for the company contacts. The plan illustrated and reconfirmed - to almost 300 individuals - the innovations introduced in the accurate monitoring of the suppliers and within the sphere of the data loading in the company information system. Per AcegasApsAmga, an “on-the-job training” course was continued for over 40

contractual contact individuals, in order to support them in the compilation of the check-lists, the detection and handling of the anomalies, and in the opening and classification of the non-compliances.

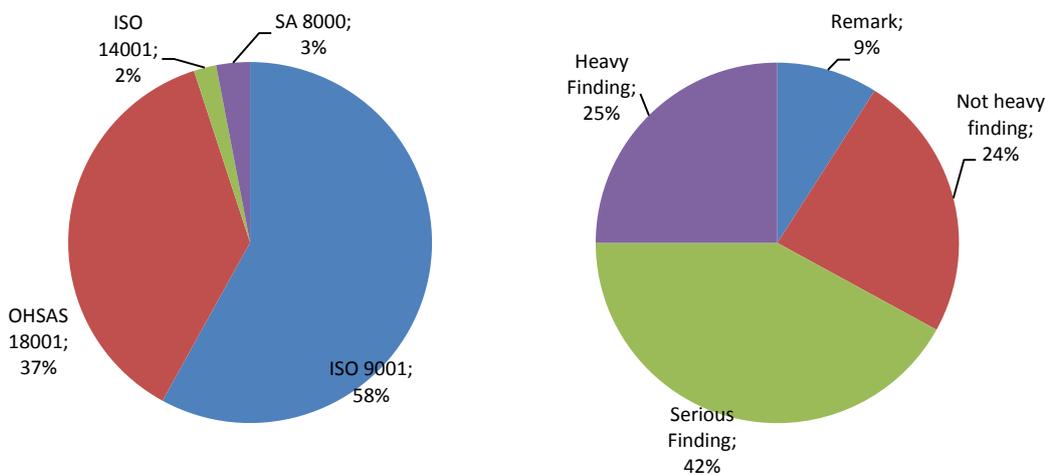
In 2017, **inspections** continued in the facilities of suppliers of strategic goods for Hera: in some cases partially non-compliant conduct was noted which was promptly highlighted, with consequent launch of corrective action and prompt verification. There were 2 technical audits during the year, which were joined by seven inspections carried out within the SA 8000 certification sphere.

**Findings (2017)**

Type	ISO 9001	OHSAS 18001	SA8000	ISO 14001	Total
Observation	34	35	-	5	74
Fairly unserious NC	143	49	4	2	198
Serious NC	224	105	9	7	345
Very Serious NC	69	117	12	2	200
<b>Total</b>	<b>470</b>	<b>306</b>	<b>25</b>	<b>16</b>	<b>817</b>

Including AcegasApsAmga, during 2017 817 cases of non-compliance were detected overall (+3% with respect to 2017), with an increase of 30% in those classified as very serious. Of the total, 717 were closed as at 31 December 2017. The non-compliances relating to the observance of safety legislation numbered 306, those relating to respect for the environment were 16 and those concerning the social commitment were 25.

**Findings (2017)**



Excluding Marche Multisevizi.

**Tenders for contracts awarded on the basis of the most economically advantageous bid approach**

The Hera Group **Guidelines on procurement**, since 2008, favour the economically most advantageous bid method as the approach for assessing bids, using sustainability criteria consistent with the principles of the Code of Ethics.

In the specific areas identified by the Guidelines, and in detail “social commitment”, “quality of services” and “economic value”, **sustainability criteria** have been identified since 2009 which are the fruit of the experience acquired in managing calls for tenders according to the method of the most economically advantageous bid, based on doctrine, on regulations on the matter and in line with Hera Group objectives.

A **minimum number of sustainability criteria for choosing suppliers** were established for each area, based on the amount and importance of the tender (if it is a tender with a significant impact on the environment, occupational safety, the quality of services provided to customers, the term or amount of the contract). Among the main criteria, mention is made of: the management of atmospheric emissions and sound, prevention, reuse and recyclability of waste; energy efficiency; reduction of the hazardous nature of substances used and reduction of water consumption (for the environmental protection criterion), supplier's adoption of their own Code of Ethics; hiring of persons with disabilities and persons facing hardship; accident prevention and safety training (the social commitment criterion); quality of materials, equipment and instruments; professional qualifications and skills and technical services and performance. The **New Tender Code**, published by means of Italian Legislative Decree No. 50/2016 and which came into force as from April 2016, assimilating the EU directives issued on the subject and establishing the new regulations to be applied to tenders and public contracts, envisaged the publication of around 50 measures including general guidelines proposed by ANAC and ministerial decrees implementing the new rules introduced. The main innovations of the New Code include the provision of the awarding method according to the **economically most advantageous bid method as mandatory and exclusive in certain cases** (Art. 95) such as for example services with a high intensity of manpower (such as cleaning services or scholastic services), or in engineering, architecture services or those of another technical or intellectual nature for amounts greater than Euro 40 thousand. The Hera Group Procurement guidelines therefore anticipated these virtuous practices in the selection of the suppliers by almost ten years.

The Procurement and Tender Management Departments are responsible for **selecting the sustainability criteria** in agreement with the company contacts concerned. They chose the criteria to be used according to the type of tender, the importance of the sustainability criterion in relation to said tender, and assessments of previous tenders assigned and their results. The Purchasing and Tender Management Departments can also use the technical support of the Corporate Social Responsibility Department and the Quality, Safety and Environment Department for the choice of the criteria and the assessment of bids in the tender phase.

At company level, the operational indication envisages that the score assigned to the “technical component” of the offer ranges from a minimum of 20 points for the supplies of goods to a maximum of 70 points for the services and the emergency response work on networks and plant maintenance.

#### Public tenders for contracts adopting the economically most advantageous bid method

	2015	2016	2017
No. of public invitations for tenders published	18	37	65
No. of public invitations for tenders published with economically advantageous bid	18	31	54
Value of the public invitations for tenders published (in millions of Euro)	306.6	201.9	260.7
Value of the public invitations for tenders published with economically advantageous bid	306.7	195.2	238.9
% of tenders with economically advantageous bid out of total (value of the calls)	100%	97%	92%
Average score assigned to aspects relating to sustainability of public tenders awarded during the year	24.2	27.6	27.2

In the three-year period considered, the incidence of the economically most advantageous bid criteria was on average 96% of the total value of the public invitations to tender issued by the Group.

In particular, during 2017, a total of 65 public invitations for tenders were announced, for a total starting price of more than Euro 260 million: of these 239 million, or 92% of the total value of the invitations issued in 2017, envisaged the awarding method according to the criteria of the most economically advantageous bid. The average score assigned to the sustainability aspects came to 27.2.

In 2017, 11 public tender invitations were issued with awarding to the largest discount for around Euro 21.8 million, equal to approximately 8% of the total value of the public tender invitations issued in the year. Furthermore, 4 public tenders for qualification systems were held, which were not included in the total: the legislation in fact requires that the tender amount and the award method be defined as and when in the subsequent negotiation procedures.

#### Total awards adopting the economically most advantageous bid method

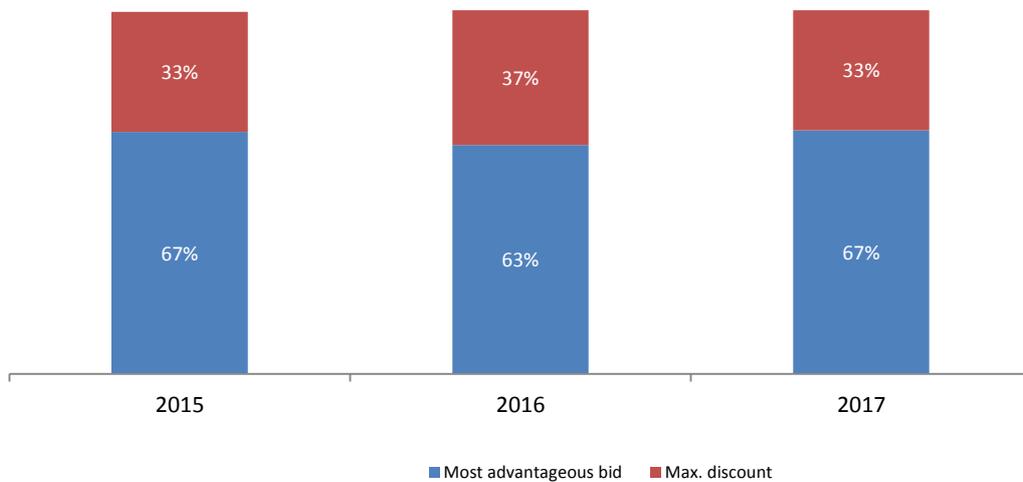
	2015	2016	2017
Value of the total awards to which the economically most advantageous bid award method is applicable (in millions of Euro)	531.5	488.1	541.0
% of the value of the awards adopting the economically most advantageous bid method	66.6%	63.0%	67.4%
% of the value of the awards adopting the economically most advantageous bid method with environmental and/or social criteria	95.6%*	95.4%	94.2%
Average score assigned to the sustainability aspects in the adjudications adopting the economically most advantageous bid method	23.8	26.2	25.3

\* Excluding Marche Multisevizi.

The method of awarding involving the most economically advantageous bid is applicable (if the tender procedures permit recourse to this method) to the entire purchasing cycle, with a clear predominance for purchases of services and work, given the already high standardisation of the technical specifications with regard to the sphere of materials supplies and in some cases of work. We would like to point out that **75.5% of the value of contracts** managed by the Hera Spa Procurement and Tender Contracts Department, excluding AcegasApsAmga and Marche Multiservizi, to which the most economically advantageous bid criterion is applicable took place according to this method, in place of the largest discount. This figure comes to 67.4% if AcegasApsAmga and Marche Multiservizi are included. In AcegasApsAmga the figure reaches 46.4% in 2017, almost 15 percentage points more than in 2016, while in Marche Multiservizi during 2017, 33.4% of the value of the adjudications took place according to the economically most advantageous bid method, down 8.3 percentage points with respect to 2016. At Group level, 2017 reported an increase in the percentage of the value of the adjudications involving the economically most advantageous bid compared with 2016 (+4 percentage points).

It is hereby specified that the percentage relating to 2015 is higher than the other years due to the extraordinary event relating to the tender for the integrated contract for adaptation of the Trieste treatment plant. Excluding this event, the percentage for 2015 would be around 59%, therefore a constant increase would be seen between 2015 and 2017.

## Total adjudications with economically advantageous bid

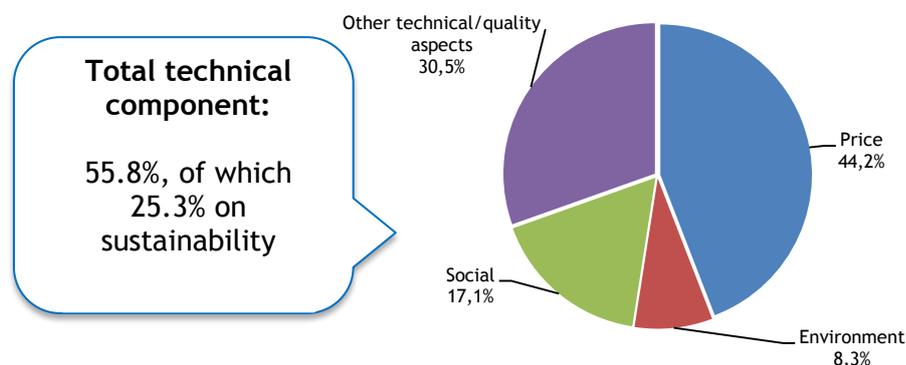


**94.2%** of the value of the contracts awarded using the economically most advantageous bid was carried out using the **environmental and/or social assessment criteria**.

Considering the total number of contracts, the percentage of new contracts with social criteria on the total is equal to 19%. This figure refers to Hera Spa, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Hera Comm, Hera Luce, Inrete Distribuzione Energia, Heratech and Uniflotte.

With regard to orders/contracts awarded during 2017 via the economically most advantageous bid award method, the **average score** assigned to the technical component was almost **56** points out of 100, of which **25.3 relating to sustainability criteria (8.3** pertaining to environmental aspects and **17.1** to social aspects). Excluding AcegasApsAmga and Marche Multiservizi the average score assigned to sustainability criteria was 26, in the Triveneto area this value was 29.2 points, while in the Marches region the value was 3.5 (down with respect to the 8 points in 2016 as a consequence of the different type of tender held).

## Total awards adopting the economically most advantageous bid method: scores assigned to the various components (weighted average on the amounts) (2017)



The objective for 2018 is to continue to show preference for the economically most advantageous bid in place of the maximum reduction, ensuring at least **20 points** on average to environmental and social sustainability aspects (in awards of services and work using this selection criteria).

During 2015, within the Iso 50001 certification process for Hera Spa a clause was envisaged in the standard specifications which obliges the technical contact individual - if they detect that the subject matter of the

purchase has a significant impact on the energy consumption of the Group - to proceed with the assessment of the energy efficiency requirements on the basis of an Energy Management document useful for the assessment of the energy impact.

In the **private tenders** the Hera Group, excluding Marche Multiservizi, invited an average of 15.5 suppliers for each set of negotiations (weighted average on purchase volumes) confirming the approach of the Group based on an open and transparent competition between the suppliers on a consistent basis with the guidelines of current legislation.

With regard to the importance and significance assigned to sustainability criteria when assessing the bids, the following tenders awarded in 2017 stood out.

