

# HERA

## 2016 Sustainability report



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## A year of sustainability

### Letter to stakeholders

#### *Our 2016 Sustainability Report... embraces shared value*

The **positive results** in the area of economic, social and environmental **sustainability**, which are detailed once more this year in our 2016 report, stem from the continued commitment and strong determination which guide our daily activities and which we convey every year also when preparing this document.

We have written the report by keeping in mind the people who will read it. Our aim is to meet the knowledge expectations of all our stakeholders and to make our **objectives** and **results** accessible, in full **transparency**, with a view to building the trust we need.

Our search for continuous improvement has allowed us to improve the 2016 Report and to detail the first tangible results of a process that started during the year and that identifies Hera's approach to **creating shared value** (Creating Shared Value, Csv).

#### *Our approach to sustainability combining continuity and new ideas*

Sustainability is a key priority for Hera's strategy and our approach, ever since its establishment, has been geared towards integrating sustainability in our planning and control systems. This takes place mainly through:

- the annual update of the business plan, featuring five strategic drivers: growth, excellence, efficiency, innovation, and agility. Sustainability, in its various spheres, is cross-cutting and is one of the goals we must pursue and use to develop our business position;
- the implementation of a balanced scorecard system associated with a **bonus system involving all management** (sustainability objectives accounted averagely for 22% of the variable remuneration of managers in 2016);
- the continuous improvement of the Group's accountability profile, as evidenced by this Report that has been **approved together** with the financial report since 2007 (in other words, 10 years ahead compared to the obligations provided for by recent regulations), and by the **theme-specific sustainability reports** introduced in 2009 and which last year were enhanced with a new report dedicated to customers and local communities.

Our approach includes two further aspects:

- great attention to systems of values, which was confirmed in 2016 with the **third update of the Code of Ethics**: The Code was updated with a participatory approach and was completed on 14 February 2017 with its approval by the Board of Directors;
- strengthening of the governance system and management of business risks, according to a renewed integrated system for **enterprise risk management**, with a view to maintaining operations and to ensuring safety.

Furthermore, the path taken in 2016 allowed us to outline the "Hera approach" to creating shared value, inspired by the indications provided by Porter and Kramer in 2011 and by the EU's new communication on CSR. We have identified **our own**

**definition of Csv** which is able to steer the way we approach CSR and which will further enhance the Group's sustainability reporting with new views and perspectives, some of which already anticipated in this Report.

*“Calls to action” for change and our response*

The **2030 UN Agenda** with its 17 goals for sustainable development is a relevant framework for businesses that are called to “adopt sustainable practices and to integrate sustainability information into their periodic reports”. The UN Agenda strengthens the provisions of the UN Global Compact, which the Hera Group joined in 2004.

The future scenario also features a wide range of European, national and local policies that have been introduced over the past years and represent “calls to action” for change: a **major break** with the past and, at the same time, an opportunity and a challenge for the business world.

Aware of this, we started a process to integrate our approach to CSR with CSV, considering it as a useful development for inspiring our way of doing business.

For the first time in this report, and among the first companies at European level, we have been able to quantify the share of EBITDA generated by activities that respond to the **priorities of the “Global Agenda”** and, therefore, that effectively contribute to the sustainable development of the area we serve: this figure amounted to around Euro 300 million in 2016, 33% of the total. We have thereby defined a new and innovative way of reporting to our stakeholders how the Hera Group has contributed to sustainability.

In the future, we will be able to increase our contribution by expanding the already wide range of responses to the “calls to action” which we have summarised in three areas: smart use of energy, efficient use of resources, and innovation and contribution to development.

*Hera supports the smart use of energy*

The key commitment that the Group assigned to **energy efficiency** continued in 2016 thanks to ISO 50001 certification achieved by seven Group companies. The target set to **reduce energy consumption** by 3% will be exceeded and will be raised to 5% in 2020. Many energy efficiency initiatives were carried out with client companies/partners, to whom the Group offers its know-how. Even the new commercial offers, launched in 2016 for domestic customers, are moving in this direction, providing tools to reduce consumption.

Our contribution to combating climate change has improved, following the decision in 2017 to use only **energy from renewable sources** for all activities managed in Emilia-Romagna. Extension to the remaining local areas is expected within the very near future. In 2016, the **carbon footprint** of energy production fell by 10% and is expected to further drop in 2020, also as a result of a new plant that will produce biomethane from the organic waste collected throughout our local areas.

*Hera supports the efficient use of resources*

With regard to this issue, this report also shows the positive results achieved in the waste management field, thus paving the way traced by Europe in the field of **circular economy**. In particular, the use of landfills for the disposal of municipal waste dropped further settling at 7.6% (already less than the level set by Europe for 2030). Hera is also several years ahead in achieving two European targets

regarding recycling, especially packaging recycling, for which the area served by Hera is at the same level of best performing European countries.

With regard to industrial waste, we are committed to integrating our commercial offers with solutions certifying the procedures used: the aim is to increase recovery rates, by seizing the opportunities presented by the recent acquisition of Aliplast, a leader in the recycling of plastics (especially polyolefin and Pet).

With regard to the **sustainable management of water resources**, the main investments aimed at reorganising the sewerage-treatment system of Rimini (5 out of the 11 measures carried out in the Seawater Protection Plan have already been completed), carrying out work to adapt the treatment plant of Servola in Trieste (the plant is scheduled to be launched in 2017) and completing the measures to improve the effectiveness of four major treatment plants.

#### *Hera supports the innovation and the sustainable development of the local area*

Innovation is one of the five strategic drivers of the Group's Business Plan. For the first time, our report provides an overview of the many projects we implemented and those that are in progress. Among the most interesting in 2016, is the extension of Hergo Ambiente to Triveneto and Marche, which will allow fully computerised management of waste collection in these areas also.

Hera tangibly helped the sustainable development of the local area in 2016 also with a significant economic contribution in terms of **value generated and distributed to stakeholders**, amounting to Euro 1.6 billion, a third of which allocated to suppliers, generating an indirect employment of roughly 4,500 individuals. The hiring of approximately 740 individuals through social cooperatives, the employment of 226 individuals and the joint school-work experience project, which involved 180 students, complete, although not fully, the picture of Hera's commitment towards some of our local area's priorities.

#### *The attention we pay to the people who work for Hera, to our customers and to the supply chain form the basis of the way we do business*

We are aware that our new approach to sustainability is a major challenge for our company, which requires meticulous attention to our workers from whom we expect **full sharing** and **strong motivation**. This is the reason why, once again in 2016, workplace safety, training and professional development, internal climate and corporate welfare were areas of great commitment. The results achieved and detailed in this Report are of outstanding quality and show a general improvement.

**Our customers' satisfaction** - which continued to express high levels in 2016 - is also key to everything we do, together with the attention we pay to the supply chain. Last year also, we continued to privilege the **most economically advantageous bid** method (around ten years ahead of recent legislation), through which we will continue to promote our approach to sustainability.

A year full of important results that were long desired, searched for and consistently achieved has thus come to an end. The new approaches and challenges that we set ourselves, within a perspective of ongoing improvement and enhancement, stem from a constant search for new projects and initiatives designed to achieve lasting growth capable of sustaining corporate value and resulting social value.

**Tomaso Tommasi di Vignano**  
*Executive Chairman*

**Stefano Venier**  
*Managing Director*



## Strategy, sustainability and value

### About us

*A Group that provides energy, water and environmental services to over four million citizens in 357 municipalities. There are over 2.1 million customers spread across northern and central Italy. Customers with at least one service (included among water service and sale of gas and electricity) amount to around 2,142 thousand. Gas and free-market electricity customers increased reaching 51% and 72% of the total, respectively.*

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 357 municipalities spread over 5 Italian regions (Emilia Romagna, Veneto, Friuli Venezia Giulia, Marche and Tuscany), where around 4.4 million citizens live.

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 2016, the Hera Group completed two major corporate acquisitions in the sector of the sale of gas and electricity in Abruzzo. It acquired Julia Servizi Più, which serves around 14,700 customers spread throughout the province of Teramo, and Gran Sasso S.r.l., which serves roughly 18,000 gas and electricity customers spread throughout the areas of L'Aquila, Pescara and Chieti.

At the start of 2017, it completed two important corporate acquisitions in the waste treatment and recovery sector, including both municipal and industrial waste: Aliplast and Teseco.

The Aliplast Group of Istrana di Treviso is a leading company in Italy that deals with plastic waste collection, recycling and regeneration (especially polyolefins and PET). The Aliplast Group processes over 80,000 tonnes of plastic materials every year, with a turnover of more than Euro 100 million in 2016.

The plant sector of Teseco, a Pisa-based company dealing with industrial waste treatment and recovery was acquired by Herambiente through the subsidiary Waste Recycling. Teseco's plants allow Herambiente to enlarge its set of plants and increase the industrial waste treatment services it offers to medium- and large-sized companies.

### Main awards in 2016

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

- Top Employers 2017
- Company to watch 2016 awarded by the Cerved Group (IT company that manages the databases of the Italian Chambers of Commerce) with regard to the Databank analysis and in the integrated water service sector
- Oscar di bilancio (Financial Report Oscars), finalist in the large companies category
- Webranking 2016, 2nd place
- Project energy efficiency award from Cesef (Italian Centre of Economy and Management Studies for Energy Efficiency) for a high energy efficiency project in a chemical plant in Livorno
- Marisa Bellisario Award, Mela d'Oro (Golden Apple) in the "women-friendly company" category
- Online Talent Communication, 6th place

### 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.

2015 data

### Inrete and Heratech: a new beginning!

Inrete Distribuzione Energia Spa was established on 1 July 2016, a company dealing with the distribution of electricity and methane in compliance with regulations regarding functional separation (for companies operating in the electricity and gas sectors pursuant to Authority regulation 296/2015), and to which Hera transferred its corporate branch called network distribution.

Heratech Srl was established on 10 November 2016. The company carries out integrated engineering design services as well as technical and commercial services for customers. Subsequently, from 1 January 2017, Hera contributed its Engineering Department and Customer Technical Department branches pertaining to the above activities to the company. Again, from 1 January 2017, as part of a corporate transaction which involved Heratech Srl, AcegasApsAmga Spa sold its corporate branch Laboratori di Analisi based in Padua (Pd) and Trieste (Ts) to the latter.