Among the public tenders:

- Within the sphere of the **Public qualification system for the awarding of the execution of scheduled maintenance work, network extension, connections and accessory services in the water, sewage, district heating and gas commodity sectors** (Emilia and Romagna areas) for a tender amount of around Euro 30.2 million, of the 60 points reserved for the technical components, 7 were dedicated to environmental sustainability (enrolment in the register of environmental operators, environmental impact of the vehicles used and ISO 14001 environmental certification), 21 to social sustainability (training measures for first aid and fire prevention, number of training measures for the employees qualified as “supervisor”, OHSAS 18001 safety certification, SA 8000 social responsibility certification, trend of the accident and injury rate, number of employees with requisites for environments suspected to be polluted or confined areas and measures on asbestos) and 32 for other technical aspects (number and experience of the personnel made available, number of vehicles).
- Within the sphere of the **Public qualification system for the awarding of the service involving maintenance cleaning of the piping, septic tanks, sewer lifting and waste transport** for a total 2-yearly tender amount of around Euro 28.4 million (including AcegasApsAmga Padua and Trieste in the scope), of the 70 points reserved for the technical component, 10 were dedicated to environmental sustainability (age of the vehicles used and ISO 14001 environmental certification), 27 to social sustainability (number of employees with requisites for environments suspected to be polluted or confined areas, number of training measures for first aid and fire prevention, number of training measures for the employees qualified as “supervisor”, number of training measures regarding road signage, OHSAS 18001 safety certification and SA 8000 social responsibility certification, trend of the accident and injury rate) and 33 for other technical aspects (number and experience of the personnel made available, number of vehicles and equipment).
- In the **negotiated procedure public tender for awarding the ordinary and extraordinary mechanical maintenance service** care of the waste-to-energy plants and other waste treatment plants of Herambiente and other companies belonging to the Hera Group (including Hestambiente), for a total tender amount of around Euro 22 million, of the 60 points dedicated to the technical component, 25 were reserved for socio-environmental sustainability (training on safety and accident and injury trend, possession of ISO 14001 environmental, OHSAS 18001 safety and SA 8000 social responsibility certification) and 35 to other technical aspects (experience of the personnel).
- Within the sphere of the **Public qualification system for the awarding of the services relating to emergency response support services and scheduled maintenance work, network extension, connections and accessory services of the gas and district heating commodity sectors** in the area run by Inrete, for a total tender amount of around Euro 9.3 million, of the 70 points reserved for the technical component, 10 were dedicated to environmental sustainability (enrolment in the register of environmental operators, environmental impact of the vehicles used and ISO 14001 environmental certification), 26 to social sustainability (number of employees with requisites for

environments suspected to be polluted or confined areas, number of employees qualified for measures on asbestos, training measures for safety and fire prevention, number of training measures for the employees qualified as “supervisor”, accident/injury rate trend, OHSAS 18001 safety certification and SA 8000 social sustainability certification) and 34 for other technical aspects (number, qualification and experience of the personnel made available, number of buffer machines).

- In the **open procedure public tender of Herambiente relating to the materials handling service and operative and post-operative activities for the running of the landfill for non-hazardous waste** at Tremonti di Imola and activities for the running of the decommissioned landfills in the Emilia - Emilia North - Florence area for a total tender amount of around Euro 6.2 million, of the 60 points reserved for the technical component, 19 points were assigned to environmental sustainability (environmental impact and age of the vehicles used for the service and ISO 14001 environmental certification), 31 points for social sustainability (accident & injury rate trend, OHSAS 18001 safety certification, number of measures for training on weekly safety, cleaning and sanitation of work clothing in industrial laundries and site visits by the company PPSR) and 10 points for other technical aspects (experience of the personnel).
- In the **negotiated procedure public tender for the services involving printing, folding, enveloping and sending bills to customer addresses** relating to the services managed by the Hera Group companies (including AcegasApsAmga) for a total tender amount of around Euro 5.8 million, of the 70 points reserved for the technical components, 20 were dedicated to environmental sustainability (use of eco-compatible paper, biodegradable envelopes and vegetable inks, use of eco-compatible technologies and possession of “ecoprint” certification) and 50 to other technical aspects for handling the process.
- In the **open procedure public tenders relating to the service for the valorisation of waste** by means of mechanical/manual selection and mechanical handling care of the Voltana Lugo (RA), Coriano (RN), Mordano (BO) and Ferrara selection and recovery plants run by Herambiente SpA, for a total tender amount of around Euro 4.2 million, of the 60 points reserved for the technical component, 6 were dedicated to environmental sustainability (training measures on environmental aspects for the operations manager and ISO 14001 environmental certification), 48 to social sustainability (accident & injury rate trend, OHSAS 18001 safety certification, monthly visit of the company PPSR, weekly cleaning and sanitation of the work clothing, induction of individuals facing social hardship), and 6 points for other technical aspects (professional experience).
- In the **open procedure public tender relating to the awarding of services associated with the municipal and similar waste transportation service** carried out using unloading and loading vehicles and for the transportation of HMW in the area of the province of Ravenna, for a tender amount of around Euro 2.8 million, of the 70 points reserved for the technical aspects, 12 were assigned to environmental sustainability (age and environmental impact of the vehicles), 12 to social sustainability (OHSAS 18001 safety certification, SA 8000 social responsibility certification and technical training of the employees) and 46 to other technical aspects (number of vehicles made available and response times).
- In the **open procedure public tender of Herambiente for the service for recovery and transportation of biodegradable waste deriving from collection** in the provinces of Bologna and Modena, for a tender amount of around Euro 2.1 million, of the 70 points reserved for the technical aspects, 36 were assigned to environmental sustainability (ISO 14001 environmental certification, ISO 50001 energy certification, waste traceability and recovery ), 6 to social sustainability (OHSAS 18001 safety certification and SA 8000 social responsibility certification) and 28 to other technical aspects.
- In the **negotiated procedure public tender for the supply of methane gas odourising compliant with the requirements of the UNI7133 standard** (THT and TMB), for an annual tender amount of around Euro 1.8 million (Inrete, AcegasApsAmga and Marche Multiservizi), of the 30 technical points, 3 were reserved for environmental sustainability (ISO 14001 certification), 21 for social

sustainability (training of employees with regard to firefighting and first aid, accident/injury rate trend, personnel qualified to use toxic gases, OHSAS 18001 safety and SA 8000 social responsibility certification) and 6 for other technical aspects

- In the **open procedure public tender associated with the waste-to-energy service** by means of mechanical/manual selection care of the Modena (MO) plant managed by Herambiente, for a tender amount of around Euro 1.7 million, of the 70 points reserved for the technical aspects, 8 were assigned to environmental sustainability (training on environmental aspects for the operations manager and ISO 14001 environmental certification), 44 to social sustainability (accident/injury rate trend, professional experience of the operations manager, OHSAS 18001 safety certification, SA 8000 social responsibility certification, visit to the plant by the company PPSR, weekly cleaning and sanitation of the work clothing care of an industrial laundry) and 18 to other technical aspects (digitalisation of the data and availability of a raising platform).
- In the **open procedure public tender for the service involving running and maintenance of the treatment plants, sewer lifting, imhoff pits, floodways and sludge dehydration** (Emilia Romagna area) for a total annual tender amount of around Euro 1.2 million, of the 60 points reserved for the technical component, 3 were dedicated to environmental sustainability (ISO 14001 environmental certification), 36 to social sustainability (training of employees with regard to fire prevention and first aid, training of employees qualified as “supervisor”, OHSAS 18001 safety certification and SA 8000 social responsibility certification, employees with requisites for environments suspected to be polluted or confined areas and number of PES qualified employees) and 21 for other technical aspects (number and experience of the personnel made available).

Among the private tenders:

- In the **private tender for the “entire” awarding of the final covering work** on the 5th and 6th sectors **of the non-hazardous waste landfill** in Ravenna run by Herambiente, for a tender amount of around Euro 4.1 million, of the 70 points reserved for the technical value, 23 were dedicated to environmental sustainability (conferral of inert material using large machinery to reduce the number of trips and the environmental impact, protection of pits using geo-composite membrane), 12 for social sustainability (presence at site of a non-operational engineer and presence at site of the company PPSR) and 35 to other technical aspects (reduction of execution times).
- In the **private tender for the awarding of the “entire” work for the adaptation of the sewerage networks and plants and the overhaul of the water and gas ridges** in the district of Pioppa and Calabrina (FC), for a total tender amount of around Euro 2.6 million, of the 40 points reserved for the technical component, 3 were dedicated to environmental sustainability (ISO 14001 environmental certification), 11 to social sustainability (accident/injury rate trend, OHSAS 18001 safety certification and number of employees with requisites for environments suspected to be polluted or confined areas) and 26 for other technical aspects (number and experience of the personnel made available, reduction of the work execution timescales, pipes to be replaced in cast iron instead of PVC).
- In the **private tenders of Herambiente SpA for the awarding of the service for the transportation of municipal treatment sludge from the Herambiente SpA area treatment plants**, for a total tender amount of around Euro 1.8 million and for the awarding of the liquid waste loading and transportation service for a tender amount of around Euro 2.2 million, of the 70 points reserved for the technical value, 50 were assigned to socio-environmental sustainability (35 to the environmental impact and age of the vehicles, 15 to the possession of the ISO 14001 environmental, OHSAS 18001 safety and SA8000 social responsibility certification) and 20 points to other technical aspects.
- In the **private tender for the awarding of the “entire” work on the cathodic protection plants** (Emilia Romagna area) for a total tender amount of around Euro 1.5 million, of the 60 points reserved for the technical component, 4 were dedicated to environmental sustainability (ISO 14001

environmental certification), 11 to social sustainability (OHSAS 18001 safety certification, SA 8000 social sustainability certification and the accident/injury rate trend) and 45 for other technical aspects (number and qualification of the personnel made available, reduction of the work delivery / execution timescales).

- In the **private tender for the awarding of the “entire” work for the realisation of the intake water pipe** at the Covignano (RN) reservoir, for a tender amount of around Euro 1.5 million, of the 70 points reserved for the technical component, 5 were dedicated to environmental sustainability (ISO 14001 environmental certification), 28 to social sustainability (accident/injury rate trend, OHSAS 18001 safety certification, SA 8000 social responsibility certificate and number of employees with requisites for environments suspected to be polluted or confined areas) and 37 for other technical aspects (number and experience of the personnel made available, reduction of the work execution timescales).
- In the **private tender for the awarding of the work relating to the “entire” realisation of the interconnections and development of the TLR network** in the city of Forlì, for a total tender amount of around Euro 1.5 million, of the 40 points reserved for the technical component, 2 were dedicated to environmental sustainability (ISO 14001 environmental certification), 17 to social sustainability (accident/injury rate trend, OHSAS 18001 safety certification, SA 8000 social responsibility certificate and number of employees with requisites for environments suspected to be polluted or confined areas) and 21 for other technical aspects (number of the personnel made available, reduction of the work execution timescales, prior experience on work linked to the TLR).
- In the **private tender for the awarding of the greenery maintenance service and removal of snow in the areas pertaining to the sewage-waste treatment and aqueduct plants** in the areas of Rimini, Ravenna, Ferrara, Forlì-Cesena and Bologna for a total annual tender amount of around Euro 1.2 million, of the 60 points reserved for the technical component, 3 were dedicated to environmental sustainability (ISO 14001 environmental certification), 18 to social sustainability (number of training measures for first aid and fire prevention, number employees qualified as supervisor, OHSAS 18001 safety certification and SA 8000 social responsibility certification) and 39 for other technical aspects (number and experience of the personnel made available for the service, number and type of equipment / vehicles made available).

Other open procedure tenders:

- In the **open procedures associated with the collection and transportation of solid waste** in the area of the municipalities of the province of Ravenna, for a tender amount of Euro 10.9 million and the manual road sweeping and municipal waste collection service in the areas of the province of Ravenna for a tender amount of around Euro 2.4 million, of the 70 points reserved for the technical aspects, 22 were assigned to environmental sustainability (environmental impact, type of fuel and age of the vehicles used), 12 to social sustainability (OHSAS 18001 safety certification, SA 8000 social responsibility certification and training of the employees) and 36 to other technical aspects (number of vehicles, response times and number of additional co-ordinators).
- In the **open procedure for the awarding of the manual road sweeping service, collection of municipal waste via vehicles and running of collection centres** in the area of the province of Ravenna, for a tender amount of around Euro 4.6 million, of the 70 points reserved for the technical aspects, 22 were assigned to environmental sustainability (environmental impact and age of the vehicles used and ISO 14001 environmental certification), 48 to social sustainability (OHSAS 18001 safety certification, SA 8000 social responsibility certification and induction of individuals facing social hardship).

## **Contract management**

The guidelines with regard to procurement, in accordance with the Group's Code of Ethics and the organisational model pursuant to Italian Legislative Decree No. 231/2001 and the related "procurement" protocol determine the underlying principles of the Group's procurement activities in the event of acquisition of goods, services and work necessary for the performance of activities carried out under free market conditions and subject to public works contracts (Code of the public contracts Italian Legislative Decree No. 50/2016 as amended and added to).

Furthermore, during 2017 and further to the issuance of the decree correcting the Code of public contracts, amendments and updates were made both to the Guidelines and the Procurement Procedure.

The process for the progressive alignment of AcegasApsAmga with the contract management formalities envisaged for the Hera Group was consolidated further in 2017, with an increase in the number of procedures carried out to satisfy the mutual needs of Hera Spa and AcegasApsAmga. The most significant procedures include those regarding the tenders for the supply of smart gas meters, the supply of odorising materials, the printing, folding, envelope stuffing and forwarding service for the documents processed for the services managed by the Hera Group companies, the cess pit emptying service for the maintenance cleaning of sewage networks and plants, pits, road grids, the ordinary and extraordinary mechanical maintenance care of the waste-to-energy and other waste treatment plants, the bill, document and registered letter sorting, delivery and distribution service for the customers of the Hera Group companies, the service certifying and checking the periodic maintenance of management systems compliant with national and international standards (ISO, UNI, EMAS, OHSAS, SA), the service for the processing of the payslips using the ASP (Application Service Provider) method and all the tax-related, social security and legislative fulfilments relating to the personnel of the Hera Group, the entrusting of the insurance services of the Hera Group, the supply of containers with metallic basins for separate and non-separate waste collection, the IT services to be activated on the applications system in use care of the Hera Group, the call center services for the handling of the information and instruction requests of the end customers of the Hera Group.

### **The monitoring of work accidents at suppliers**

So as to have a complete picture of the accident/injury impact relating to the activities carried out directly and indirectly, as from 2009 Hera has set itself the objective of monitoring the accident and injury indexes for the main suppliers of work and services. Their specifications and tender contracts envisage the forwarding of the "Annual summary of the accidents or injuries occurring care of the contracting companies during the performance of activities on behalf of Hera" form, via which each supplier is required to communicate its accident/injury indexes annually or at the end of the contractual period. As from 2015, this phase for the collation and analysis of the data was computerised using the SAP SRM platform.

## Monitoring of supplier accidents

	2015*	2016	2017
Value of supplies of services and work (in millions of Euro)	495.0	634.6	727.5
Value ordered from suppliers under monitoring (in millions of Euro)	495.0	634.6	637.1
Value ordered from suppliers under monitoring (%)	100%	100%	88%
Amount ordered during the year from suppliers who have forwarded the monitoring	392.0	450.6	467.7
Value ordered from suppliers who have forwarded the monitoring on the value commissioned from suppliers involved in the monitoring (%)	79%	71%	73%

Excluding Marche Multiservizi

\*Excluding AcegasApsAmga and Marche Multiservizi.

During 2017, the IT platform achieved satisfactory levels both in the use by the suppliers and in the handling of the company contacts, with consequent greater efficiency in terms of fewer days involved for performing the activities.

With respect to the previous years, a selection of supplier was made aimed at excluding from the basis of the calculation of the target fixed at 70% those commodities groups relating to activities with little significance from the standpoint of security, in relation to which however the contractual obligations to send the accident and injury data still applies. The amount to monitor is in this way decreased by around 12%.

696 suppliers answered the survey in 2017 (720 in 2016) for a total of Euro 468 million in terms of value of contracts (Euro 451 million in 2016). 73% of suppliers involved in the monitoring were monitored in 2017.

Overall, 358 accidents were monitored, the calculation of the data identified an average frequency index of 15.2 and a severity index of 0.42, both down with respect to 2016 (the 2016 values were 22.7 and 0.44 respectively).

A campaign was launched in 2017 which involved all the company contact individuals for making them more aware of the monitoring of the accident and injury figures on the contracts entrusted to them. Specific training for the "Supplier Accident" process was included in the catalogue of training requirements.

Constant monitoring over the entire year with regard to the implementation of the system is envisaged for 2018. Each company contact will also be informed of the results obtained in terms of accident/injury indexes and the percentage of response of the suppliers, providing feedback on the quality of the work carried out.

## The use of sub-contracts

With regard to sub-contracting, the procedure introduced in the last quarter was further consolidated in 2017 partly by means of the full compliance of AcegasApsAmga. The authorisation to sub-contract makes the Works Directors and the company Contacts responsible for documental check activities, and Vendor Rating and Hera Assurance responsible for the validation of the process, the checking of the social security contribution regularity, the control of the list of qualified suppliers and their rating, the search of the Anac electronic records and, if necessary, the request for prefectural anti-mafia information. All the documentation regarding the request, check and authorisation has been standardised at Group level and reviewed for up-dates, by the Group Regulations and Tender Unit, with the reference legislation. All the documentation is made available in the documental area of the supplier portal, to the companies and via the Company Information Portal, to all the employees.

The fulfilments necessary for monitoring the activities of the sub-contractor companies at the worksite have also been reviewed and up-dated (supplier monitoring check list), together with the obligations for permitting facilitated, correct and accurate monthly administrative reporting.

The Group standard specifications, on a consistent basis with the reference legislation, envisage that the contractor pays the sub-contractors and that the former provides the Works Director with suitable proof within 20 days after payment by the Hera Group of each Progress Report (SAL) and/or Performance Certification Form (MAP). In the absence of proof, the Works Director/company contact informs the competent unit of the suspension of the payment of the subsequent SALs/MAPs until payments are up-to-date. This method is alternative to the direct payment of the sub-contractors which can be activated during the course of the work.

In 2017 approximately Euro 35 million was sub-contracted out, equal to 5.5% of the amount of work and services outsourced by the Group (excluding Marche Multiservizi), while the amounts accounted for the sub-contracting handled came to almost Euro 18 million.

### **Times of payment as per contract**

The payment times for the supplies during 2017 came to 102 days (excluding Marche Multiservizi).

### **Supplier relations**

The third convention “Teniamo il passo” organised by the Hera Group with its leading suppliers was held in December 2017. The event, in which the Chairman and the Managing Director (CEO) participated, was an important occasion for growth, in fact Hera adopted a common process, expressed in its four strategic lines (innovation, efficiency, growth and excellence) which it intends to make effective.

Data on the supplier selection and qualification activities, on the action for the monitoring of the services performed and on the initiatives envisaged for the future reported in these financial statements, were illustrated to the numerous suppliers invited (corresponding to 60% of the value of the 2017 supplies).

In detail, a brief reflection was carried out with regard to the changed legislative scenario with the introduction of the new tender code and subsequent corrective and the ANAC guidelines, with policies and interpretative levels still in the adjustment phase. With a view to this, the desire of Hera to build a solid relationship with its suppliers was further reaffirmed, marked by the utmost transparency, making information the mainstay of the relationship with the Vendors. The new IT model for the alternation of the suppliers mentioned previously was also illustrated at this juncture.

In conclusion, as usual, at the beginning of 2018 the customary meetings were held with representatives of social cooperatives working in the areas served by the Hera Group, to discuss the 2017 results. On the basis of the analysis of the data collected, the work group active in the meetings confirmed the validity of the procedures defined for monitoring. The encounters also pertained to the ways to promote employment projects.

### **Litigation with suppliers**

The number of disputes rose: at the end of 2016, there were 22 disputes pending with the suppliers, compared with 16 at the end of 2016. The proceedings activated in 2017 came to fourteen and mainly concerned tender aspects.

### **Case study**

#### *SA8000 certification; the supplier monitoring plan*

During the 2017, 95 questionnaires for SA 8000 assessment were received from suppliers deemed as critical in terms of activities and contractual amounts. The documents were examined and steps were taken to

request clarification and additions for incomplete or missing parts. Furthermore, more than 174 disclosure measures on the legislation were requested and reported on, by the companies, vis-à-vis their workers. During 2017, 7 SA8000 audits were carried out directly care of the headquarters of the suppliers: in several cases, it became necessary to carry out additional checks to control the effective launch of the improvement process agreed on and the activation of the corrective action. 17 additional audits were carried out directly at the Hera Group worksites, jointly with the QSA Division. The audits at the premises of suppliers were carried out by certified external personnel with references, selected by means of appropriate negotiation, so as to ensure a transparent and independent process adopted by the Group.

## Methodological guide to the Report

This document represents Hera Group's Consolidated Non-Financial Statement (hereinafter also "sustainability report"). It reports – to the extent necessary to ensure understanding of Hera's business activity – on its performance, its results and the impact it has on the issues considered relevant and referred to in Art. 3 and 4 of Italian Leg. Decree no. 254/16 with reference to financial year 2017 (from 1 January to 31 December). Specifically, in order to define the aspects relevant to the Group and its stakeholders, a structured materiality analysis process was carried out which is described in the paragraph "Definition of contents" of this methodological guide to the Report. It should be noted that considering the type of products and services offered, the geographical area of operations, the categories of personnel employed and the types of supplies, the Hera Group did not consider the risk of violating human rights to be significant; this topic was therefore not considered of relevance to ensure understanding of Hera's business activity.

As established by Art. 5 of Italian Leg. Decree 254/16, this document forms a separate report and is marked with specific wording in order to connect it to the Non-Financial Statement required by law.

Hera Group considers its sustainability report as a primary tool for managing and reporting its activities and results in the economic, environmental and social fields, as well as a fundamental tool for providing information to and dialoguing with its stakeholders.

The Sustainability Report has been drawn up and published yearly since 2002. Since 2007, it has been approved by the Board of Directors of Hera S.p.A. together with the Financial Statements and has been submitted to the Shareholders' Meeting: the present version of the report was approved by the Board of Directors of Hera S.p.A. on March 27, 2018. This aspect demonstrates the central role of corporate social responsibility in the company's planning and control system, which anticipated the obligations introduced by the European directive on non-financial reporting by 10 years.

The document is widely disseminated to all of the Group's internal and external stakeholders through publication on the company's website and presentation to all Group workers.

In addition to the **performances and goals achieved**, the report provides the principles which guide Hera Group's actions, the **future objectives**, the results of its **dialogue with stakeholders** and its existing **projects**. Special focus was given to **case studies**: projects that demonstrate the Group's commitment towards social responsibility and the results achieved.

The new structure of the 2017 report is the direct consequence of the **strategic approach to shared value** that Hera Group has adopted since 2016 to respond more effectively to the challenges of sustainable economic development at global and local level, and to make the value generated through the local area more tangible.

The glossary in the appendix explains the technical terms used, while the analytical list of contents makes it easier to read the document.

### Reporting scope and period

The scope of the **economic and financial** data and information is the same as Hera Group's consolidated financial statements as at 31 December 2017. The scope of the **social and environmental** data and information includes all the companies consolidated using the line-by-line method in the Group's consolidated financial statements, as reported below.

## Companies included in the scope of reporting



The scope of reporting does not include SiGas Doo, classified as a disposal group held for sale following management's intention to sell it and the subsequent start of the sale programme.

With regard to the companies belonging to the Aliplast Group, acquired in 2017, a reporting system is being defined for collecting its environmental and social data and information; any limitations on the availability of the data and information are appropriately reported in the document.

Any further changes to the scope indicated above are appropriately reported in the document and, where present, do not compromise the proper representation of the business activity.

Furthermore, only with regard to the areas indicated below, information about the following companies is reported, although not included in the scope of consolidation:

- the companies in which the Group holds investments, Calenia Energia (parent company holding of 15%) and SET (parent company holding of 39%), which manage two electricity power stations, with regard to the aspects involving atmospheric emissions;
- Enomondo (holding of 50%) that manages a biomass plant, with regard to the aspects involving atmospheric emissions, energy production and waste disposal;
- EstEnergy (holding of 51%) that manages the sale of electricity and gas in the North-East, with regard to customer relations aspects.

In order to compare data over time and to assess the performance of the Group's activities, two comparative years have been introduced, where available. Furthermore, to ensure that the Group's performance is correctly represented and that the figures are reliable, the use of estimates has been limited as much as possible. When using estimates, they are based on the best available and appropriately

reported

methodologies.

The main corporate and business transactions that became effective in 2017 are described below:

- In September 2016, Hera Comm was awarded the Friuli Venezia-Giulia and Emilia Romagna portion of the last resort gas supply (Fui) for the period between 1 October 2016 and 30 September 2018, along with five portions of the default service in gas distribution between 1 October 2016 and 30 September 2018.
- In November 2016, in the national tender held by the Single Purchaser for 2017-18 safeguarded services, Hera Comm Srl was awarded six portions covering 11 regions of Italy.
- On 1 February 2017, Waste Recycling Spa acquired the 'plants' corporate branch of the Pisa company Teseco Srl, a leading figure in industrial waste treatment and recovery.
- In January 2017 Herambiente Spa signed a binding deal with Aligroup Srl for the acquisition of Aliplast Spa, a leading operator in the segment of plastic waste collection and recycling with subsequent regeneration, using an integrated process that transforms all waste into products ready to be reused. The operation was closed on 3 April 2017 following the fulfilment of the main conditions precedent. As of 1 January 2017, all companies of the Aliplast Group were thus entirely consolidated within the Hera Group. In December 2017, Herambiente Spa's acquisition of a further 40% of Aliplast Spa's shares was completed. With this operation, the amount of Aliplast Spa shares held by the Group rose to 80%. The remaining 20% of these shares, as stipulated in the agreement signed in January 2017, will be acquired within June 2022.
- On 6 July 2017, Hera Comm Marche Srl acquired a full holding of the company Verducci Servizi Srl which is active in the natural gas and electricity supply market.

Since 1 January 2017, Heratech Srl, a company that manages works requested by customers (new connections, technical opinions, urbanisation, etc.), has been operational for all network services managed by the Group. It furthermore deals with planning and implementing plants and networks and other highly specialised technical activities, for both the Group and third parties. The company is 100% controlled by Hera S.p.A.

## Reporting Standards

This report has been prepared in accordance with **"Global Reporting Initiative Sustainability Reporting Standards"** established in 2016 by Global Reporting Initiative (GRI) with the option **"In accordance" – Core**.

For the definition of value added and its distribution to stakeholders the **"Standard GBS 2013 - Principles for drawing up sustainability reports"** defined by "Gruppo di studio per il Bilancio Sociale" (GBS) was also used.

Furthermore, as a result of the commitments undertaken by the Group in relation to the **Global Compact**, the report represents the yearly Communication on Progress that is submitted to this institution.



## Structure of the document

The Hera Group introduced a new strategic approach to CSR and sustainability based on the theory of **Shared Value** (CSV, “Creating Shared Value”), which highlights how a company can enhance its business while generating at the same time a positive impact on society. For this reason, the 2017 sustainability report has adopted a **new content structure** which is focused on this approach.

In addition to quantifying **shared value EBITDA**, introduced for the first time in the 2016 sustainability report and whose calculation criteria were further improved during 2017, the report also focuses on the activities, results, case studies and **investments** related to shared value.

The CSV approach was defined starting from the **analysis of the global and local scenario**, which led to identifying **3 drivers** and **9 impact areas** of interest for the Hera Group. Each driver was associated with the main **Sustainable Development Goals**, which the Group intends responding to.