### 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: 0.9 million District heating: 11.9 thousand	Water: 1.5 million	
Municipalities served	Gas distribution: 263 Electricity distribution: 26 District heating: 16 Public lighting: 151	Water system: 237 Sewerage and purification: 239	Waste collection: 188
Residents served	3.5 million	3.6 million	3.3 million
Volumes	Gas sold: 3.9 billion cubic metres Electricity sold: 9.6 TWh	Water sold: 300.0 million cubic metres	Waste collected: 2.0 million tons Waste disposed of: 6.9 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	810 thousand (93%)	852 thousand (98%)	698 thousand (80%)	851 thousand (98%)
Ferrara Area	Hera	197 thousand (56%)	251 thousand (71%)	133 thousand (38%)	300 thousand (85%)
Forlì-Cesena Area	Hera	326 thousand (83%)	395 thousand (100%)	395 thousand (100%)	395 thousand (100%)
Imola-Faenza Area	Hera	195 thousand (76%)	257 thousand (100%)	257 thousand (100%)	257 thousand (100%)
Modena Area	Hera	475 thousand (68%)	467 thousand (66%)	495 thousand (71%)	498 thousand (71%)
Padua Area	AcegasApsAmga	327 thousand (35%)	300 thousand (32%)	265 thousand (28%)	417 thousand (44%)
Pesaro-Urbino Area	Marche Multiservizi	246 thousand (60%)	281 thousand (69%)	269 thousand (66%)	328 thousand (81%)
Ravenna Area	Hera	240 thousand (87%)	277 thousand (100%)	277 thousand (100%)	277 thousand (100%)
Rimini Area	Hera	35 thousand (10%)	335 thousand (100%)	318 thousand (95%)	335 thousand (100%)
Trieste Area	AcegasApsAmga	222 thousand (94%)	235 thousand (100%)	204 thousand (87%)	235 thousand (100%)
Udine, Gorizia and Pordenone Area	AcegasApsAmga	497 thousand (72%)	-	-	497 thousand (72%)
<b>Hera Group</b>		<b>3.5 million (65%), 267 municipalities</b>	<b>3.6 million (77%), 239 municipalities</b>	<b>3.3 million (69%), 188 municipalities</b>	<b>4.4 million, 357 municipalities</b>

Number of municipalities, residents and percentage of total residents in the province or the local area (as at 1 January 2016, 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.”

### Charter of 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 revised 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 concurrently with 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**.

#### **Integrating sustainability in the Group strategy**

Hera's strategy for the coming years continues to be geared towards sustainability in its various forms (economic, environmental and social) and based on the multi-business model that so far has proved successful in addressing the challenges of the industry.

Based on these solid references, key financial indicators have continued to improve: an EBITDA of Euro 1,080 million is expected to be achieved in 2020, an increase of about Euro 200 million compared to the total in 2015, and a debt-EBITDA ratio which will settle at 2.8 times (3 times in 2015).

The 2016-2020 Business Plan, in continuity with the past, is built around four strategic pillars (innovation, efficiency, growth and excellence) to which the pillar of agility has been added, an ability that is required to cope with an ever more dynamic and constantly evolving external context. The utility sector, in fact, is increasingly characterised by significant discontinuity (both regulatory and technological), by major competitive pressure and by an uncertain and unpredictable macroeconomic scenario. The Group particularly intends to apply the concept of agility in the organisation of its activities and in the daily cooperation between its organisational units.

As regards the more traditional pillars, innovation has become a cornerstone of Hera's strategy and is starting to have a truly tangible presence in the projects

included in the Business Plan. Within the Group, innovation is applied at operational level through the digitalisation of processes and the dissemination of data analytics, as well as through the development of new business models and new technological paradigms.

Efficiency and growth have always been essential keystones for the Group's balanced and sustainable development - which is evenly weighed among the various sectors - and in terms of division between internal growth and growth by external lines. As usual, it is expected that mergers involve entities having industrial, financial and equity characteristics similar to those of Hera, so as to ensure full integration that is able to enhance the existing synergies. These synergies, together with actions that draw out efficiency, steer the Group's organic growth. The Plan launches key efficiency goals (further Euro 80 million of efficiency solutions are envisaged in 2020 compared to roughly Euro 45 million reported in 2015) which mainly draw on the rationalisation of resources and on operational and plant optimisation.

Lastly, orientation to excellence is confirmed as a strategic pillar, which is necessary to meet the expectations of increasingly demanding customers who are capable of comparing service levels with those of competitors.

The 2016-2020 Business Plan was also built to respond in a consistent and substantial way to new business trends that are emerging in the field: circular economy, customer experience and industry 4.0.

With particular reference to the topic of circular economy, the Group - which has always been attentive to sustainability and shared value - already in 2020 will have reached the key goals set by the European Union ahead of schedule, as outlined in the following chapter Environment and future generations.

The achievement of the key goals set out in the plan is of course also based on a major investment plan: between 2016 and 2020, the Group will make a financial commitment of almost Euro 2.5 billion, to be used mainly for the Group's relevant areas.

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

The new 2030 Agenda for sustainable development ratified at the UN summit in September 2015 by 193 countries includes 17 goals regarding sustainable development, regarded as the continuation of the millennium development goals, already defined in 2000 by the United Nations. The partial achievement of these goals 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, and gender equality. Innovation and sustainable consumption and production are also among the topics included. Many of the projects set up by Hera comply with these goals; the table in the appendix provides an overview of the goals for our stakeholders contained in this report, which represent Hera's contribution to achieving the 10 goals of the 2030 UN Agenda.

Hera's contribution is predominant in 5 goals: sustainable cities and communities, responsible consumption and production, climate actions, decent work and economic growth, and industry, innovation and infrastructure.

Goal	Customers	Workers	Environment and future generations	Suppliers	Total
4. Quality education		5	1		6
5. Gender equality		3			3
6. Clean water and sanitation			4		4
7. Affordable and clean energy	2		6		8
8. Decent work and economic growth		10		6	16
9. Industry, innovation and infrastructure	8	3	4		15
11. Sustainable cities and communities	15	1	10		26
12. Responsible consumption and production	3		10	6	19
13. Climate actions	3		13		16
14. Life below water			3		3

### 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 2016 budget process, **29 priority projects** were defined to achieve the **32 strategic objectives** for the purpose of increasing the company’s long-term value. The priority projects were assigned to members of the Management Review Committee.

All of the projects planned within the 2016 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;
- highlighting and analysis of situations that are critical for achieving the objectives that have been set and the definition of speedy corrective actions.

The strategic objectives which have the greatest impact on sustainability are:

- **Reduction of environmental impacts and circular economy**

Minimising the direct and indirect environmental impact of corporate activities to safeguard the natural environment on behalf of future generations.

Reducing the use of environmental resources by increasing electricity and thermal energy production from renewable sources and similar sources by 17% within 2020 with respect to 2016, and by increasing electricity and thermal energy production from renewable sources by 8%. Further decreasing the disposal of urban waste in landfills (6% in 2020), developing separate waste collection (66% in 2020 at Group level and 67% for Hera SpA), with a 14% increase in separate waste collection per capita at Group level, and reaching 74% packaging recycling rate and 57% overall recycling rate in 2020.

Progressing with initiatives of efficient energy consumption with regard to plants, facilities (achieving 5% consumption saving within 2020) and vehicles (23% of vehicles with reduced environmental impact for the Hera Group in 2020), and containment of water network losses. Progressing with the plan to modernise the Group's treatment plants, in compliance with the investments forecast in the area plans and implementing integration with the material/energy recovery systems.

Testing new targeted partnerships with industrial parties in order to develop virtuous circular economy solutions.

- **Increasing service quality and safety**

Investing to achieve new excellence standards in service quality and in relations with customers to acquire a competitive advantage, also in view of the calls for tenders for the assignment of regulated services.

Maintaining high levels of compliance with commercial quality standards for gas and electricity services, and the standards set forth in the Service Charters for water services and district heating (reaching 98.5% in 2020 for all services).



Guaranteeing to reach in 2020 average call centre waiting times of 40 seconds for residential customers and 28 seconds for business customers and average branch waiting times of 11 minutes, gradually aligning the new areas (and future M&As) to the Group's standards.

Guaranteeing gas service and electricity safety by maintaining a positive gap between Hera service levels and regulatory requirements.

Completing network modelling, especially with regard to the water system. Continuing the roll-out plan for the Group's electronic gas meters.

- **Playing a leading role for the sustainable development of the local area**

Enhancing, reporting and communicating Hera's contribution to the sustainable development of the local area and to the creation of shared value also with regard to other geographical areas.

Ensuring the sustainability of the services provided in the area by making overall Group investments during the 2016-2020 period totalling around Euro 2.5 billion: over Euro 1.7 billion in the networks sector and around Euro 550 million in the waste management sector.

Regarding network investments, developing specific, innovative smart city sustainability projects (smart water modelling, smart gas metering, smart towers and totems).

Enhancing waste management sustainability with regard to sewage and purification, also with the large Rimini and Trieste projects.

- **Workplace prevention and safety**

Preventing and reducing occupational health and safety risks by implementing management systems, performing training, and involving and raising awareness in employees on workplace safety objectives and goals.

Endeavouring to further reduce accident indices (reduction of accident index by a 10% yearly average within 2020).

Improving the monitoring and management of measures for protecting workplace health and safety also by fully using the new prevention and protection information system.

Maintaining a level of excellence when selecting suppliers and increasing the importance of supplies from certified suppliers that pay close attention to the prevention of occupational accidents (monitoring of trend in accidents by at least 70% of suppliers in terms of value commissioned).

- **Dialogue with stakeholders and the local area**

Strengthening stakeholder dialogue initiatives by ensuring transparent, timely and innovative communication of results also through new models/tools for representation/reporting.

Consolidating and promoting the model of a socially responsible business capable of reaching a balance between different interests, in order to improve competitiveness over the long term and create shared values in the local areas. Fine-tuning Hera's approach to "shared value" in 2017 and, within the plan's timeframe, to integrated reporting.

Promoting Hera's contributions to economic, social and environmental development for the local area and for stakeholders, including through specific consultation activities and dialogue with stakeholders.

Innovating sustainability reporting also by reviewing the theme-specific sustainability reports and by further expanding the scope of reporting. Implementing the new HeraLAB model on the basis of the three-year trial results and extending it to AcegasApsAmga.

- **Involvement of workers**

Implementing systematic instruments for listening and dialogue with the workforce and adopting the consequent corrective actions (biennial internal climate surveys and improvement plan, top-down communication, meetings between Top Management and employees, etc.). Further improving the internal communication tools.

Continuing to invest in employee satisfaction through the climate survey (performed every two years) by developing specific maintenance and improvement actions geared towards full integration with AcegasApsAmga and Marche Multiservizi.