The report is divided into **3 main sections**: Sustainability, strategy and shared value - Shared value - The bases and the organisational levers

The “Sustainability, Strategy and Shared Value” section contains the letter to the stakeholders (A year of sustainable development), the introduction (About us) and references with regard to sustainability management and shared value (Sustainability for the Hera Group – Shared value).

The “Shared value” section contains for each defined impact area, the present and future scenario (status indicators, policies and targets) and the Group’s responses: improvement objectives, performance indicators and case studies.

The “bases and the organisational levers” section contains all relevant corporate social responsibility aspects which were not included in the shared value section (Governance and creation of value - Service quality, cost and safety for customers - People - Suppliers). These must be considered as the basis for generating shared value and, at the same time, as organisational levers through which value be increased over time.

## Reporting actions

In addition to the previously listed guidelines, the report was drawn up in compliance with a specific Group **internal procedure** issued in 2012 and updated in 2015 which describes the activities required for planning, achieving, approving, disclosing and presenting the report and the associated roles and responsibilities.

The **social and environmental sustainability objectives** set out in this report were defined with reference to the planning and control instruments used by the Group: Business Plan 2017-2021, budget 2018 and balanced scorecard 2018. These interconnected instruments contain sustainability objectives which have an impact on stakeholders. In particular, the Business Plan includes sustainability-related indicators for which quantitative targets have been defined. The **collection** and **consolidation** of the information and data detailed in the report were performed through forms, in which the technical indications used to detect the indicators were defined.

Any changes in calculations compared to previous years are suitably indicated in a note within the text.

## Definition of contents

Sustainability reporting is preceded annually by the **analysis** and **identification** of **material topics** for the stakeholders and for the Hera Group.

The process for defining the material topics is based on the **analysis of internal and external documents** which brings to light the most relevant sustainability topics related to the company’s activities which sustainability reporting must focus on.

The work of 6 **HeraLABs**, area laboratories or Local Advisory Boards in the areas of Bologna, Modena, Ferrara Imola-Faenza, Ravenna and Rimini, set up by the Group were analysed as well as the press review

and the Group's presence in social media, the annual customer satisfaction survey, and the biennial internal climate survey. The 2017 report also took into account **risk analysis** and **analysis of the shared value scenario**.

HeraLABs have the task of proposing initiatives to involve stakeholders and improve the sustainability of the services offered in the local areas, while verifying their efficacy periodically. In the first meeting, the Lab identifies the topics of relevance for the local areas by using the method set out in HeraLAB's regulations. Initiatives are proposed on these relevant topics during the next meetings in order to improve their related impacts.

The topics set out in the report include those considered significant by the **Sustainability Accounting Standards Board (SASB)** for companies operating in the water, waste and gas sector (energy management, water consumption, distributed water quality, cost of water service, water network efficiency, climate change, greenhouse gas emissions, atmospheric emissions, fleet management, waste management, safety at work, industrial relations, waste recycling, energy efficiency and safety of gas service). The SASB is an independent US organisation that has developed standards for reporting significant sustainability information for single industrial sectors.

The topics that had a high relevance assessment (defined in terms of interest and conflict) in a widespread manner by the 6 **HeraLABs** (in which 69 stakeholder representatives took part) were:

- attention to vulnerable users (across all areas);
- waste treatment plant environmental impact;
- efficiency and energy savings (with a growing trend especially in Ravenna);
- area development (local suppliers);
- separate waste collection (and reuse);
- Solid Urban Waste collection: quality and costs;
- district heating (reduction in Ferrara and increase in Imola-Faenza);
- urban décor.

Regarding the **press review** analysis, the presence of information regarding the Hera Group was analysed on leading local and national newspapers by highlighting the topics that showed greater visibility (whether positive or negative) in more than one area (overall negative visibility index above 1,000 points or positive visibility index above 5,000 points). Regarding the study of blogs and social networks, the posts published on forums, blogs and social networks were analysed, in this case by highlighting visibility (weighted positive or negative visibility index above 10,000 points). The topics identified were: financial results and governance, environmental services (especially in Ferrara with introduction of the Quantity-Based Tariff), plants and water services.

The **annual customer satisfaction survey** assesses the quality of services offered and customers' satisfaction with the Group. The survey also highlights the topics that are of particular importance in determining customers' overall satisfaction. These topics are: the presence and level of branch services, online services and gas service safety and reliability.

The **biennial employee satisfaction survey** also draws attention, at Group level, to matters of major importance in determining employees' overall satisfaction. The analysis conducted in 2017 highlighted the following important topics: remuneration, internal communication, relations with colleagues and coherence with values.

The following table summarises the aspects regarded as material by the overall analysis, the reason for their inclusion, the stakeholders on which they have an impact and company involvement (direct or indirect).

## Hera Group Material Topics

Material Topics	Why it is material	Who it is material for	Boundary of impact	Type of impact
<b><i>Sustainable management of water resources</i></b>	The Group manages water services	Customers Local community Press review Hera Lab Risk analysis CSV Scenario Regulatory compliance	Group	<b>Direct</b>
<b><i>Transition towards a circular economy</i></b>	The Group manages waste management services and owns waste selection and recovery plants	Local community Press review Hera Lab Risk analysis CSV Scenario Regulatory compliance	Group companies that manage environmental services and waste treatment plants  Citizens residing in the territories served	<b>Direct</b> <b>Indirect</b>
<b><i>Promotion of energy efficiency and spreading renewable energy</i></b>	The Group manages energy services, owns energy production plants and some Group companies operate in the energy efficiency sector	Customers Local community Press review Hera Lab Risk analysis CSV Scenario Regulatory compliance	Group  Customer of energy services	<b>Direct</b> <b>Indirect</b>
<b><i>Sustainability in the supply chain</i></b>	The Group outsources some activities to external suppliers, also assessing their social performance	Local community Press review Hera Lab Regulatory compliance	Group Suppliers	<b>Direct</b> <b>Indirect</b>
<b><i>Local development and indirect economic impacts</i></b>	The activities managed by the Group (water, environmental and energy) generate significant indirect impacts. Furthermore, the Group has a widespread presence throughout the area.	Local community Press review Hera Lab CSV Scenario	Group Suppliers	<b>Direct</b> <b>Indirect</b>
<b><i>Compliance with environmental and social regulations</i></b>	The Group manages waste management, water and energy services and owns waste disposal plants. Furthermore, the Group companies employ over 8,500 workers and some activities are outsourced to external suppliers	Local community Hera Lab Risk analysis Regulatory compliance	Group	<b>Direct</b> <b>Indirect</b>
<b><i>Quality, costs of waste collection and city integrity service</i></b>	This topic was considered relevant by the Hera Lab committees	Local community Press review Hera Lab	Group	<b>Direct</b>
<b><i>Reduction of GHG emissions (climate change)</i></b>	The Group owns plants that generate atmospheric	Local community	Group Customers,	<b>Direct</b>

Material Topics	Why it is material	Who it is material for	Boundary of impact	Type of impact
	emissions	Hera Lab Risk analysis CSV Scenario Regulatory compliance	suppliers	<b>Indirect</b>
<b>Attention to users suffering economic difficulties</b>	The topic regarding users suffering economic difficulties was considered relevant during the Hera Lab committees	Hera Lab CSV Scenario	Group	<b>Direct</b>
<b>Safety and continuity of the service provided to customers</b>	This topic was considered relevant by customers, especially as regards safety of the gas service	Customers Hera Lab Risk analysis Regulatory compliance	Group	<b>Direct</b>
<b>Environmental impact of waste treatment plants (NIMBY syndrome)</b>	The Group owns waste treatment plants that generate atmospheric emissions	Local community Hera Lab Risk analysis CSV Scenario Regulatory compliance	Group companies that manage waste treatment plants	<b>Direct</b> <b>Indirect</b>
<b>Local community</b>	The Hera Group has a widespread presence throughout the area	Local community Hera Lab	Group	<b>Direct</b>
<b>Workplace health and safety</b>	This topic was considered relevant because Group companies employ over 8,500 workers	Workforce Hera Lab Regulatory compliance	Workers	<b>Direct</b>
<b>Diversity, Welfare and internal climate</b>	This topic was considered relevant because Group companies employ over 8,500 workers	Workforce Regulatory compliance	Group	<b>Direct</b>
<b>Anti-corruption activities</b>	The presence of calls for tender, contracts and significant supply contracts is associated with anti-corruption issues	Shareholders and financial institutions Regulatory compliance	Group	<b>Direct</b>
<b>Economic value for the stakeholders</b>	Economic performance is essential for performing present and future activities	Shareholders and financial institutions Hera Lab	Group	<b>Direct</b>
<b>Commercial relations with customers through branch offices, call centres and the internet</b>	This topic is relevant for customers	Customers Hera Lab	Group Commercial companies and call center service providers	<b>Direct</b>
<b>Training and professional development, salaries and incentives</b>	This topic is relevant for employees	Workforce Hera Lab	Group	<b>Direct</b> <b>Indirect</b>

With respect to the issues in the 2016 sustainability report, **there were no significant changes**; no material topic was eliminated, but some were added or combined together. Specifically, the following issues were

added: Sustainable management of water resources, Compliance with environmental and social regulations, Local community, Employment, Workplace health and safety, Anti-corruption activities, Economic value for the stakeholders.

The issue of the **respect for human rights** as set out in Italian Leg. Decree 254/16 is not regarded as material because the Group's operational offices are located mainly in Italy and in any case not in countries considered to be at risk from this point of view. This evaluation also takes into account the information reported in the Suppliers chapter where the provenience of foreign supplies is detailed. It should be pointed out that four Group companies (Hera SpA, Hera Luce, Sinergie and AcegasAspAmga) were SA8000 certified in 2017, a voluntary standard that lists the requirements for ethically correct conduct towards workers and that focuses on the respect for human rights, especially the principles of decent work on the basis of ILO conventions.

### **The Management Review Committee and the work group**

This report was drawn up by the Corporate Social Responsibility Department of Hera Spa, with the participation of numerous contacts, both in terms of data collection and for the descriptions and comments. The preparation and supervision of the work, as well as the approval of the improvement objectives and of the document to be submitted to the Board of Directors was carried out by the Management Review Committee, composed of 17 Group directors.

**Management Review Committee:** Tomaso Tommasi di Vignano, Stefano Venier, Roberto Barilli, Luca Moroni, Salvatore Molè, Mila Fabbri, Cristian Fabbri, Giancarlo Campri, Massimo Vai, Giuseppe Gagliano, Marcello Guerrini, Andrea Ramonda, Mauro Tiviroli, Alessandro Baroncini, Roberto Gasparetto, Franco Fogacci, Susanna Zucchelli.

**Corporate Social Responsibility Department - Sustainability Reporting** (csr@gruppohera.it): Filippo Bocchi, Benny Buoizzi, Gianluca Principato, Erika Vignoli.

Thanks to all the 115 persons involved in the preparation of this Sustainability Report.

### **Assurance**

This Consolidated Non-Financial Statement was subject to a limited assurance engagement according to the criteria set out by the ISAE 3000 Revised principle by Deloitte & Touche S.p.A, this activity ended with the issue of the "Independent Auditors' Report" reported at the end of this document.

It should be noted that the quantitative information provided in this Consolidated Non-Financial Statement, which is not referable to the indicators included in the "GRI contents index" and to the data included in the Group's Consolidated Financial Statements, was not specifically examined by Deloitte & Touche S.p.A. This information was presented on a voluntary basis in addition to the information required for the purposes of compliance of this document with Italian Leg. Decree 254/16 and with the reporting standard adopted by the Group.

## Compliance with Italian Leg. Decree 254/16

Leg. Decree 254/16 topics	Material topics	References	Business models, policies and principal risks
<b>ENVIRONMENTAL</b>	<i>Sustainable management of water resources</i>	Sustainable management of water resources	<p><b>Risks:</b> <u>Risks related to legislation on environmental impact</u></p> <p><b>Models and policies:</b> <u>Quality, Safety, Environment policy</u> <u>Sa 8000 Management System</u> <u>The organisational model for prevention of crimes which the Company is responsible for</u> <u>The Ethics Committee</u></p>
	<i>Transition towards a circular economy</i>	Efficient use of resources	
	<i>Promotion of energy efficiency and spreading renewable energy</i>	Energy efficiency in the Hera Group	
	<i>Compliance with environmental and social regulations</i>	Spreading renewable energy	
	<i>Reduction of GHG emissions (climate change)</i>	Smart use of energy	
	<i>Environmental impact of waste treatment plants (NIMBY syndrome)</i>	Reduction of greenhouse gas emissions Air and soil protection	
<b>SOCIAL</b>	<i>Sustainability in the supply chain</i>	Tenders for contracts awarded on the basis of the most economically advantageous bid approach	<p><b>Risks:</b> <u>Risks related to the interruption of services</u> <u>Risks associated with logical and physical security</u> <u>the areas exposed to the risk of bribery</u></p> <p><b>Models and policies:</b> <u>Quality, Safety, Environment policy</u> <u>Sa 8000 Management System</u> <u>Procurement guidelines</u> <u>Further action for social responsibility in tenders</u></p>
	<i>Local development and indirect economic impacts</i>	Hera's contribution to social inclusion	
	<i>Attention to users suffering economic difficulties</i>	Lead-on employment	
	<i>Local community</i>	Job placement under supply contracts with social cooperatives	
	<i>Safety and continuity of the service provided to customers</i>	Sponsorships and donations	
	<i>Quality, costs of waste collection and city integrity service</i>	Quality, cost and safety of customer services	
	<i>Commercial relations with customers through branch offices, call centres and the internet</i>	<i>The production and allocation of value added</i>	
	<i>Economic value for the stakeholders</i>		
<b>EMPLOYEES MATTERS</b>	<i>Workplace health and safety</i>	Health and Safety	<p><b>Risks:</b> <u>Risks associated with regulations on health and safety of workers</u></p> <p><b>Models and policies:</b> <u>Quality, Safety, Environment policy</u> <u>Sa 8000 Management System</u> <u>The Code of Ethics</u> <u>The Ethics Committee</u> <u>Corporate welfare</u> <u>Employees development process</u> <u>Personal data protection policy</u> <u>Charter for equal opportunities and equality at work</u></p>
	<i>Diversity, Welfare and internal climate</i>	Diversity and welfare Industrial relations	
	<i>Training and professional development, salaries and incentives</i>	Training and professional development Hera's contribution to employment development	
<b>RESPECT FOR HUMAN RIGHTS</b>	<i>Not material – Respect for human rights</i>	Definition of contents	<p><b>Risks:</b> Not relevant</p> <p><b>Models and policies:</b> <u>Sa 8000 Management System</u></p>
<b>ANTI-CORRUPTION MATTERS</b>	<i>Anti-corruption activities</i>	The prevention of and the fight against corruption within the Hera Group	<p><b>Risks:</b> <u>the areas exposed to the risk of bribery</u></p> <p><b>Models and policies:</b> <u>The organisational model for prevention of crimes which the Company is responsible for</u></p>