Maintaining the positive internal climate index trend, reaching an ESI of 64 in 2019.

Promoting involvement in the Group's welfare system (Hextra), if necessary by adjusting the planned initiatives with a view to continuous improvement. Promoting, through communication initiatives, a mutual employee/company approach geared towards productivity in order to encourage the development of a widespread welfare culture.

- **Career advancement and efficient use of skills and know-how**

Maintaining the excellence levels reached during the learning processes in order to support innovation and the development of new managerial skills also by drawing on the evolution of smart and social tools.

Sharing and building distinctive knowledge by strengthening Corporate University activities (development of professional Academies), enhancing new Apprenticeship Communities and consolidating the Hera Educational joint school-work experience system.

In line with the new Leadership Model, promoting the acquisition of managerial skills necessary to address an ever-evolving competitive context and the Group's strategic challenges. Continuing with the resource enhancement projects and creating a widespread culture aimed at developing a cooperative management model for the transversal sharing of priorities and the availability of resources/skills.

Improving coaching initiatives and increasing job rotation as a tool for the strategic development of resources in the Group, the capitalisation of skills and the integration of the various business sectors.

Giving continuity, in accordance with the new Development process, to the implementation of individual itineraries by clusters of employees, promoting "dialogue on performance" and awarding "task oriented" behaviour.

Increasingly make the Group's approach to optimising diversity, inclusion, respect for equal opportunities and work-life balance also with a view to smart working, an ever more concrete reality.

- **Alignment with the code of ethics principles**

Ensuring the constant diffusion of the company Charter of Values and Code of Ethics in the 2016 updated version at the end of the third three-year period of implementation. Monitoring their compliance through the full implementation of the activation system defined by the Board of Directors.

- **Group identity and corporate culture**

Disseminating corporate values and culture with the aim of increasing the sense of belonging of the entire workforce.

Ensuring dissemination of the contents of the Charter of Values and the Code of Ethics (including its implementation system) after changes in the scope (acquisitions, integrations, etc.) also by performing training activities for the workforce with special reference to newly hired employees and managers.

Promoting the contents of the new Leadership Model updated in 2016 and integrated with the performance assessment system which favours alignment between the corporate behaviours and culture.

Developing and promoting a culture on the relationship between welfare and productivity and on process optimisation through the adoption of digital technologies.

- **Promotion of QSE, energy and social responsibility policy**

Promoting within the Group the development of an integrated and certified management system, disseminating a culture of respect for and enactment of QSE, energy and social responsibility policy commitments.

Endeavouring to maintain the certifications obtained in order to minimise risks and increase the company's competitive position (with particular reference to ISA 9001, ISO 14001, OHSAS 18001 and ISO 50001). Adapting the integrated certification system to the new ISO standards published in September 2015 for quality management systems and environmental management systems.

Improving working conditions continuously and promoting the adoption of conduct consistent with SA 8000 requirements by all the companies working for the Group.

The commitments to stakeholders listed in this report ("We shall...") are contained in the Hera balanced scorecard. This guarantees coherence among the various instruments used for managing and achieving the Group strategy (business plan, sustainability report, management reporting, bonus system).

## Sustainability KPIs

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Economic Responsibility</b>										
Value added (in millions of Euro)	817.1	923.8	977.4	1,010.4	1,042.6	1,075.6	1,354.8	1,387.2	1,412.8	1,454.1
Total investments *** (in millions of Euro)	471.8	429.7	429.3	353.9	324.9	289.3	313.5	337.0	335.0	373.3
ROI	7.4%	8.9%	8.1%	8.5%	8.7%	8.2%	8.2%	8.7%	8.6%	8.9%
EBITDA per open ended contract employee (thousands of Euro)	74.2	82.7	87.5	93.6	99.4	101.2	98.6	103.1	105.0	109.5
Total return for shareholders since listing (%)	171.8%	53.0%	70.0%	72.1%	42.3%	59.7%	100.8%	125.2%	171.7%	158.5%
<b>Social Responsibility</b>										
Open-ended contract employees (average annual % of total workforce)	92.7%	93.7%	95.0%	95.8%	96.2%	97.0%	96.6%	97.0%	96.9%	97.0%
Training hours (average, per capita)	24.3*	33.2*	23.0*	23.0*	28.1*	27.5*	26.4	28.0	31.4	29.3
Workforce attending at least one training course (%)	92.1%*	97.6%*	93.4%*	96.0%*	95.6%*	97.1%*	97.3%	96.9%	99.3%	98.1%
Accident frequency index (number of accidents/hours worked x 1,000,000)	43.6	42.1	35.1	30.4	25.4	25.5	23.9	22.6	20.6	17.8
Internal climate index (score 0-100)	53*	-	58*	-	64*	-	61*	-	63	-
Index of customer satisfaction for residential customers (score 0-100)	65*	67*	69*	69*	70*	69*	70**	69*	70*	70*
Compliance with AEGSI and Service Charter quality standards (gas, electricity, integrated water service, district heating)	94.8%	95.8%	97.5%	98.6%	98.7%	99.5%	99.3%	99.6%	99.6%	99.8%
Emergency gas services: percentage of calls with intervention within 60 minutes	96.8%	96.5%	96.8%	97.8%	98.9%	98.7%	98.7%	98.3%	97.7%	97.5%
Average call centre response time for residential customers (seconds)	46*	66*	33*	34*	37*	40*	49**	41**	38	40
Average branch operator waiting time (minutes)	20.7*	19.3*	14.6*	14.5*	10.5*	9.9*	13.2	11.9	11.9	12.3
Value of supplies from local suppliers (% of total)	-	66%*	68%*	64%*	65%*	65%*	64%**	66%	68%	69%
Contracts awarded using the economically most advantageous bid (% of total)	-	-	36.0%*	44.6%*	53.0%*	70.2%*	76.1%**	76.5%**	66.5%	63.0%
No. environmental education programme students	36,014	45,617	39,901	41,306	52,017	51,906	65,331	64,255	78,127	96,034
<b>Environmental responsibility</b>										
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%)	27.3%	32.0%	27.6%	25.8%	26.6%	26.0%	29.9%	32.9%	32.5%	31.3%
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%) and similar	51.1%	54.0%	63.1%	67.8%	78.4%	70.1%	68.1%	67.1%	67.8%	68.7%
Waste-to-energy plant emission levels vs. legal limits (real concentrations/legal limits: optimal value <100%)	19.3%	17.1%	13.4%	13.0%	12.0%	11.0%	13.6%	14.4%	14.9%	14.1%
Quality of treated water vs. legal limits (real concentrations/legal limits: optimal value <100%)	-	-	35.5%*	36.1%*	38.3%*	40.8%	40.4%	38.2%	43.7%	42.1%
Intensity index of greenhouse gas emissions (kg/MWh)	-	-	-	-	668*	618*	587**	608**	618*	553*
Non-invoiced water (physical and administrative losses from the domestic water system): cm/km of network/day	8.3*	8.0*	7.9*	7.9	7.7	8.1	10.2	10.0	10.3	-
Separate waste collection	36.0%	42.0%	44.8%	47.8%	50.5%	51.9%	52.6%	54.0%	55.4%	56.6%
Kilos of separate waste collection per capita	250	297	310	340	346	350	343	351	356	367
Portion of urban waste collected for disposal via landfill (% total collected solid waste)	37.3%	36.0%	30.1%	25.0%	23.1%	21.4%	16.4%	13.3%	8.6%	7.6%
Vehicles using low environmental impact fuels (methane, LPG, electric powered) (% of total)	14.0%	15.8%	17.6%	18.4%	19.2%	19.3%	17.1%	18.5%	20.1%	21.0%

Including AcegasApsAmga since 2013 except as expressly stated.

\*Excluding Marche Multiservizi \*\*Excluding Marche Multiservizi and AcegasApsAmga \*\*\*Including Foni (Fondo Nuovi Investimenti) since 2013

## Shared value

*An EBITDA of Euro 300 million generated in 2016 from activities related to the “Global Agenda” priorities*

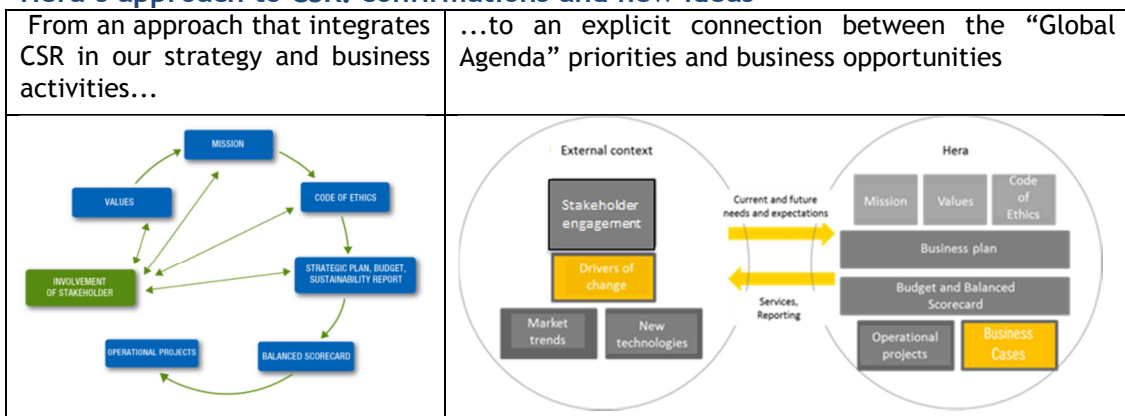
### Our approach to shared value

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.

Hera’s approach to CSV will also be a new source for steering our future strategy in the single businesses managed, a strategy that already fully integrates sustainability aspects, consistently with the goals for sustainable development defined in the 2030 UN Agenda. This long-established 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 CSV-based activities is also reported for the first time.

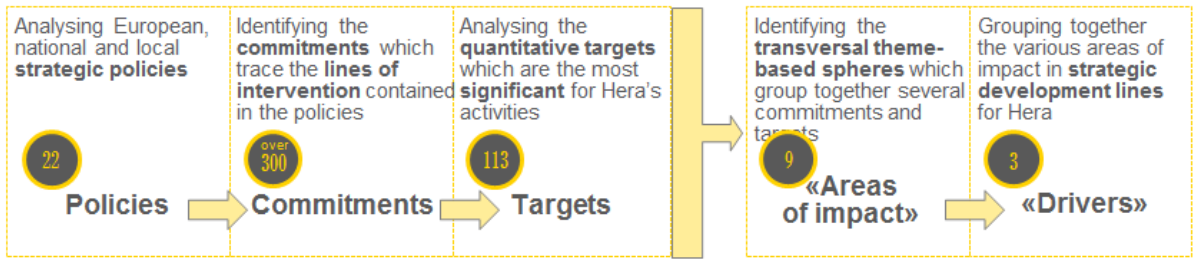
### Hera’s approach to CSR: confirmations and new ideas



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

In 2016, we embarked on a process 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.