Leg. Decree 254/16 topics	Material topics	References	Business models, policies and principal risks

## GRI content index

GRI Standard	Page	Omissions
<b>GRI 102: General Disclosures 2016</b>		
<b>Organizational profile</b>		
102-1	Name of the organization	10
102-2	Activities, brands, products, and services	10
102-3	Location of headquarters	<u>Headquarters of the holding company "Hera SpA":</u> V.le C. Berti Pichat 2/4 - 40127 Bologna
102-4	Location of operations	10
102-5	Ownership and legal form	322 213
102-6	Markets served	10
102-7	Scale of the organization	276 (i) 11 (ii; v) 205 (iii) 206 (iv)
102-8	Information on employees and other workers	277 (a) 277 (b) 277 (c) 325 (f)
102-9	Supply chain	305
102-10	Significant changes to the organization and its supply chain	324
102-11	Precautionary Principle or approach	192 Regulations are respected and Environmental Impact Assessments are carried out for new plants.
102-12	External initiatives	323 202
102-13	Membership of associations	229
<b>Strategy</b>		
102-14	Statement from senior decision-maker	7
<b>Ethics and integrity</b>		
102-16	Values, principles, standards, and norms of behavior	12 201
102-17	Mechanisms for advice and concerns about ethics	191 199
<b>Governance</b>		
102-18	Governance structure	188 192
102-20	Executive-level responsibility for economic, environmental, and social topics	190 201
102-21	Consulting stakeholders on economic, environmental, and social topics	215

GRI Standard		Page	Omissions
102-22	Composition of the highest governance body and its committees	190 201 <a href="http://eng.gruppohera.it/group/corporate_governance/bod/">Social and Environmental skills (See section Corporate governance – BoD of the website: http://eng.gruppohera.it/group/corporate_governance/bod/)</a>	
102-23	Chair of the highest governance body	See “ <u>Consolidated Financial Statements</u> ” (See section “Corporate Governance Report”, pages 88-90).	
102-24	Nominating and selecting the highest governance body	See “ <u>Consolidated Financial Statements</u> ” (See section “Corporate Governance Report”, pages 83-84).	
102-26	Role of highest governance body in setting purpose, values, and strategy	188 201 14	
102-30	Effectiveness of risk management processes	192	
102-32	Highest governance body’s role in sustainability reporting	322	
102-33	Communicating critical concerns	194 191	
102-34	Nature and total number of critical concerns	191	
102-37	Stakeholders’ involvement in remuneration	The stakeholders involved are: employees (292) and investors (See “Remuneration Report” – pages 220-231 of the <u>Consolidated Financial Statements</u> )	
<b>Stakeholder engagement</b>			
102-40	List of stakeholder groups	215	
102-41	Collective bargaining agreements	292	
102-42	Identifying and selecting stakeholders	215-217	
102-43	Approach to stakeholder engagement	215-217	
102-44	Key topics and concerns raised	215-217 224 218 219	
<b>Report profile</b>			
102-45	Entities included in the consolidated financial statements	322	
102-46	Defining report content and topic Boundaries	325	
102-47	List of material topics	327-328	
102-48	Restatements of information	325	

GRI Standard		Page	Omissions
102-49	Changes in reporting	11 325	
102-50	Reporting period	The Sustainability Report refers to the following period: from the 1 <sup>st</sup> january to the 31 <sup>st</sup> December 2017.	
102-51	Date of most recent report	The most recent report was published in April 2017 (Sustainability Report 2016).	
102-52	Reporting cycle	322	
102-53	Contact point for questions regarding the report	329	
102-54	Claims of reporting in accordance with the GRI Standards	324	
102-55	GRI content index	332	
102-56	External assurance	329	

#### **ECONOMIC TOPICS**

##### **Economic performance**

##### **GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 192	
103-3	Evaluation of the management approach	14 192	

##### **GRI 201: Economic Performance 2016**

201-1	Direct economic value generated and distributed	205	
-------	---	-----	--

##### **Indirect economic impacts**

##### **GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 192	
103-3	Evaluation of the management approach	14 192	

##### **GRI 203: Indirect economic impacts 2016**

203-1	Infrastructure investments and services supported	148	
203-2	Significant indirect economic impacts	155 126	

##### **Procurement practices**

##### **GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 192	
103-3	Evaluation of the management approach	14 192	

##### **GRI 204: Procurement practices 2016**

GRI Standard		Page	Omissions
204-1	Proportion of spending on local suppliers	143	

**Anti-corruption**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 192	
103-3	Evaluation of the management approach	14 192	

**GRI 205: Anti-corruption 2016**

205-1	Operations assessed for risks related to corruption	<p>Risks related to corruption have been analyzed during the risk assessment for the implementation of the Organizational Model in compliance with Italian Leg. Decree 231/01.</p> <p>200 14</p>	
-------	---	--	--

**ENVIRONMENTAL TOPICS**

**Energy**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 302: Energy 2016**

302-1	Energy consumption within the organization	30	
-------	--	----	--

**Water**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 303: Water 2016**

303-1	Water withdrawal by source	95	
-------	----------------------------	----	--

**Emissions**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	

GRI Standard		Page	Omissions
103-3	Evaluation of the management approach	14 202 192	

**GRI 305: Emissions 2016**

305-1	Direct (Scope 1) GHG emissions	49	
305-2	Energy indirect (Scope 2) GHG emissions	49	
305-4	GHG emissions intensity	49	
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	159 164 167	

**Waste**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 306: Waste 2016**

306-2	Waste by type and disposal method	91	
-------	-----------------------------------	----	--

**Environmental compliance**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 307: Environmental compliance 2016**

307-1	Non-compliance with environmental laws and regulations	232	
-------	--	-----	--

**SOCIAL TOPICS**

**Occupational Health and Safety**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 403: Occupational Health and Safety 2016**

GRI Standard		Page	Omissions
403-1	Workers representation in formal joint management–worker health and safety committees	98% of employees are represented in company-worker committees for health and safety that have been set up in the Group. Considering also the estimated indirect employment of suppliers (6,502 people), the percentage of workers represented within the company-workers health and safety committees stands at 56%.  287	

#### Training and education

##### GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

##### GRI 404: Training and education 2016

404-1	Average hours of training per year per employee	283	
404-2	Programs for upgrading employee skills and transition assistance programs	Initiatives providing assistance for career ending management were not performed. The indicator does not include the following companies: Aliplast and Aresgas. The workers of these companies account for 4.7% of the total.  285	

#### Diversity and Equal Opportunity

##### GRI 103: Management Approach 2016

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

##### GRI 405: Diversity and Equal Opportunity 2016

GRI Standard		Page	Omissions
405-1	Diversity of governance bodies and employees	188 279	

**Local communities**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 413: Local communities 2016**

413-1	Operations with local community engagement, impact assessments, and development programs	The HeraLab stakeholder consultation committee is present in 5 of the 15 provinces (33%) where the Group operates, in which 54% of total citizens are served.  224	
-------	--	--	--

**Supplier social assessment**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 414: Supplier social assessment 2016**

414-1	New suppliers that were screened using social criteria	306	
-------	--	-----	--

**Customer health and safety**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 416: Customer health and safety 2016**

GRI Standard		Page	Omissions
416-1	Assessment of the health and safety impacts of product and service categories	Health and safety impact assessments are carried out for the integrated water service and the gas distribution service amounting to 29% of the services offered by the Group. These assessments are reported on pages 257 and 261	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	The topic of non-compliance with voluntary regulations and codes regarding the impacts on health and safety of services during their life cycle is applicable to the integrated water service only.  257	

**Marketing and labeling**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 417: Marketing and labeling 2016**

GRI Standard		Page	Omissions
417-1	Requirements for product and service information and labeling	<p>Information on the quality of drinking water is required to be provided in the bill. 257</p> <p>For the sale of electricity and gas, the National Authority indicates the information that must be included in the bill including the sources of the electricity sold and the standards of services provided. 245 246</p> <p>43% of the service offered by the Group meet the indicator's information requirements.</p>	

**Socioeconomic compliance**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**GRI 419: Socioeconomic compliance 2016**

419-1	Non-compliance with laws and regulations in the social and economic area	232	
-------	--	-----	--

**Quality, costs of the waste collection service and urban respectability**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**Beware of consumers in financial difficulty**

**GRI 103: Management Approach 2016**

103-1	Explanation of the material topic and its Boundary	327	
-------	--	-----	--

<b>GRI Standard</b>		<b>Page</b>	<b>Omissions</b>
103-2	The management approach and its components	14 202 192	
103-3	Evaluation of the management approach	14 202 192	

**INDEPENDENT AUDITOR'S REPORT  
ON THE CONSOLIDATED NON-FINANCIAL STATEMENT PURSUANT TO ARTICLE 3,  
PARAGRAPH 10 OF LEGISLATIVE DECREE No. 254 OF DECEMBER 30, 2016 AND  
ART. 5 OF CONSOB REGULATION N. 20267**

**To the Board of Directors of  
Hera S.p.A.**

Pursuant to article 3, paragraph 10, of the Legislative Decree no. 254 of December 30, 2016 (hereinafter the "Decree") and to article 5 of the CONSOB Regulation n. 20267, we have carried out a limited assurance engagement on the Consolidated Non-Financial Statement of the Hera Group (the "Group") as of December 31, 2017 prepared on the basis of article 4 of the Decree, and approved by the Board of Directors on March 27, 2018 (hereinafter the "NFS").

**Responsibility of the Directors and the Board of Statutory Auditors for the NFS**

The Directors are responsible for the preparation of the NFS in accordance with articles 3 and 4 of the Decree and the "Global Reporting Initiative Sustainability Reporting Standards" established in 2016 by GRI – Global Reporting Initiative (hereinafter "GRI Standards"), which they have identified as reporting framework.

The Directors are also responsible, within the terms established by law, for such internal control as they determine is necessary to enable the preparation of NFS that is free from material misstatement, whether due to fraud or error.

The Directors are moreover responsible for defining the contents of the NFS, within the topics specified in article 3, paragraph 1, of the Decree, taking into account the activities and characteristics of the Group, and to the extent necessary in order to ensure the understanding of the Group's activities, its trends, performance and the related impacts.

Finally, the Directors are responsible for defining the business management model and the organisation of the Group's activities as well as, with reference to the topics detected and reported in the NFS, for the policies pursued by the Group and for identifying and managing the risks generated or undertaken by the Group.

The Board of Statutory Auditors is responsible for overseeing, within the terms established by law, the compliance with the provisions set out in the Decree.

**Auditor's Independence and quality control**

We have complied with the independence and other ethical requirements of the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. Our auditing firm applies International Standard on Quality Control 1 (ISQC Italia 1) and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

**Auditor's responsibility**

Our responsibility is to express our conclusion based on the procedures performed about the compliance of the NFS with the Decree and the GRI Standards. We conducted our work in accordance with the criteria established in the "*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. The standard requires that we plan and perform the engagement to obtain limited assurance whether the NFS is free from material misstatement. Therefore, the procedures performed in a limited assurance engagement are less than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified in a reasonable assurance engagement.

The procedures performed on NFS are based on our professional judgement and included inquiries, primarily with company personnel responsible for the preparation of information included in the NFS, analysis of documents, recalculations and other procedures aimed to obtain evidence as appropriate.

Specifically we carried out the following procedures:

1. Analysis of relevant topics with reference to the Group's activities and characteristics disclosed in the NFS, in order to assess the reasonableness of the selection process in place in light of the provisions of article 3 of the Decree and taking into account the adopted reporting standard.
2. Analysis and assessment of the identification criteria of the consolidation area, in order to assess its compliance with the Decree.
3. Comparison between the financial data and information included in the NFS with those included in the consolidated financial statements of the Hera Group.
4. Understanding of the following matters:
  - business management model of the Group's activities, with reference to the management of the topics specified by article 3 of the Decree;
  - policies adopted by the entity in connection with the topics specified by article 3 of the Decree, achieved results and related fundamental performance indicators;
  - main risks, generated and/or undertaken, in connection with the topics specified by article 3 of the Decree.

Moreover, with reference to these matters, we carried out a comparison with the information contained in the NFS and the verifications described in the subsequent point 5, letter a).

5. Understanding of the processes underlying the origination, recording and management of qualitative and quantitative material information included in the NFS.

In particular, we carried out interviews and discussions with the management of Hera S.p.A. and with the employees of Herambiente S.p.A., Inrete Distribuzione Energia S.p.A., Frullo Energia Ambiente S.r.l., Hera Comm S.r.l., AcegasApsAmga S.p.A., AcegasApsAmga Servizi Energetici S.p.A. and Marche Multiservizi S.p.A. and we carried out limited documentary verifications, in order to gather information about the processes and procedures which support the collection, aggregation, elaboration and transmittal of non-financial data and information to the department responsible for the preparation of the NFS.

In addition, for material information, taking into consideration the Group's activities and characteristics:

- at the parent company's and subsidiaries' level:
  - a) with regards to qualitative information included in the NFS, and specifically with reference to the business management model, policies applied and main risks, we carried out interviews and gathered supporting documentation in order to verify its consistency with the available evidence;
  - b) with regards to quantitative information, we carried out both analytical procedures and limited verifications in order to ensure, on a sample basis, the correct aggregation of data.
- for the following companies and plants, Bologna, Imola, Granarolo dell'Emilia and Modena sites and Ferrara and Imola plants for Hera S.p.A., Bologna and Rimini sites and Ferrara plant for Herambiente S.p.A., Granarolo dell'Emilia plant for Frullo Energia Ambiente S.r.l., Imola site for Hera Comm S.r.l., Trieste and Padova sites for AcegasApsAmga S.p.A., Pesaro site for Marche Multiservizi S.p.A., which we selected based on their activities, their contribution to the performance indicators at the consolidated level and their location, we carried out site visits, during which we have met their management and have gathered supporting documentation with reference to the correct application of procedures and calculation methods used for the indicators.

## Conclusion

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of the Hera Group as of December 31, 2017 is not prepared, in all material aspects, in accordance with article 3 and 4 of the Decree and the GRI Standards.

## Other Matter

With reference to the year ended December 31, 2016, the Hera Group prepared a Sustainability Report, whose data were used for comparative purposes within the NFS. This Sustainability Report was voluntarily examined with a limited assurance engagement in accordance with ISAE 3000 Revised and we expressed an unmodified conclusion.

DELOITTE & TOUCHE S.p.A.

Signed by  
**Franco Amelio**  
Partner

Milan, Italy  
April 4, 2018

# Annexes

## What we will do... 2030 UN Agenda targets

### **Provide high-quality, equitable and inclusive education and learning opportunities for all**

**Innovation and contribution to development**

Continue with the activities of the regional protocol on work-school alternation paths: offer a further 40 internships in 2018 to reach 180 internships by 2019

**People**

Continue the HerAcademy training activities: provide an average of 25 training hours per capita in 2018

### **Achieve gender equality and empower all women and girls**

**People**

Enter into specific trade-union agreements to:

- promote solidarity systems among employees, through the free transfer of leaves and holidays
- promote the reconciliation of work and private life.

Digitalization and smart working:

- implement the change management plan defined on the basis of the Her@futura survey carried out in 2017;
- evaluate the results of the 6 smartworking projects launched in 2017 and plan their possible extension.

Continue to implement coaching activities for workers returning to work after leave and carry out initiatives for raising disability awareness in the company.

Continue to promote Hextra, Hera Group's welfare system and promote the possibility of allocating a share of the performance bonus to the corporate welfare system. Increase the "welfare quota" by 7%.

6

ACQUA POTABILE E SERVIZI  
IDRICO-SANITARI



## Ensure the availability and sustainable management of water and sanitation for all

### Efficient use of resources

Rimini Seawater Protection Plan: complete 2 further measures (5 already completed at end 2017) and start/continue further 3 measures in 2018.

Start structuring water management activities as a result of joining the UN CEO Water Mandate. In this context, reduce water consumption at the Imola cogeneration plant by 40,000 m<sup>3</sup> (-15% compared to 2017)

Start the upgrade of the sewage treatment plants, in particular by:

- completing the design for 66 urban areas between 200 and 2000 PE;
- completing the design of 5 plants for over 10,000 PE;

Launch scenario analyses on the impact of climate change on the supply sources and the water supply network and the subsequent definition of an action plan agreed with public authorities.

Start the authorization procedure to upgrade the Borgheria treatment plant at Pesaro

### Quality, cost and safety of customer services

Develop water safety plans using the Water Safety Plans methodology for the water supply networks of 2 areas (San Giovanni in Persiceto and Imola).

Extending the satellite-based water network leak detection system (3000 km more in 2018)



## Ensure access to affordable, reliable, sustainable and modern energy systems for all

### Smart use of energy

ISO 50001 energy improvement plan related to Hera Spa, AAA and MMS: reduce energy consumption by over 4% in 2018 and by 5% within 2020 (compared to 2013).

Public lighting: implement energy saving measures for 1,300 toe in 2018 including the replacement of lighting fixtures with LED lamps (16% in 2021).

Continue to promote new gas, electricity and district heating solutions with energy efficiency services. Customers with rate plans equal to 20% of the total in 2018 (+30% compared to 2017) and to 35% by 2021.

Heat management contract for properties in the Municipality of Modena: thermal energy consumption -30% in 2019 compared to the consumption of the last 10 years.

Continue to promote energy saving solutions for the public administration and industrial customers. Launch the "solar thermal" offer for condominiums.

Start the production of biomethane from organic waste at the Bologna biodigestion plant and design a further plant.

Start a new energy recovery plant from the decompression of methane, through the experimental installation of a medium-small sized turbo expander (330 electric kW) at a medium-sized R&M station, with an estimated production of 1,600 MWh per year (annual consumption for about 600 families).

Reduce by 22% by 2021 the carbon footprint of energy production compared to 2015 (kg CO<sub>2</sub>/MWh).

### Innovation and contribution to development

District heating: increase the volume served (+1% compared to 2017) and the share of energy produced from renewable sources and from recovery, by +5% compared to 2017, improving the air quality in the cities served. Start the project to increase the use of geothermal energy in Ferrara.

**Innovation and contribution to development**

Continue to envisage the social clause to guarantee employment in the contracts for emergency services on networks and services relating to customer handling (excluding insourcing cases).

Continue the implementation of business intelligence/data analytics projects to:

- optimize the scheduled gas leak detection work, and the operation and maintenance of gas networks;
- optimize waste collection routes, also based on the filling level of bins/containers;
- optimize the management of treatment plants (energy consumption and performance) by developing predictive logic.

Continue to involve the workforce using Heureka: stimulate innovative ideas in three new areas in 2018. Start feasibility for selected employee initiatives.

Supplier selection: continue to reward social commitment in the Sustainability Points, also through the inclusion of disadvantaged personnel, in particular in the management of waste management services.

**Governance and creation of value**

Implement the internal climate improvement actions defined on the basis of the results of the survey carried out in 2017.

Value added to the local area: +21% in 2021: Euro 1.4 billion.

Achieve investments for Euro 2.3 billion in the period 2018-2021.

**People**

Enter into specific trade-union agreements to:

- promote solidarity systems among employees, through the free transfer of leaves and holidays
- promote the reconciliation of work and private life.

Digitalization and smart working:

- implement the change management plan defined on the basis of the Her@futura survey carried out in 2017;
- evaluate the results of the 6 smartworking projects launched in 2017 and plan their possible extension.

Continue to implement coaching activities for workers returning to work after leave and carry out initiatives for raising disability awareness in the company.

Continue to promote Hextra, Hera Group's welfare system and promote the possibility of allocating a share of the performance bonus to the corporate welfare system. Increase the "welfare quota" by 7%.

Continue the HerAcademy training activities: provide an average of 25 training hours per capita in 2018

Accident prevention: 17.9 frequency index in 2018 (-2% compared to the average of 2015-2017) Carry out specific awareness-raising initiatives on safe driving.

**Suppliers**

SA8000 certification: collect an additional 90 assessment questionnaires and perform 19 audits care of the suppliers (headquarters and Hera sites) in 2018.

New supplier portal: simplify the qualification process, the up-dating of the data and the usability of the information.

Continue to assign a relevant score to the environmental and social sustainability aspects in the tenders held with the most economically advantageous bid.

Workplace health and safety: Monitor accidents for 70% of the value of supplies of services and work and make the suppliers aware of safety in the workplace.

Continue with the development of the quality, safety, environmental and social responsibility management systems and corporate responsibility in the choice of the suppliers within Hera Spa.

**Smart use of energy**

Start the production of biomethane from organic waste at the Bologna biodigestion plant and design a further plant.

Start a new energy recovery plant from the decompression of methane, through the experimental installation of a medium-small sized turbo expander (330 electric kW) at a medium-sized R&M station, with an estimated production of 1,600 MWh per year (annual consumption for about 600 families).

**Efficient use of resources**

Obtain the environmental permit for the mechanical-biological treatment plant for mixed waste at Pesaro in order to further reduce the use of landfills.

Start recovering at least 74% of the treated waste in the 5 Herambiente selection plants and install crushing plants in Bologna (in 2018) and Modena (start of authorization process in 2018) to reduce the use of landfills for the disposal of screened waste.

**Innovation and contribution to development**

Continue to implement the installation plan for electronic gas meters: 30% of meters to be electronic at end 2018 and 57% in 2021.

Continue to promote electronic billing (22% of contracts used electronic billing in 2018 and 31% in 2021) also by continuing the DigieLode campaign on digitalization in local schools.

**Innovation and contribution to development**

Improve the customer experience for our customers:

- increase customers enrolled for online services to 20% in 2018 and to 24% in 2021.

Continue the implementation of business intelligence/data analytics projects to:

Continue to involve the workforce using Heureka: stimulate innovative ideas in three new areas in 2018. Start feasibility analyses of xx initiatives proposed by employees and selected.

Improve the customer experience: develop tracking services on the main practices, to inform customers about the progress of their requests and alert services, i.e. reminders that can be set by customer's choice.

Improve the customer experience for our customers:

- simplify procedures for acceptance of estimates and subscription of contracts, by applying digitalization: extend the simplified procedure to all branch offices by 2018

Continue/start new innovative projects in the circular economy and to improve handling of treatment sludge.

Launch an IT project to re-engineer the supplier qualification portal, to simplify the qualification process, the up-dating of the data and the usability of the information, guiding the uploading of the data to be input in the system.

Land consumption: 725,000 m<sup>2</sup> of land reused between 2018 and 2021 to design infrastructure (2/3 of the total land involved in new projects).

**Governance and creation of value**

Value added to the local area: +21% in 2021: Euro 1.4 billion.

Achieve investments for Euro 2.3 billion in the period 2018-2021.



## Make cities and human settlements inclusive, safe, durable and sustainable

### Smart use of energy

Public lighting: implement energy saving measures for 1,300 toe in 2018 including the replacement of lighting fixtures with LED lamps (16% in 2021).

Continue to promote new gas, electricity and district heating solutions with energy efficiency services. Customers with rate plans equal to 20% of the total in 2018 (+30% compared to 2017) and to 35% by 2021.

Heat management contract for properties in the Municipality of Modena: thermal energy consumption -30% in 2019 compared to historical consumption of the last 10 years.

Continue to promote energy saving solutions for the public administration and industrial customers. Launch the "solar thermal" offer for condominiums.

### Efficient use of resources

Extend the quantity-based municipal waste tariff to a further 100,000 inhabitants in 2019. Complete the extension to all the municipalities served, by 2021.

Municipal waste: increase the recycling rate to 60% by 2021 and the recycling rate for packaging to 70%.

Urban waste: continue to reduce landfill use: <5% in 2018 and about 3% in 2021 at Hera Group level.

Urban waste: increase separate collection: 60.6% in 2018 and 69.3% by 2021 at Group level extend the Rifiutologo app in the Marche region.

Continue implementation of projects to prevent municipal waste:

- extension of "Farmacoamico" (increase of the coverage rate to 50% of the residents served in Emilia-Romagna in 2018);
- start construction of "reuse areas" at waste collection centres

Obtain the environmental permit for the mechanical-biological treatment plant for mixed waste at Pesaro in order to further reduce the use of landfills.

Start recovering at least 74% of the treated waste in the 5 Herambiente selection plants and install crushing plants in Bologna (in 2018) and Modena (start of authorization process in 2018) to reduce the use of landfills for the disposal of screened waste.



## Make cities and human settlements inclusive, safe, durable and sustainable

### Innovation and contribution to development

Continue to implement the installation plan for electronic gas meters: 30% of meters to be electronic at end 2018 and 57% in 2021.

Continue to promote electronic billing (22% of contracts used electronic billing in 2018 and 31% in 2021) also by continuing the DigieLode campaign on digitalization in local schools.

Improve the customer experience for our customers:

- increase customers enrolled for online services to 20% in 2018 and to 24% in 2021.

Continue the implementation of business intelligence/data analytics projects to:

Improve the customer experience: develop tracking services on the main practices, to inform customers about the progress of their requests and alert services, i.e. reminders that can be set by customer's choice.

Improve the customer experience for our customers:

- simplify procedures for acceptance of estimates and subscription of contracts, by applying digitalization: extend the simplified procedure to all branch offices by 2018

Continue/start new innovative projects in the circular economy and to improve handling of treatment sludge.

Promote awareness of tariff concessions also in the territories of Triveneto and Marche

Supplier selection: continue to reward social commitment in the Sustainability Points, also through the inclusion of disadvantaged personnel, in particular in the management of waste management services.

Extend the protocol that prevents service disconnections for customers assisted by social services to even more municipalities. Maintain a rate of avoided disconnections at 80% of the total.

Land consumption: 725,000 m<sup>2</sup> of land reused between 2018 and 2021 to design infrastructure (2/3 of the total land involved in new projects).

District heating: increase the volume served (+1% compared to 2017) and the share of energy produced from renewable sources and from recovery, by +5% compared to 2017, improving the air quality in the cities served. Start the project to increase the use of geothermal energy in Ferrara.

Continue to encourage the purchase of vehicles with low environmental impact (29% in 2021)



## Make cities and human settlements inclusive, safe, durable and sustainable

### Governance and creation of value

Dialogue with the local communities: continue the meetings of the HeraLabs active in the areas and define the Plan of the local initiatives in Ravenna and Ferrara. Extend the new HeraLAB model in three additional areas in 2019.