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 56 “We shall ...” (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**



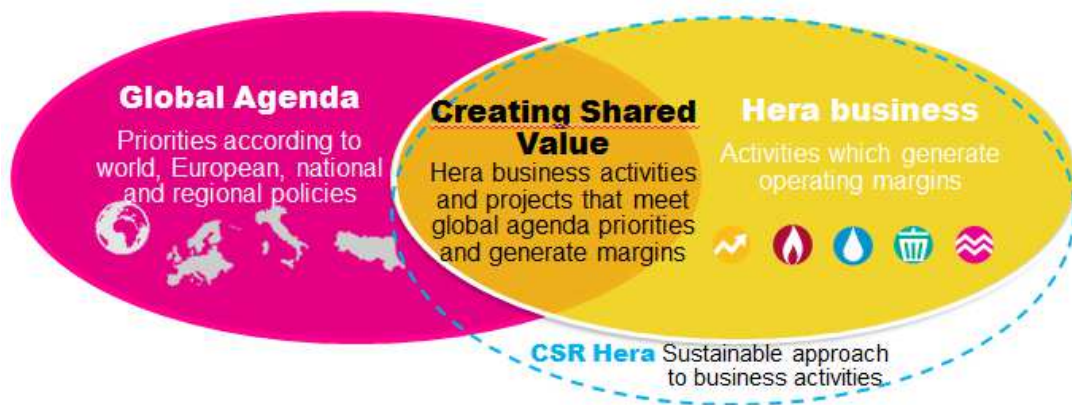
**The relationship between CSR and CSV according to Hera**

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.

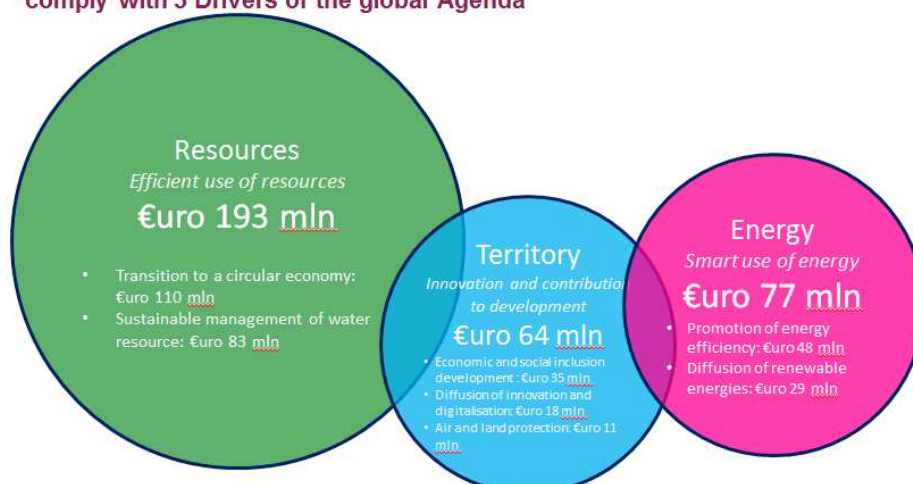


### What does shared value and prospect mean to Hera

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”

**2016 “shared value” Ebitda: the view by Drivers of change**  
€uro 300 million, 33% of total 2016 Ebitda, derives from activities which comply with 3 Drivers of the global Agenda



*The total does not correspond to the sum of the components due to activities which have effects on several Drivers  
Reduction of greenhouse gas emissions: sum of the Diffusion of renewable energies and Promotion of energy efficiency*

The majority of the “shared value” EBITDA generated in 2016 is the result of activities and projects that meet the “calls to action” of the Global Agenda for an “efficient use of resources”. Regarding the “Impact Area”, it is clear that the Group plays a key role in creating value through activities related to circular economy (urban and industrial waste recycling and energy recovery activities, where Hera is the leading national operator, with environmental performances ahead of a decade compared to European goals) and to the sustainable management of water resources (waste water purification with high environmental performances: a priority for the Group also for the years to come).

25% of 2016 “shared value” EBITDA was instead generated from activities belonging to the Global Agenda areas that lead towards a “smart use of energy”. Over 60% of this share of EBITDA comes from initiatives aimed at providing greater energy efficiency, achieved both with commercial offers to domestic customers and companies that integrate specific services in this direction, and with the reduction of internal energy consumption (also obtained through ISO 50001 certification), with particular attention to water services, public lighting and district heating where the Group’s most significant energy consumption is concentrated. The remaining part of EBITDA is generated from the diffusion of renewable energy achieved both through activities for customers (11% have subscribed to the Group offers that guarantee that the electricity they purchase is from renewable sources) and through the production of energy from renewable sources (geothermal energy for district heating and renewable energy from the anaerobic bio-digestion of organic waste, which is expected to increase within 2020 and will soon include a plant for the production of biomethane from organic waste originating from separate waste collection).

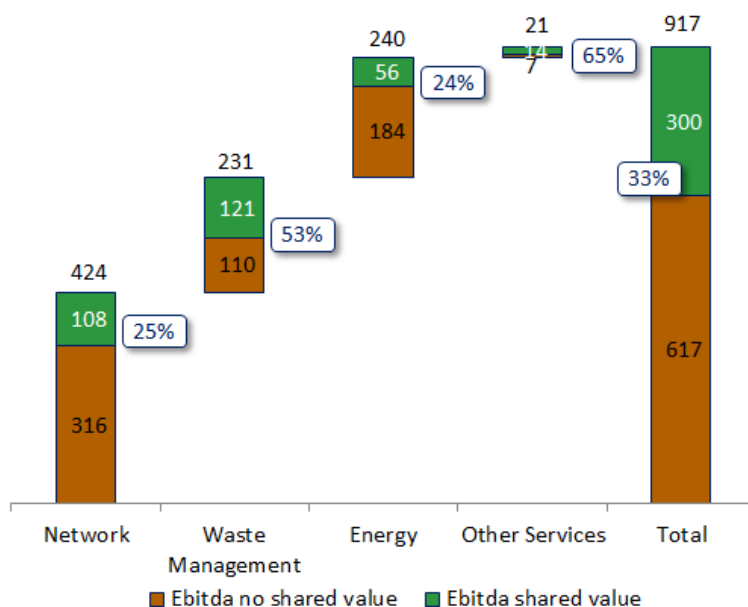
Lastly, Hera generates EBITDA also by adhering to policies that are oriented towards innovation, digitisation and towards inclusive development that is increasingly focused on the environment (with regard to this latter aspect, special attention is given to the quality of air, which is an important issue in our local community). In this context, the company provides innovative telecommunications services through Acantho and is involved in innovative projects regarding the digitisation of operating processes (the main projects are detailed in this Report).



Shared value is also achieved through the employment generated from 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, mainly due to lower welfare costs. Finally, thanks to 21% of vehicles with a lower environmental impact and to its district heating service - where 66% of heat originates from renewable sources and from high efficiency co-generation -, significant environmental benefits are achieved as regards the quality of air.

## 2016 “shared value” Ebitda: the view by sector

**Elevated contribution of the Waste Management sector where 53% of the Ebitda generated is «shared value related»**



## Innovation in 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. To become so, the 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. Progresses, changes and developments can take place both as an evolution and improvement of the current state, both in breakdown or strong discontinuity with respect to the existing one. 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 discontinuance 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 doesn't mean that we should be timid or fearful when acting innovatively but it does require us to carry out detailed preliminary evaluations to minimise the possible waste of resources or unexpected negative impacts.

## Innovation for the Hera Group

Innovation is one of Hera's 5 strategic cornerstones. The Group's model 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. As such, the Group has formed 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 company Acantho), public lighting (managed by Hera Luce) 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 can be summarised as follows:

- **Circular Economy** aimed at environmental sustainability, the optimisation of materials and maximising the recovery of waste and scrap.
- **Customer Experience** aimed at understanding the needs and wishes, expressed and not, of consumers in order to shape actions to improve their level of satisfaction.
- **Utility 4.0** with activities connected with the implementation of new technologies, particularly in the IT field, for the digitalisation and flexibility of processes, the optimisation of data and the efficient use of resources.
- **Smart City** for the introduction of technologies to improve living conditions in the city and the services supplied to the general public.

Below is a summary of the main projects and their action area. For some there is also a brief description in the paragraph, for others please go to the relevant chapters in this Report.

Innovation areas:	Main projects	Current phase of project
Smart city, for the introduction of useful technologies for the technological development of cities	Smart drop-off point	Prototype
	Sensors for environmental quality	Implementation
	Video surveillance of plants	Implementation
	Coordination of excavation works in the city	Implementation
	Operation centre for data integration	Implementation
	City energy map	Implementation

Innovation areas:	Main projects	Current phase of project
Circular economy, related to the environmental sustainability of the Group's actions and projects	Biomethane project (see page 258)	Implementation
	Thermal hydrolysis plant for the recovery of biogas from purification sludge (see page 260)	Conception
	Recovery of anaerobic digestion process for biogas recovery (see page 260)	Design
	Bio-refinery 2.0 (see page 258)	Test
Utility 4.0, connected to the implementation of new IT technologies in business processes	IOSIGHT project for advanced plant monitoring	Implementation
	Electricity grid control with drones	Implementation
	Advanced gas meters (see page 114)	Design
	Smart Hera	Design/implementation
Customer experience, aimed at understanding consumers' needs and wishes	Customer experience project (see page 114)	Implementation

Hera also launched social innovation actions involving both external stakeholders and workers for the purpose of encouraging and boosting innovation in the businesses it manages. The **HeraLAB project**, which is detailed in the Local Community paragraph of this Report, has established 6 local multi-stakeholder committees since 2013 which have the task of proposing initiatives to improve the sustainability of the services offered. Since 2013, 29 initiatives have been organised, the majority of which focusing on innovative waste management services concerning communication, environmental education, waste prevention and action against waste.

Employees were involved through the Heureka project described in the following chapter on workforce.