### Quality, cost and safety of customer services

Improve compliance with commercial quality standards and other services subject to compensation to final customers in relation to gas, electricity, water and district heating services.

Emergency gas services: maintain a much higher level than AEEGSI requirements for the percentage of calls answered within 120 seconds and arrival at call location within 60 minutes.

Ensure that call centre quality levels and average waiting times at branch offices are in line with those of 2017. Improve waiting times at branch offices of AcegasApsAmga.

### People

Involve workers in the new edition of HeraSolidale for the benefit of not-for-profit organizations chosen for their reputation and level of accountability, contribution to achieving the UN 2030 Agenda, level of accountability and relevance to Hera's services (accessory criterion)

## Ensure sustainable patterns of production and consumption

### Smart use of energy

Continue to promote new gas, electricity and district heating solutions with energy efficiency services. Customers with rate plans equal to 20% of the total in 2018 (+30% compared to 2017) and to 35% by 2021.

Heat management contract for properties in the Municipality of Modena: thermal energy consumption -30% in 2019 compared to historical consumption of the last 10 years.

### Efficient use of resources

Extend the quantity-based municipal waste tariff to a further 100,000 inhabitants in 2019. Complete the extension to all the municipalities served, by 2021.

Municipal waste: increase the recycling rate to 60% by 2021 and the recycling rate for packaging to 70%.

Urban waste: continue to reduce landfill use: <5% in 2018 and about 3% in 2021 at Hera Group level.

Urban waste: increase separate collection: 60.6% in 2018 and 69.3% by 2021 at Group level extend the Rifiutologo app in the Marche region.

Industrial waste: to supplement the waste management offer for customers with solutions in the circular economy and to further increase the recovery rate.

Continue implementation of projects to prevent municipal waste:

- extension of "Farmacoamico" (increase of the coverage rate to 50% of the residents served in Emilia-Romagna in 2018);
- start construction of "reuse areas" at waste collection centres

Obtain the environmental permit for the mechanical-biological treatment plant for mixed waste at Pesaro in order to further reduce the use of landfills.

Start recovering at least 74% of the treated waste in the 5 Herambiente selection plants and install crushing plants in Bologna (in 2018) and Modena (start of authorization process in 2018) to reduce the use of landfills for the disposal of screened waste.

## Ensure sustainable patterns of production and consumption

### Innovation and contribution to development

Continue to require the social clause to protect employment in contracts for emergency services on networks and services relating to customer handling (excluding insourcing cases).

Continue/start new innovative projects in the circular economy and to improve handling of treatment sludge.

### Governance and creation of value

Dialogue with the local communities: continue the meetings of the HeraLabs active in the areas and define the Plan of the local initiatives in Ravenna and Ferrara. Extend the new HeraLAB model in three additional areas in 2019.

### Suppliers

SA8000 certification: collect an additional 90 assessment questionnaires and perform 19 audits care of the suppliers (headquarters and Hera sites) in 2018.

New supplier portal: simplify the qualification process, the up-dating of the data and the usability of the information.

Continue to assign a relevant score to the environmental and social sustainability aspects in the tenders held with the most economically advantageous bid.

Workplace health and safety: Monitor accidents for 70% of the value of supplies of services and work and make the suppliers aware of safety in the workplace.

Continue with the development of the quality, safety, environmental and social responsibility management systems and corporate responsibility in the choice of the suppliers within Hera Spa.

### Smart use of energy

ISO 50001 energy improvement plan related to Hera Spa, AAA and MMS: reduce energy consumption by over 4% in 2018 and by 5% within 2020 (compared to 2013).

Public lighting: implement energy saving measures for 1,300 toe in 2018 including the replacement of lighting fixtures with LED lamps (16% in 2021).

Continue to promote new gas, electricity and district heating solutions with energy efficiency services. Customers with rate plans equal to 20% of the total in 2018 (+30% compared to 2017) and to 35% by 2021.

Heat management contract for properties in the Municipality of Modena: thermal energy consumption -30% in 2019 compared to historical consumption of the last 10 years.

Continue to promote energy saving solutions for the public administration and industrial customers. Launch the “solar thermal” offer for condominiums.

Start the production of biomethane from organic waste at the Bologna biodegestion plant and design a further plant.

Start a new energy recovery plant from the decompression of methane, through the experimental installation of a medium-small sized turbo expander (330 electric kW) at a medium-sized R&M station, with an estimated production of 1,600 MWh per year (annual consumption for about 600 families).

### Efficient use of resources

Extend the quantity-based municipal waste tariff to a further 100,000 inhabitants in 2019. Complete the extension to all the municipalities served, by 2021.

Municipal waste: increase the recycling rate to 60% by 2021 and the recycling rate for packaging to 70%.

Urban waste: continue to reduce landfill use: <5% in 2018 and about 3% in 2021 at Hera Group level.

Urban waste: increase separate collection: 60.6% in 2018 and 69.3% by 2021 at Group level extend the Rifiutologo app in the Marche region.

Industrial waste: to supplement the waste management offer for customers with solutions in the circular economy and to further increase the recovery rate.

Launch scenario analyses on the impact of climate change on the supply sources and the water supply network and the subsequent definition of an action plan agreed with public authorities.



## Promote action at all levels to fight climate change

### Innovation and contribution to development

District heating: increase the volume served (+1% compared to 2017) and the share of energy produced from renewable sources and from recovery, by +5% compared to 2017, improving the air quality in the cities served. Start the project to increase the use of geothermal energy in Ferrara.

Continue to encourage the purchase of vehicles with low environmental impact (29% in 2021)



## Protect and use oceans and seas in a durable manner and marine resources for sustainable development

### Innovation and contribution to development

Rimini Seawater Protection Plan: complete 2 further measures (5 already completed at end 2017) and start/continue further 3 measures in 2018.

## Level of fulfilment of commercial quality standards according to service

### Average annual concentrations at the main plants (2017)

mg/l	Body of water receiving the treated wastewater	COD (limit: 125 mg/l)	BOD5 (limit: 25 mg/l)	TSS (limit: 35 mg/l)	Ammoniacal nitrogen (limit: 15 mg/l)	Volumes treated (thousands of m <sup>3</sup> )
Bologna IDAR*	Navile canal	28.2	6.3	8.3	0.0	39,580
Anzola (BO)	Scolo Sanguinettola Bassa or Scolo Lavinello	29.0	7.6	8.2	0.0	1,323
Calderara (BO)	Scolo Dosolo	34.0	7.0	7.1	0.0	975
S. Giovanni (BO)	River Reno and San Giovanni Canal	38.0	12.4	13.4	0.0	172
Ferrara Gramicia	Po di Volano	56.0	15.2	24.6	4.0	16,895
Cesena	Rio Granarolo	21.4	10.0	25.0	1.8	6,530
Cesenatico (FC)	Scolo Madonnina	57.5	11.5	14.4	1.6	3,931
Forlì	Scolo Cerchia	24.4	10.0	6.8	1.9	14,249
Savignano (FC)	River Rubicone	28.2	10.5	9.4	3.6	5,184
Faenza Formellino (RA)	River Lamone	46.8	12.3	12.0	1.3	4,728
Imola Santerno (BO)	River Santerno	35.0	8.7	40.0	0.0	6,181
Modena	Naviglio Canal	17.7	5.1	5.9	0.5	31,521
Ravenna	Cupa and Scolo Fagiolo Consortium canal	34.8	10.6	10.6	3.4	16,727
Alfonsine (RA)	Scolo Sabbioni	29.4	10.7	13.6	1.3	1,506
Bagnacavallo (RA)	Scolo Cappuccine	22.7	10.0	8.5	2.4	1,433
Cervia (Ravenna)	Cupa Consortium canal	34.4	10.5	10.0	1.9	5,131
Lido di Classe (RA)	Pergami Canal	27.9	10.3	15.4	2.8	743
Lugo (Ravenna)	Scolo Arginello	35.9	10.6	9.2	1.8	6,281
Marina di Ravenna (RA)	Scolo Piombone	28.2	10.5	16.2	1.6	798
Russi (RA)	Scolo Pisinello	24.0	10.1	9.0	3.9	783
Rimini S. Giustina	River Marecchia	24.1	10.0	7.6	3.1	30,622
Riccione (RN)	Rio Marano	39.0	11.5	10.7	3.1	5,201
Cattolica (RN)	Torrente Ventina	21.8	10.4	9.9	2.8	6,257
Pesaro Borgheria (PU)	River Foglia	25.0	7.0	7.0	2.3	6,004
Ca' Nordio (PD)	Roncajette Canal	12.1	9.4	4.9	0.9	21,422
Guizza (PD)	Scolo Amolari	13.1	9.1	5.0	1.4	1,123

mg/l	Body of water receiving the treated wastewater	COD (limit: 125 mg/l)	BOD5 (limit: 25 mg/l)	TSS (limit: 35 mg/l)	Ammoniacal nitrogen (limit: 15 mg/l)	Volumes treated (thousands of m <sup>3</sup> )
Abano Terme (PD)	Scolo Rialto	17.1	9.1	4.2	1.1	2,269
Codevigo (PD)	River Brenta	18.5	9.1	5.0	1.4	3,565
Zaule (TS)	Gulf of Trieste	31.2	8.3	14.9	0.4	9,982
Servola (TS)	Gulf of Trieste	98.8	32.0	35.0	17.9	31,724
<b>Total volume treated</b>						<b>282,838</b>

The volume treated by the 33 plants listed in the table covers 77% of the total wastewater treated.

\*Bologna's plant limits are different from the regulation: COD 160 mg/l; BOD5 40 mg/l; SST 80 mg/l; ammoniacal nitrogen 25 mg/l. For the Imola plant, where there is a final lagoon, the TSS limit is 150 mg/l.

### Volumes treated in the main plants (thousands of m<sup>3</sup>)

Body of water receiving the treated wastewater	2015	2016	2017
River	168,438	160,967	149,794
Channel	108,937	102,385	91,338
Sea	41,514	41,250	41,706
<b>Total</b>	<b>318,890</b>	<b>304,602</b>	<b>282,838</b>

The volume treated by the 33 plants listed in the table covers 77% of the total wastewater treated.

### Concentrations of atmospheric emissions from waste-to-energy plants (2017)

mg/Nm <sup>3</sup>	Regulatory limits pursuant to Legislative Decree 133/2005	Bologna (lines 1 and 2)	Faenza (Enomondo)	Ferrara (lines 2 and 3)	Forlì (line 3)	Modena (line 4)	Ravenna (WDF)	Ravenna (special waste integrated platform)	Rimini (line 4)	Pozzilli (Isernia)	Padova (lines 1 and 2)	Trieste (lines 1, 2 and 3)
Particulates	10	1.1	0.62	0.1	0.6	0.6	0.5	0.2	0.4	0.1	0.8	1.2
Hydrochloric acid	10	0.6	3.18	0.7	2.8	2.4	0.8	0.1	2.8	4.9	0.5	0.4
Nitric oxide	200	83.8	47.31	46.5	47.8	52.7	135.3	80.1	60.5	150.9	52.1	150.9
Sulfur oxides	50	0.5	0.68	0.4	0.9	1.0	0.2	3.4	1.3	5.3	0.5	0.9
Carbon monoxide	50	16.2	10.8	9.8	2.4	7.3	2.7	1.9	8.3	4.3	7.3	10.5
Hydrofluoric acid	1	0.02	0.16	0.1	0.1	0.1	0.1	0.1	0.1		0.11	0.08
Total Organic Carbon	10	2.3	0.50	0.8	1.1	1.2	0.3	0.7	0.9	1.2	0.9	0.7
Total metals	0.5	0.002	0.17	0.003	0.0038	0.004	0.048	0.005	0.005	0.005	0.006	0.019
Aromatic polycyclic hydrocarbons	0.01	0.00000	0.00060	0.00000	0.00000	0.00000	0.00004	0.000,003	0.00000	0.00004	0.00002	0.00008
Dioxins and Furans (ng <sub>FTE</sub> /Nm <sup>3</sup> )	0.1	0.00395	0.01478	0.00055	0.00282	0.00078	0.01830	0.00092	0.00061	0.0037	0.00111	0.01544
Cadmium and Thallium	0.05	0.00020	0.0002	0.00037	0.00023	0.00037	0.00175	0.00022	0.0003	0.0013	0.00006	0.00070
Mercury	0.05	0.0002	0.0122	0.0003	0.001	0.0005	0.0004	0.0002	0.000	0.0004	0.0001	0.0007

The regulatory limits refer to Italian Legislative Decree 133/2005. For particulates, hydrochloric acid, nitrogen oxides, sulphur oxides, carbon monoxide, hydrofluoric acid, and total organic carbon, the values are the average continuously measured values and the limits are those for daily averages. For all other components, the values are the average of periodic measurements and the limits refer to each individual measurement. In the new lines at Ferrara, Forlì, Rimini and Modena, mercury levels are continuously measured.

## Detail of investments financed with the Green Bond

Type of measure	Measure	Investment in 2006-2016 (thousands of Euro)
Increase of energy generated from non-fossil sources	Solar photovoltaic Interporto Bologna (see page 153 and 285)	11,416
Increase of energy generated from non-fossil sources	Solar photovoltaic Alfianello (BS) (see page 153 and 285)	943
Increase of energy generated from non-fossil sources	Solar photovoltaic Copparo (FE) (see page 153 and 285)	956
Increase of energy generated from non-fossil sources	Solar photovoltaic Faenza (RA) (see page 153 and 285)	835
Increase of energy generated from non-fossil sources	Solar photovoltaic Petriolo (MC) (see page 153 and 285)	764
Increase of energy generated from non-fossil sources	Biogas from landfills (see page 153 and 285)	4,931
Increase of energy generated from non-fossil sources	Cesena anaerobic digester (see page 153 and 285)	10,864
Increase of energy generated from non-fossil sources	Lugo (RA) anaerobic digester (see page 153 and 285)	12,437
Increase of energy generated from non-fossil sources	Rimini anaerobic digester (see page 153 and 285)	13,173
Increase of energy generated from non-fossil sources	Sant'Agata Bolognese biodigester (see p.)	1,063
Increase of energy efficiency	Imola cogeneration plant (see page 185)	95,471
Increase of energy efficiency	Development of district heating networks - Ferrara Area (see page 161)	21,992
Increase of energy efficiency	Development of district heating networks - Forlì-Cesena Area (see page 161)	34,503
Increase of energy efficiency	Development of district heating networks - Imola-Faenza Area (see page 161)	34,701
Increase of energy efficiency	Development of district heating networks - Modena Area (see page 161)	11,873
Increase of energy efficiency	Development of district heating networks - Bologna Area (see page 161)	19,315
Increase of energy efficiency	Development of industrial cogeneration (see page 163 and 288)	5,643
Improvement of waste treatment plants	WTE Ferrara (see page 182 and 184)	42,885
Improvement of waste treatment plants	WTE Forlì (see page 182 and 184)	39,122
Improvement of waste treatment plants	WTE Modena fourth line (see page 182 and 184)	46,753
Improvement of waste treatment plants	Rimini waste-to-energy plant (see pages 182 and 184)	44,410

Type of measure	Measure	Investment in 2006-2016 (thousands of Euro)
Improvement of treatment plants	Bologna plant (see page 289)	5,224
Improvement of treatment plants	Lugo (Ravenna) plant (see page 289)	4,451
Improvement of treatment plants	Forlì plant (see page 289)	7,176
Improvement of treatment plants	Rimini Seawater Protection Plan (see page 238)	17,182
Increase of separate waste collection	Separate waste collection services development (see page 196-201 and 243)	11,917
<b>Total</b>		<b>500,000</b>

## **Glossary**

### **Population equivalent**

The concept of population equivalent was developed to enable the comparison of various types of sewage (municipal, household, industrial) in terms of organic pollution. Using conversion factors, an estimation is made of how many inhabitants would be required to produce (with normal domestic sewage) the same amount of pollution. By definition, one population equivalent equals 60 g of BOD<sub>5</sub> per day.

### **Italian Regulatory Authority for Electricity, Gas and the Water System (Aeegsi)**

Formally independent authority established under Law 481/1995 which has the goal of promoting the development of competitive markets in the electricity and methane sectors, mainly by regulating rates, network access, market operation and protecting the interests of end users. In 2012, the Aeegsi was assigned with functions in the area of the quality, rates and costs of integrated water services.

### **Optimal Service District (ATO)**

Pursuant to Law 36/1994, the Optimal Water Districts define the local level of organization of integrated water services to overcome the fragmentation of management and to reach suitable sizes for the areas served.

### **Ammoniacal nitrogen**

The term ammoniacal nitrogen (NH<sub>4</sub>) refers to the concentration of ammonia ions in water. It provides an index of biodegradation of nitrogenous organic substances. It is expressed in mg/l.

### **Biogas**

The term biogas identifies a mixture of types of gas (mainly methane) produced by natural bacterial fermentation (in anaerobic conditions, i.e. in the absence of oxygen) of organic residues from waste.

### **BOD**

The term BOD (biochemical oxygen demand) defines the amount of oxygen demanded by bacterial action, at a certain temperature, over a specific time period (5 days for BOD<sub>5</sub>) to biodegrade the organic matter present in a water (oxygen uptake by micro-organisms). High biochemical oxygen demand indicates intense biodegradation of organic matter, and may highlight the presence of organic pollution. It is therefore an indirect measure of pollution levels. Its value is expressed in mg/l.

### **Bond**

A listed financial instrument of indebtedness issued by a company. These are long-term loans: investors are guaranteed the right to annual interest payments at a fixed rate, with return of the capital on a set date.

### **Services Charter**

A Services Charter is a document that any entity that supplies a public service uses to outline its performance standards, declaring its goals and recognizing specific rights to the public/users/consumers, and therefore to pledge to respect specific levels of quality and quantity, with the intention of monitoring and improving its supply and management methods. It was set by law 273/95, which stated that all suppliers of public services must adopt their own Services Charters on the basis of the general guidelines issued for specific sectors.

### **CCGT**

A Combined Cycle Gas Turbine is an electricity generation plant that functions thanks to the combined presence of a gas turbine and a steam turbine. CCGT technology is one of the most advanced available today and provides high performance and greater environmental compatibility.

### **Green certificates (GC)**

GCs offer incentives to generate electricity from renewable sources. As required by law 244/07, GCs are issued by the Energy Services Manager (ESM) and concerns the production of electricity from renewable sources of the previous year or the production expected during the current year or during the following year. They represent 1 MWh of electricity. Each individual producer or importer must feed into the grid for 2012 a 7.55% share of electricity produced by renewable sources: this quota decreases linearly starting in 2013 and reaches zero in the year 2015. The requirement can also be satisfied by purchasing GCs from other parties.

### **CIPE**

Interministerial Committee for Economic Planning, responsible for laying down the framework for economic and financial policies.

## **COD**

The term COD (chemical oxygen demand) refers to the amount of oxygen required for the complete oxidation of organic and inorganic compounds present in a water sample. Thus, this is an index for measuring the degree of pollution, mainly organic, in the water from substances which can be oxidized. It is expressed in mg/l.

## **Code of Ethics**

Document setting forth a number of principles and specifying conduct, commitments and ethical responsibilities to be put into practice by members of the Board of Directors, staff and collaborators of the company.

The Code may be described as a "Constitutional Charter" of a company, a charter of moral rights and duties that establishes the ethical and social responsibilities of all those who work within the organization.

## **Cogeneration**

Simultaneous production of electricity and thermal energy (in the form of steam).

## **Composting**

Aerobic treatment (in the presence of oxygen) of biodegradable organic waste, whose final product is compost, a soil improver, which can be used in vegetable cultivation.

## **Social cooperatives**

Cooperatives regulated by Law no. 381 of 8 November 1991. This law breaks these cooperatives down into two types:

- type A = cooperatives providing social, health and educational services;
- type B = cooperatives operational within the production and labour sectors which have, among their members, a level of at least 30% who are differently-abled or otherwise face hardship.

## **Corporate governance**

The set of processes, policies, practices, laws and institutions which influence how a company is managed and controlled. Corporate Governance also covers the relations between the various players involved (stakeholders, those who have a vested interest of any type in the company).

## **Warning**

A warning is a deed issued by the Public Administration and/or supervisory bodies in cases where, in exercising their inspection and control activities, they detect existing or possible future deviations from regulations and provisions of national and regional law: the warning sets a term by which breaches must be eliminated.

## **Dispatching (electricity sector)**

Activities that provide instructions for the coordinated use and operation of production plants, of the transmission grid and of auxiliary services (Bersani Decree).

## **Dispatching (gas sector)**

Activities that provide instructions for the coordinated use and operation of extraction and storage plants, the transport and distribution network and auxiliary services (Letta Decree).

## **EMAS**

EU Regulation no. 761/2001 which requires businesses to implement environmental management systems based on policies, programmes, procedures and objectives aimed at improving the environment, and to publish an Environmental Statement, to be validated by the Ecoaudit Committee.

## **Primary energy**

Primary energy is the energy potential presented by energy carriers in their natural form, for example oil, methane, coal, natural uranium, water and other renewable energy sources. In the majority of the cases, the primary energy must be transformed into secondary energy in electricity power stations, refineries, etc.

## **Enterprise Value (EV)**

Expresses the overall value of a company as the sum of its market capitalization and its net debt. When comparing a company's value compared to others of the same industry the Enterprise Value is in relation to economic indicators such as EBITDA and EBIT. Higher EV/EBITDA or EV/EBIT ratios mean higher value of one company over another.

## **Focus group**

A surveying technique based on discussions between members of a group of persons. The main aim is to conduct an in-depth study of a specific issue in relation to given targets. Interaction between focus group members provides the basis for the surveying action.

#### **Ethical funds**

This term is used to describe mutual investment funds whose choice of shares, bonds and government securities is inspired by ethical selection criteria. These parameters are defined as exclusion/inclusion.

#### **Renewable energy sources**

Renewable energy sources are: wind, solar, geothermal, wave motion, tidal, hydraulic, biomass, landfill gas, treatment process gas and biogas. Biomass means the biodegradable part of products, waste and residues generated by farming (including vegetable and animal substances), forestry and associated industries, as well as the biodegradable part of industrial and municipal waste.

#### **Greenhouse gases**

These gases are transparent with respect to solar radiation, and prevent the dispersion of heat from the Earth, thus leading to the overheating of the atmosphere. Over and above greenhouse gases of natural origin, the main greenhouse gases produced by mankind are carbon dioxide, methane, chlorofluorocarbons and nitrogen oxides.

#### **Geothermics**

The science that studies the internal energy of the Earth and its practical applications as an energy source.

#### **IAFR**

IAFR ("Plant Fuelled by Renewable Sources") qualification is a prerequisite to obtain some of the most important incentives to generate electricity from renewable sources (issue of Green Certificates and access to the All-inclusive feed-in tariff). The Energy Services Manager has the task of qualifying production plants fuelled by renewable sources once possession of the necessary requisites has been verified. IAFR qualification can be attained both by plants that are already operational and plants that are at the planning stage at the time of the request.

#### **KPI**

Key Performance Indicators are specific indicators selected on the basis of corporate information needs. They are used to carry out corporate monitoring. KPIs may be financial, production-oriented, commercial, environmental or social in nature, or may regard multiple aspects.

#### **Transportation management**

Refers to an internal corporate department in charge of managing staff commuting.

#### **Nm<sup>3</sup>**

Normal cubic metre, volume of gas at 0 °C and 0.1 MPa.

#### **OHSAS 18001: 2007**

The OHSAS 18001 (Occupational Health & Safety Assessment Series) standard is an internationally recognized benchmark for the certification of workplace health and safety management systems.

#### **Nitrogen oxides**

Nitrogen oxides (mainly NO and NO<sub>2</sub>), are gases produced by the combustion of fossil materials. Nitrogen oxides contribute to the formation of ozone in the lower atmosphere and acid rain.

#### **PCB (polychlorinated biphenyls)**

Highly toxic organic compounds used in a wide range of applications e.g. as fluids for capacitors and transformers. When managing and disposing of them careful attention must be paid to ensure they are not released into the environment, in accordance with laws in force.

#### **Leachate**

The substance resulting from water and other liquid mixtures filtering through waste.

#### **PM<sub>10</sub>**

Particulate matter of a diameter of less than 10 microns generated by a broad range of natural and man-made. PM<sub>10</sub> includes a diverse variety of solid or liquid particles that tend to remain suspended in the air, due to their small size.

#### **Heat pump**

A device capable of transferring heat from a body at a lower temperature to a body at a higher temperature, using electricity.

### **Waste**

Legislative Decree 22/1997 defines waste as “any substance or object which the holder discards or intends or is required to discard”. This decree classifies waste based on its origin, as urban or special, and, according to the level of hazardousness, as hazardous or non-hazardous.

### **SA8000**

International certification standard regarding respect for human rights, respect for workers’ rights, safeguards against exploitation of minors, and guarantees with respect to workplace health and safety conditions.

### **Default service**

The default service is activated by the distributor responsible for the area when under certain circumstances, a customer has no supplier but is still connected to the network and can therefore continue to draw off gas. In such cases the provision of gas is assigned to a specific vendor selected by the Single Purchaser (Acquirente Unico) by means of a tendering process.

### **TSS**

The term TSS (total suspended solids), which are the cause of the turbidity of liquids, means the total of suspended solids and filterable solids. This represents the total amount of substances present in the sample following drying, at 105°C. Its value is expressed in mg/l.

### **Stakeholders**

Stakeholders are persons with vested interests. They may or may not belong to the company of which they are a stakeholder, and they may have a bearing on the decisions, conduct or success of a company.

### **Subsidence**

Sinking of the soil caused by the lowering of the underground water table, in turn caused by withdrawal of groundwater at a faster rate than the natural recharging time.

### **Sustainable development**

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Report, World Commission for Economic Development, 1987).

### **District heating**

Remote distribution of heat generated by thermoelectric power stations, cogeneration plants or waste-to-energy plants using an energy carrier (hot water, superheated water, or steam).

### **Toe**

Tonne of oil equivalent. The conventional unit of measurement of sources of energy defined as 10,000 Mcal, the amount of energy released by burning one tonne of crude oil.

### **Waste-to-energy plant**

A plant that uses waste as a fuel to produce heat or energy.

### **Primary treatment**

Aims to remove mainly organic TSS (Total Suspended Solids) from the in-flowing liquid waste. The process can be facilitated by using special flocculants that increase the degree of aggregation of the particles and therefore their sedimentation.

### **Secondary treatment**

Aims to remove biodegradable organic matter and remove solids in colloidal form, non-sedimentable and, therefore, not separable by physical treatments.

### **Tertiary treatment**

Aims to improve treatment by reducing the load of nutrients (phosphorus and nitrogen) in the secondary effluent. In some cases tertiary treatment eliminates poorly biodegradable substances that have not been eliminated by the bacterial treatment.

**Turboexpander**

Machine that transforms a given kind of energy (e.g. potential energy) into mechanical energy, made available for use via a rotating shaft. The resulting energy may in turn be used to produce other energy (e.g. by coupling an alternator to the turbine to enable the alternator to use the mechanical energy to generate electricity).

**EN ISO 9001:2008**

International technical standard for the certification of quality management systems.

**EN ISO 14001: 2004**

International technical standard for the certification of environmental management systems.