### Smart city

#### Smart drop-off point

The aim of the project is to gather different services for the city in one point only, with a view to optimising energy, environmental, economic and IT resources. The services provided include urban waste collection with user recognition, 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 project has many innovative aspects and may regard:

- urban quality, by creating a single point that gathers leading city services;
- monitoring of the main environmental parameters to control urban quality;
- security, by way of a video surveillance and video analysis system;

- communication, through hotspot Wi-Fi, data concentrators and other telecommunication equipment;
- sustainable mobility, by developing a city network with charging stations for vehicles and bicycles.

During 2016, the interior prototype was built in order to test the various services. In 2017, the outdoor prototype will be realized and then passed to pre-production.

### **Environmental sensors**

The project stems from the aim to develop a network for monitoring the main parameters that measure the city's environmental quality. 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 oxides, carbon monoxide, carbon dioxide, volatile organic compounds, temperature, humidity and ambient noise. 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 detected and subsequently transmitted data may be viewed in real time and may also be integrated in an operation centre-type system.

At the beginning of 2017, the first 7 control units were installed in the territory of Ferrara. Over the year, monitoring networks will be established for other cities.

### **Video surveillance with video analysis**

The Advanced Water Security project was conceived to implement state-of-the-art video analysis technologies and test them on field. We decided to begin with experimental equipment at two sites where incidents of theft and intrusion had been reported. We decided to install two different technologies in the water system plants of Bologna (Borgo Panigale and San Vitale).

Two fixed thermal and optical camera were installed at Borgo Panigale, which capture synchronous images and start recording in case of any intrusion detected by the thermal camera. A thermal camera and an optical camera were installed at San Vitale, which automatically scan the predefined area corresponding to the two well lines in front of the technical building. Even in this case, the images are acquired synchronously and are recorded, in case of intrusion, by the thermal camera.

Further installations at other critical water service facilities and the extension of service evaluation to other sectors are planned in 2017.

### **Coordination system for excavations related to network businesses**

The Underground Facility Management project regards the application of a business process management system for the integrated management of worksites. The system is a real coordination platform for excavation works carried out by the Group. It will increase the efficiency of works conducted in local areas and reduce the number of excavations, with positive effects on the city traffic and on the environment. The project is based on technologies developed by Consorzio Futuro in Ricerca of Ferrara. These technologies have already been applied to several

Italian and foreign public administrations and will be integrated with the current management systems used.

The system will be implemented in 2017.

### **Operation centre**

The operation centre is an IT platform that integrates various systems such as the smart totem, energy maps, environmental sensors, video analysis and excavation coordination. Other services may be integrated within the platform. The smart city challenge consists not only of installing sensors throughout the area but also of developing integrated data collection and processing systems according to a big data model. The platform provides real-time viewing of the information recorded on-field by the sensors that implement the services, and links them together, creating value added synoptic views.

The tool may be used within the Group as a dashboard for the services managed and may also be used by public administrations as a management and analysis dashboard for the local community and to provide information to the general public.

In 2016, a first simplified dashboard was set up that collects and processes the available data. In 2017, an advanced dashboard for Hera and one dedicated to municipal administrations is planned.

### **City energy maps**

Energy maps are building energy analysis tools that are useful for assessing the historical performance of energy consumption and for carrying out predictive analysis on future performances. These maps link gas, district heating and electricity consumption to water consumption and Tari amounts, in order to extract added value information such as: calculating the building's energy 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 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 pellet. It may also be used by public administrations to gain more detailed knowledge of their local community and to identify any violations of current regulations.

The project was realized for a Modena area and in 2017 it will be extended to all public buildings in Modena. HeraLAB Modena has proposed the use of energy maps to promote virtuous behaviors that generate energy savings (monitoring effects) in the school buildings in the municipality of Modena. The initiative will be implemented in 2017.

### **Utility 4.0**

#### **IOSight project for advanced plant monitoring**

IOSight is a tool that supports plant management; it accompanies the remote control system and further develops its potential. The system integrates remote control data with further information from the plant (size, volume, assets, etc.) and provides an analysis report on the plant's real-time performances. In 2016 the system has already been tested at the purification plant of Pontelagoscuro, in

Ferrara, and produces 10 summary plant operation reports which summarise in one single point the information received from around 400 input signals. The data may be viewed in real time and provides a dashboard in one single point that processes the operating data in aggregate form, thus making it easier to recognise any malfunctions and to monitor the plant's operating costs.

### **Drone-based electricity grid control**

Electricity grids are checked by inspecting the lines visually and identifying any damage to the supports or isolators. This activity, which is usually carried out by mobile technicians who inspect the grid elements with a binocular, was recently integrated with drone-based video inspection. The drones - for which ENAC (Italian Civil Aviation Authority) piloting certification was obtained for 7 employees - fly over the infrastructures and film them to inspect their conditions. This technology also allows grid malfunctions to be quickly identified, especially in particularly difficult weather conditions (for example, if there are large amounts of snow on the ground) and understands how to repair the malfunction once it has been identified. Helicopter flights are also used for the scheduled inspection of overground power lines.

## **Sustainability and risk management**

*A solid governance system, based on statutory procedures*

### **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 14 members elected on the basis of lists. Specifically, they provide that 11 members be selected from a majority list while the remaining 3 members be selected from a minority list. Composition by gender complies with the provisions of Italian Law 120/2011 whereby at least one fifth of members must be women at the first renewal after entry into force of the law and at least one third for subsequent renewals.

A new voting trust and share transfer rules agreement became effective on 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. Another agreement between the Modena public shareholders became effective on 1 July 2015, with the aim of governing the

presentation modalities of the candidates in the majority list proposed by the Modena public shareholders. Furthermore, a consultation agreement was signed by five minority shareholding partners, providing for the appointment of the members of the Board of Directors.

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 eleven times in 2016.

The current Board of Directors, appointed on 23 April 2014, will be renewed during the Shareholders' Meeting for approval of the financial statements as at 31 December 2016. Based on the amendments to the articles of association introduced by the Shareholders' Meeting of 28 April 2015, the number of Board of Director members will be raised from 14 to 15 from the date of renewal, with consequent increase from 3 to 4 in the number of members drawn from the lists presented by the minority shareholders.

Among the 14 members of the Board of Directors of Hera Spa, five directors are aged between 30 and 50, four directors are aged between 50 and 60, and five directors are over 60 years of age.

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*
Chairman	Tomaso Tommasi di Vignano (1)	X		EXEC
Managing Director	Stefano Venier (1)	X		EXEC
Vice Chairman	Giovanni Basile (1)		X	EXEC, REM, CONT
Director	Mara Bernardini (2)		X	REM
	Forte Clò (1)		X	
	Giorgia Gagliardi (1)		X	
	Massimo Giusti (2)		X	CONT, ET
	Riccardo Illy (1)		X	EXEC
	Luca Mandrioli (1)		X	REM
	Danilo Manfredi (1)		X	CONT
			X	
	Cesare Pillon (1)		(indep. as per Consolidated Law on Finance) since 20-4-2016	REM
	Tiziana Primori (1)		X	
	Stefano Manara (1)		X	CONT
	Bruno Tani (2)		X	

\* EXEC: Executive Committee; REM: Remuneration Committee; CONT: Control and Risks Committee; ET: Ethics Committee

(1) Appointed by the Shareholders' Meeting from lists presented by the majority shareholders

(2) Appointed by the Shareholders' Meeting from lists presented by the minority shareholders

### 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 at the Shareholders' Meeting held on 23 April 2014, will be renewed during the Shareholders' Meeting for approval of the financial statements for the year ended 31 December 2016.

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 with the Municipalities of Padua and Trieste: The Committee was appointed by the Board of Directors on 28 April 2014, pursuant to art. 23.3 of the articles of association. The Executive Committee met six times in 2016.

#### 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 three non-executive independent directors and by a non-executive independent director pursuant to art. 148(3) of the Consolidated Law on Finance: 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 28 April 2014 and met twice in 2016.

#### 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 28 April 2014, the Ethics Committee is composed of an independent director of Hera Spa (Committee Chairman), the Corporate Social Responsibility Director and an external member.

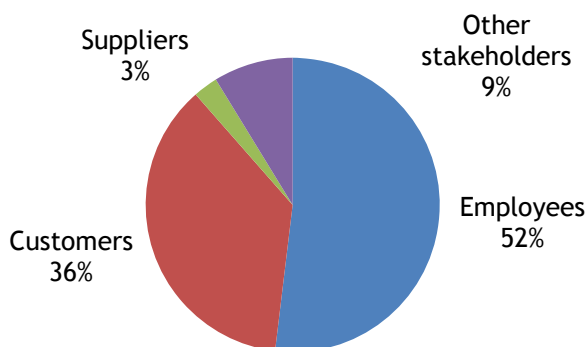
The Committee met six times in 2016.

On 15 February 2017, 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 2016.

#### Ethics Committee activity in 2016

In 2016, the Ethics Committee met six times and examined overall **22 reports**, as in 2015. Seven reports were received from employees, 14 from customers and one from suppliers; the Ethics Committee has examined 182 reports since 2008.

#### 2008-2016 Reports by stakeholder



The 7 reports from employees regarded attention towards internal customers and employees, response times from employees and relationships between colleagues. The Committee promoted solutions for 6 reports by involving the structure of reference and/or fostered cooperation and dialogue between the individuals involved. In the remaining case, it provided a reply clarifying the issues raised. In 2 cases, the Committee submitted recommendations to the departments involved. Customer reports, which rose from 11 in 2015 to 14 in 2016, regarded estimate invoicing, the commercial conduct of sales agencies, response times and/or the time required to carry out the service, and communication that was not always clear and easy to understand. For other 3 cases, recommendations were submitted by the Ethics Committee to the divisions/companies of reference to encourage greater cooperation between the corporate departments, in order to provide a more immediate and satisfying response to customers. In 7 cases, detailed investigations with the divisions of reference led to solving the customers' requests, while in the remaining 7 cases, they led to providing a reply clarifying the company's position.

In 2016, training on the Code of Ethics continued with the ethical game AlphasEthics which involved 127 people. Six training sessions were organised and the satisfaction level of the sessions was appraised, reaching a very positive score: 4.8 out of 5.

### **Risk management**

Hera has adopted an organisational structure designed 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 internal control 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 8 times in 2016.

#### **The Risk Committee**

The Risk Committee was established in March 2011 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 20 January 2016 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 2016.

#### **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. 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 20 January 2016, the first 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 2016 group risk management policy and risk limits. On 15 February 2017, the second enterprise risk management report was submitted to the Board of Directors, with an enlargement of the scope of reference, the risks subject to control and the risk types. The limits for 2017 and the updating of the group risk management policy were approved.

### **Risk analysis for definition of the 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, 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 audit was brought to a close over the course of the year.

With reference to the specific risks related to the topics included within the scope of Italian Legislative Decree no. 231/2001 and identified in the Risk Assessment 231 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.

### **The organisational model for corporate crime prevention**

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, Herambiente, Herambiente Servizi Industriali, Hestambiente, Inrete Distribuzione Energia, Medea, Uniflotte and Waste Recycling. Furthermore, AcegasApsAmga, AcegasAps Service, Singergie and Marche Multiservizi are provided with their own "231 Model". All these companies include 98.2% 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. No cases of corruption arose defined as significant as per the 231 Model.

In 2016, the following protocols were set up: Confidential and privileged information, information security and computer crime prevention; Accounting management for procurement and supply contracts; Environmental work progress management; Management of relations with the electricity, gas and the water system authorities; Recruitment and hiring of personnel and assignment of contract work; Disciplinary system and management of litigation; and, finally, Rules of conduct and of activity management for environmental protection.

The Internal Auditing Department ensures assistance to various corporate functions in drawing up and implementing necessary corrective actions following the audits. It also updates the disclosure version of the Hera Group 231 Model, after which information and widespread diffusion activities are carried out on the corporate intranet.

#### **The nature of risks and their management**

The risks related to the business in which Hera operates and managed from an enterprise risk management perspective are related to the following risk areas 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 2016, further measures were 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. The activities aimed at replacing software with new applications featuring higher security standards continued in 2016, guaranteeing lower ICT risk levels. Significant investments were also made in the systems for monitoring and controlling access to the various plant sites and Group headquarters, to ensure adequate physical security standards and the reduction of risks arising from intrusions, such as possible damage and tampering with facilities.

**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.

Lastly, with regard to operational risks, Hera also transferred the risk externally through optimised use of insurance policies provided by leading international insurance companies. In order to mitigate this risk, the Group adopts prevention and protection systems within each operating sector, including preventive and predictive maintenance aimed at detecting and controlling risks. Furthermore, it manages risks by making use of specific insurance contracts that mitigate the economic consequences of potentially adverse events that could influence the running of its plants and networks. More specifically, in 2016 two important risk management projects came to a close: the first project called critical spares aimed at implementing a system for the strategic management of spare machine parts in order to reduce the risk of interrupting work in case of machine malfunctioning; the second project, called analytics, was a project designed to optimise the economic features (limits, deductibles, premiums, etc.) of property and liability insurance coverage.

### **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, over recent years 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, in general, 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 2016, 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.

### **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.

In AcegasApsAmga the Csr division reports to the Executive Director and its task is to **coordinate, extend and integrate** the policies and the social responsibility and sustainability actions of the parent company Hera Spa to all new local areas that have become part of the Group following corporate mergers.

### **Hera finalist in the 2016 Oscar di bilancio (Financial Report Oscars)**

The Hera Group was one of the finalists in the 2016 Oscar di Bilancio (Financial Report Oscars) in the companies and large enterprises category. This prestigious competition awards companies and public organisations with highly effective financial reporting which are very attentive to stakeholder relations.

This year the jury awarded the excellent structure of Hera's financial reports and the fact that they are easy to read, also thanks to the summaries reported

alongside the paragraphs of the management report. Regarding the Sustainability report, the local communities' strong involvement was emphasised (HeraLab, a multi-stakeholder advisory board that proposes actions to the company to improve dialogue with local communities and to develop the sustainability of the services delivered by the Group) together with the balanced scorecard system where sustainability goals have a significant impact.

The Oscar di Bilancio is promoted by Ferpi, an Italian association that represents public relations professionals, whether individual professionals, enterprises, bodies, associations, public administrations or other organisations.

### 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.

After a **benchmarking analysis** on international companies similar by size and field of activity, the following actions were carried out:

- **creation of a forum** which involved all **managers and middle managers** taking part in the four annual editions of the "CSR and Code of Ethics in day-to-day management" seminars, for a total of 95 people;
- **definition of a critical analysis** performed by the **Committee** on the basis of its activities, i.e. on the preliminary investigations and initial information informally collected when dealing with the reports;
- **creation of a workgroup** extended to the "spokespersons" of the "CSR and Code of Ethics in day-to-day management" seminar, for a total of around 40 managers and middle managers.

### The SA8000 Quality, Safety, Environmental and Social Responsibility system

In the course of 2016, the Hera Group confirmed the effectiveness of its integrated management system. The certifications were maintained and consolidated.

Among the leading results attained during 2016:

- maintaining the integrated quality, safety and environmental management system certifications of Hera Spa and of almost all Group companies, including Herambiente, Herambiente Servizi Industriali, Hera Comm, Hera Luce, Hera Servizi Energia and Uniflotte;
- obtaining the integrated quality, safety and environmental management system certification of Inrete Distribuzione Energia;

- starting the activities for converting the current certificates of Hera Spa, Herambiente, Herambiente Servizi Industriali, Hera Comm, Inrete Distribuzione Energia, Heratech and Uniflotte in compliance with the new ISO 9001:2015 and ISO 14001:2015 standards;
- renewing ISO 14001 certification and EMAS registration for the Imola Casalegno cogeneration plant;
- maintaining ISO 50001 certification for the energy management system of Hera Spa, Hera Servizi Energia and Hera Luce and obtaining the certification of Inrete Distribuzione Energia;
- obtaining certification according to UNI CEI 11352 standard, designed for companies providing energy services (Esco), for Hera Spa and maintaining this certification for Hera Luce and Hera Servizi Energia;
- maintaining SA8000 certification, attesting ethical and social conformity of the processes managed and provided by Hera Spa, Hera Luce and Sinergie, and launching the activities for conversion of Hera Spa's certificate according to the new 8000:2014 standard.

These results confirm that the logics and dynamics of the management system are now part of company life;

At the same time, gap analysis activities were initiated with an external third-party body that helped the company identify all the changes and innovative aspects of the new ISO 9001:2015 and ISO 14001:2015 standards.

**AcegasApsAmga** confirmed its key objective of implementing, extending and enhancing its management system by using the appropriate instruments during this important period of change and integration that the company is going through. 2016 was marked by the maintenance of the quality, environment and safety certifications (ISO 9001, ISO 14001, ISO 50001 and OHSAS 18001).

#### Hera's commitment to quality, safety, environment and social responsibility

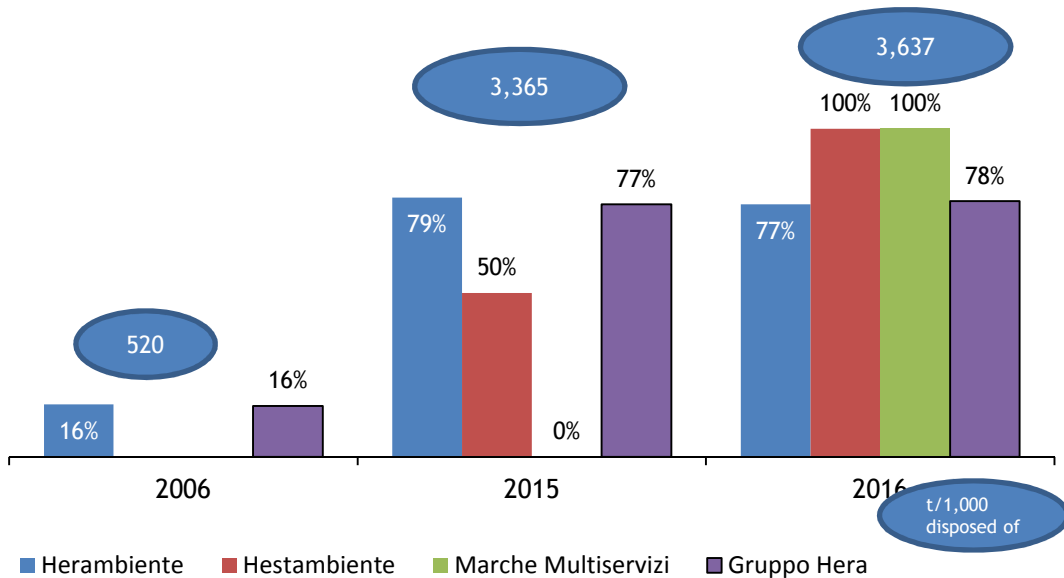
Quality management systems establish the requirements that are necessary in an organisation to improve corporate processes in order to increase the satisfaction of final customers, who receive the end benefits of Hera's services. The high diffusion of the Group's certified management systems is shown 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	15	98%	3	93%	1	100%	19	99%
ISO 14001	12	87%	2	93%	1	100%	15	91%
OHSAS 18001	12	87%	2	93%	1	100%	15	91%
ISO 50001	4	68%	2	93%	1	100%	7	77%
SA 8000	2	58%	1	9%	0	0%	3	42%

Approximately 99% of the total waste disposed of in Group plants was disposed of in ISO 140001 certified disposal plants.

In 2016, 74% of the total waste disposed of in Group plants was disposed of in EMAS (50) certified disposal plants. This percentage rises to 78% if the 2 plants for which EMAS investigation is underway are counted.

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.

During 2016, all of the checks carried out by the certification body for the maintenance and renewal of EMAS registrations which Herambiente is responsible for were successful, including those acquired as a result of recent mergers. Specifically, during the year, EMAS registration was extended to all selection, recovery and mechanical biological treatment plants, acquired by the previous subsidiary Akron and already located within Herambiente’s registered plant engineering sites (Coriano (RN), Voltana (RA) and "Tre Monti" Imola), in order to have a single registration number for the entire sector. All renewal/extension preliminary activities for EMAS registration were approved and issued by the Ecolabel and Ecoaudit Committee - EMAS Section already during 2016.

With regard to AcegasApsAmga, during autumn 2016, the environmental declaration for the incinerator in Trieste was drawn up and then subject to validation by the certification body DNV, in order to obtain EMAS registration (the waste-to-energy plant of Padua was already EMAS registered), which brings the

percentage of waste treated by Hestambiente to 100%. The preliminary activities for registration of the waste-to-energy plant in Trieste have therefore already been set up at Ispra and at the Ecolabel and Ecoaudit Committee - EMAS section and are still underway.

## 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 establishment of **6 Local Advisory Boards (HeraLAB)** across all Hera areas, the **internal climate survey** with its related improvement actions and the **customer satisfaction surveys** 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 social responsibility management system in compliance with standard SA8000 was developed in 2012 and provides structured methods for setting up dialogue and involving workers.

Activities to raise awareness and provide training on the code of ethics continued in 2016, also in relation to the release of the 4th edition of the code of ethics.

In the sections of the report, the approach used and the results of the main dialogue and consultation initiatives carried out in 2016 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,	<ul style="list-style-type: none"> <li>- Biennial internal climate survey: <b>8 centrally-managed improvement actions defined based on the climate survey carried out in 2015</b></li> <li>- 6,843 employees involved in the 18 meetings that the Chairman and Managing Director held between March and July in Hera Group's local areas to illustrate the business plan</li> <li>- <b>Training on code of ethics:</b> in 2016, training on the Code of Ethics continued with the ethical game</li> </ul>

Stakeholders	Main categories	Key issues	Key listening, dialogue and consultation initiatives
		safety, internal communication	<p>AlphabEthics which involved 127 people. Creation of a community extended to all managers and middle managers who took part in the training seminars on the Code of Ethics (a total of 95 people) and on CSR and Code of Ethics.</p> <ul style="list-style-type: none"> <li>- <b>New CSR seminars:</b> the meetings were continued</li> <li>- Training on the code of ethics (<b>AlphabEthics</b>): delivered to over 1,462 employees of AcegasApsAmga (84% of employees involved by the end of 2016)</li> <li>- <b>Passaparola (“Word of mouth”) project:</b> 242 trainers and 1,939 workers involved in Hera and AcegasApsAmga in the top-down communication meetings</li> <li>- <b>Sa8000:</b> a direct communication channel was again in place in 2016: around 250 employees were involved in SA8000 interviews and 10 reports processed.</li> <li>- <b>Herasolidale:</b> in March 2016, the second edition was launched, joined by over 800 employees who decided to which 11 non-profit organisations they would devolve a portion of their salary</li> <li>- <b>Heureka:</b> 68 ideas submitted by 70 workers in 2016 for the project dedicated to Group employees’ ideas for innovation</li> </ul>
Customers	<ul style="list-style-type: none"> <li>- Residential customers</li> <li>- Citizens residing in the areas served</li> <li>- Business customers</li> <li>- Consumer groups and trade associations</li> </ul>	Service quality, tariffs, transparency, safety, service reliability, communication and information	<ul style="list-style-type: none"> <li>- Yearly <b>residential customer satisfaction survey:</b> 5,900 interviews to Group customers</li> <li>- <b>Joint mediation procedures of Hera and AcegasApsAmga:</b> 60 requests for mediation received from Hera and 13 from AcegasApsAmga in 2016</li> <li>- 785 cases managed through the <b>direct contact channel</b> with consumers’ associations</li> <li>- In 2016, <b>fourteen meetings were held 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</li> <li>- Financial community</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 412 investors</li> <li>- <b>Yearly publication</b> of the calendar of corporate events</li> <li>- <b>Newsletters</b> for all investors</li> <li>- High <b>participation of shareholders</b> (77% of share capital) in the meeting held on 28 April 2016</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</li> </ul>	Continuity of relations, qualification, bargaining conditions,	<ul style="list-style-type: none"> <li>- 9 win-win initiatives were implemented with 25 suppliers, 8 of which relating to the optimisation of material purchasing methods (by means of further digitalisation) and one relating to the operational optimisation of a waste treatment plant.</li> <li>- Meetings continued with representatives of social</li> </ul>



Stakeholders	Main categories	Key issues	Key listening, dialogue and consultation initiatives
	- Local suppliers	payment conditions	<b>cooperatives</b> working in Emilia-Romagna for monitoring the employment of 743 persons facing hardship
Public Administration	- Local authorities of reference: Municipalities, provinces, regions, their associations and local bodies - Regulatory and control bodies - Universities and research institutes - State agencies	Transparent communication, concern over local issues, compliance with the law, correct management practices, innovation, partnerships	- the area managers <b>organised 1,850 meetings</b> with mayors and <b>received 3,500 requests</b> from the <b>Municipalities</b> of the local areas served
Local community	- Local associations - Trade associations - Media - Residents in the vicinity of production plants - Citizens' committees	Strengthening of dialogue with the local community, support for initiatives, local investment, transparent communication, socially responsible corporate management	- <b>22 meetings held in 2016</b> in the 6 active Labs: <b>69 representatives from the various stakeholder categories</b> took part in them - 185 participants in the convention held in Bologna on 21 September 2016 to <b>present the 2015 Sustainability Report</b> - 180 guided tours in 2016 of <b>Herambiente plants</b> with over 3,330 visitors, 2,370 of whom were students
Environment and future generations	- Environmental associations - Trade associations - Technicians and experts from other companies - Technicians and persons competent in environmental issues elected by the inspectorates	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	- <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

## The economic value for our stakeholders

*This section includes the key data on economic responsibilities of the company. In 2016, value added distributed to stakeholders amounted to Euro 1,454.1 million (+2.9% compared to 2015). Around Euro 1.2 billion was distributed to stakeholders in local areas.*

### 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.

#### Production of value added

in millions of Euro	2014	2015	2016
Revenues	4,189.1	4,487.0	4,460.2
Other operating and non-operating revenues	324.5	331.0	403.4
Grants received from public institutions	-10.7	-13.6	-8.3
Use of raw and other materials (net of changes to raw materials inventories and stocks)	-1,965.5	-2,256.6	-2,176.8
Service costs	-1,053.6	-1,032.2	-1,101.7
Bad debt provisions	-65.5	-72.0	-85.1
Accruals to provisions for contingencies and other provisions	-29.5	-33.0	-28.5
Other operating costs	-26.6	-37.7	-50.7
Capitalised costs	17.3	28.5	27.8
<b>Gross value added</b>	<b>1,379.5</b>	<b>1,400.8</b>	<b>1,440.3</b>
Portion of profit (loss) pertaining to associated companies and joint ventures	7.7	12.0	13.8
<b>Gross overall value added</b>	<b>1,387.2</b>	<b>1,412.8</b>	<b>1,454.1</b>

Gross overall value added generated for stakeholders in 2016 came to Euro 1,454.1 million, an increase of Euro 41.3 million on the previous year (+2.9%).

## Distribution of value added to stakeholders

in millions of Euro	2014		2015		2016	
Workforce	496.9	35.8%	510.8	36.2%	524.1	36.1%
Shareholders	145.4	10.5%	147.9	10.5%	147.1	10.1%
Company	368.5	26.6%	383.5	27.1%	419.3	28.8%
Financial institutions/Banks	153.9	11.1%	146.0	10.3%	131.2	9.0%
Public Administration	219.8	15.8%	222.0	15.7%	229.6	15.8%
Local community	2.7	0.2%	2.6	0.2%	2.8	0.2%
<b>Gross overall value added</b>	<b>1,387.2</b>	<b>100.0%</b>	<b>1,412.8</b>	<b>100.0%</b>	<b>1,454.1</b>	<b>100%</b>

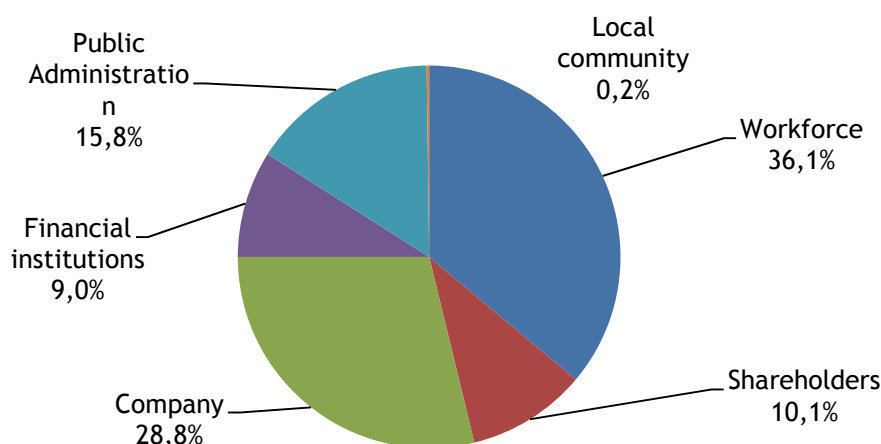
The portion of value added intended for the Group's **workforce** increased Euro 13.3 million (+2.6%) compared to 2015. This increase is mainly linked to the remuneration increases envisaged by the National collective labour agreement. The inclusion of resources of companies deriving from the companies acquired in the waste management areas was in part offset by the drop in the average presence.

The portion allocated to the shareholders of Hera Spa and the minority shareholders of the subsidiaries fell by Euro 0.8 million (-0.5%) and equates to 10.1% of the total. Of this portion, Euro 134 million was allocated as dividends distributed to Hera Spa shareholders (stable compared to 2015), and Euro 13.1 million was allocated as the portion of earnings pertaining to the minority shareholders of the subsidiaries of Hera Spa (down Euro 0.8 million compared to 2015).

A portion totalling 28.8% of the value added generated in 2016 was **re-invested in the company**. This portion increased with respect to 2015 (+9.3%) and includes the net profit for the year not allocated to shareholders (Euro 73.3 million) and amortisation/depreciation of investments made (Euro 346.0 million). The latter disclosed an increase of Euro 9 million due to new investments made.

The portion of value added allocated to **financial institutions** in 2016 came to Euro 131.2 million (9.0% of the total, -10.1% compared to 2015). This share comprises Euro 211.3 million in financial charges, and Euro 80.1 million in financial income.

## Distribution of value added to stakeholders (2016)



The portion distributed to Public Administration amounted to Euro 229.6 million, 15.8% of the total (+3.1% compared to 2015).

**Duties and taxes** amounted to Euro 137.2 million (9.4% of the total value added distributed) and increased by 3% with respect to 2015.

Of the taxes and duties, Euro 97.6 million was allocated to the Government (Euro 94.7 million in 2015), Euro 31.8 million to the Regional authorities and Euro 7.8 million to the Provincial and Municipal authorities. Business taxation rose from Euro 114.0 million in 2015 to Euro 119.3 million in 2016.

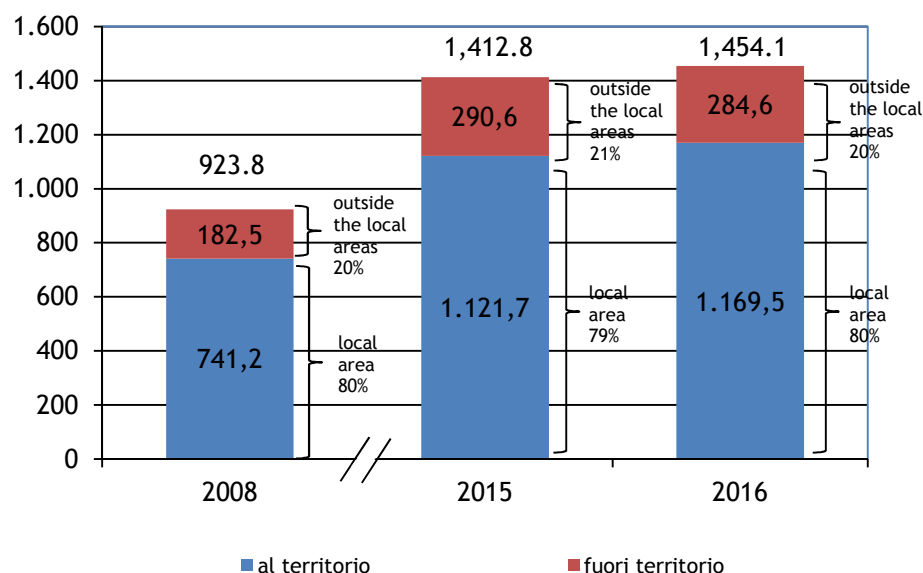
The plants and installations used by the company are in part owned by shareholding municipalities, and **rental payments** are made for their use. Environmental compensations are also paid to the municipalities regarding the waste treatment plants. In 2016, total payments for use of the assets of shareholder municipalities and environmental compensations came to Euro 96.4 million, down Euro 2.1 million compared to the previous year.

There was also Euro 4.4 million relating to the running costs of the national (Aeegi and Agcm) and local authorities.

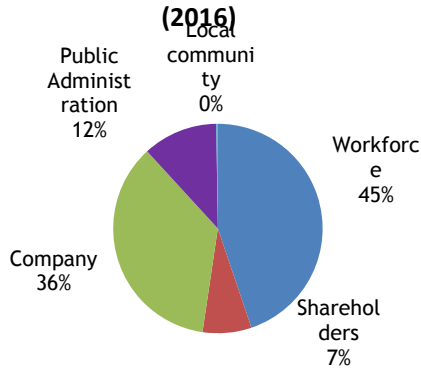
Grants received in 2016 amounted to Euro 8.3 million, Euro 1.7 million of which allocated as operating grants and Euro 6.6 million as plant grants. This amount was subtracted from the portion allocated to the Public Administration.

Lastly, Euro 2.8 million was allocated to **donations** (Euro 0.3 million) and **sponsorships** (Euro 2.5 million); details on these items can be found in the “Environment and future generations” section.

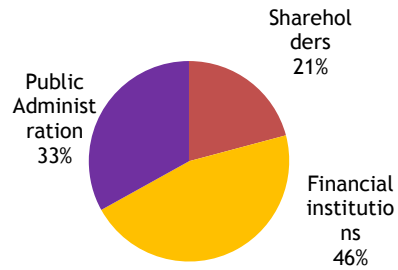
#### Value added distributed (in millions of Euro)



**Distribution of value added to stakeholders in the local areas (2016)**



**Distribution of value added to stakeholders outside the local areas (2016)**

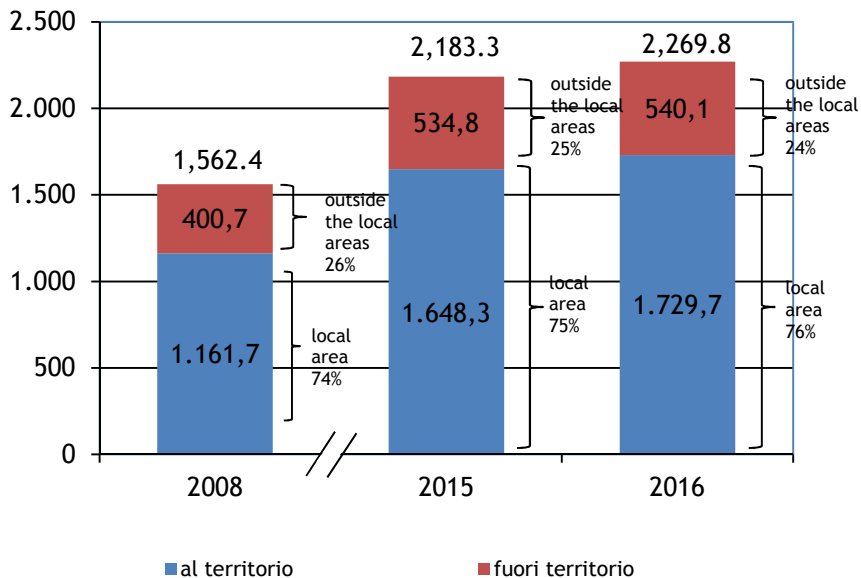


In 2016, value added distributed to stakeholders in the local areas amounted to Euro 1,169.5 million (+4.3% compared to 2015).

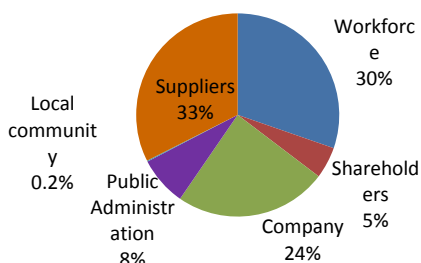
It comprises:

- employee salaries (44.8% of the total);
- dividends to local Hera Spa shareholders (7.5%);
- duties, taxes and fees to local authorities (11.6%);
- charitable donations and sponsorships (0.2%);
- resources re-invested in the company (35.9%).

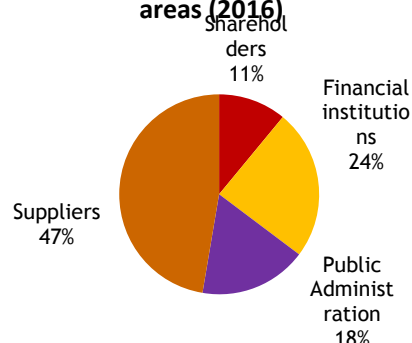
**Economic value distributed (in millions of Euro)**



**Distribution of economic value to stakeholders in the local areas (2016)**



**Distribution of economic value to stakeholders outside the local areas (2016)**



If the value added distributed in the local areas is joined by the amount of the supplies from suppliers in the local areas (which represent 69% of total Group supplies at consolidated level and which can be evaluated in 560.2 million), the economic value distributed to local areas in 2016 in total can therefore be estimated as Euro 1,729.7 million (+5.0% compared to 2015), equal to 76% of the total of the wealth produced which came to Euro 2,269.8 million.

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 2015 dividend payment date.

### The investments

During 2016, Group investments amounted to Euro 366.4 million, with the benefit of Euro 20.3 million in capital grants of which 7.3 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 386.7 million. Net investments rose by Euro 33.7 million, from Euro 332.7 million in 2015 to Euro 366.4 million in 2016.

### Investments

in millions of Euro	2015	2016
Gas area	90.5	94.8
Electricity area	24.4	25.2
Integrated Water Cycle Area	127.2	131.8
Waste Management Area	35.2	50.7
Other services Area	15.3	15.9
Central Structure	53.3	67.6
<b>Total operating investments</b>	<b>345.9</b>	<b>386.1</b>
Financial investments	0.5	0.6
<b>Total gross investments</b>	<b>346.4</b>	<b>386.7</b>
Capital grants	13.7	20.3
<i>of which for FoNI (Fondo Nuovi Investimenti)</i>	<i>2.3</i>	<i>7.3</i>
<b>Total net investments</b>	<b>332.7</b>	<b>366.4</b>

in millions of Euro	Hera		AcegasApsAmga		Marche Multiservizi	
	2015	2016	2015	2016	2015	2016
Gas area	63.5	65.0	24.7	27.9	2.3	1.9
Electricity area	18.1	18.8	6.4	6.4		
Integrated Water Cycle Area	88.0	90.9	29.0	31.3	10.1	9.7
Waste Management Area	29.7	41.4	2.9	5.4	2.7	3.9
Other services Area	12.3	12.4	3.0	3.4	0.0	0.2
Central Structure	45.3	58.6	7.1	7.1	0.9	1.9
<b>Total operating investments</b>	<b>256.8</b>	<b>287.1</b>	<b>73.1</b>	<b>81.5</b>	<b>16.0</b>	<b>17.6</b>
Financial investments	0.5	0.6	0.0	0.0	0.0	0.0
<b>Total gross investments</b>	<b>257.3</b>	<b>287.7</b>	<b>73.1</b>	<b>81.5</b>	<b>16.0</b>	<b>17.6</b>

In 2016, the investments in the Gas Area amounted to Euro 94.8 million and disclosed an increase of Euro 4.3 million when compared to 2015. In the distribution of gas, there was an increase of Euro 3.1 million which mainly derives from the legislative adaptation activities as per Aeegsi 554/2015 resolution (formerly resolution 631/2013) for the mass replacement of meters, which also concerned the apparatus with a lower class (G4-G6). Extraordinary maintenance on networks and plants and measures for cathodic protection of the gas networks in the Padua and Trieste areas also increased, while the requests for new connections reported a drop on the previous year.

The investments rose also in the district heating area, mainly due to the revamping of the Barca co-generation plant in Bologna. The new district heating connections are essentially in line with the values of the previous year.

Investments in the Electricity Area for 2016 amounted to Euro 25.2 million, resulting in a Euro 0.7 million increase when compared with Euro 24.4 million last year.

The measures carried out mainly concerned the extraordinary maintenance of plants and distribution networks in the areas of Modena, Imola, Trieste and Gorizia.

With respect to the previous year, greater investments were reported mainly for the extraordinary maintenance measures on the Imola co-generation plant.

The requests for new connections rose slightly compared with the same period in the previous year.

Net investments in the Integrated water cycle Area amounted to Euro 111.8 million and were down with respect to the previous year due to the increase in capital grants recorded. Gross of the grants, measures in the Area amounted to Euro 131.8 million, compared with Euro 127.2 million last year. The investments mainly refer to extensions, enhancements and upgrades of networks and facilities, and to regulatory compliance mostly in the treatment and sewage sphere.

Investments were made for Euro 61.5 million in the aqueduct area, Euro 37.6 million in the sewers area and Euro 32.7 million in the treatment area.

The main measured included: in the aqueduct area, measures for the renewal of the water mains in the historic centre of Bologna in concurrence with the creation of the route for the "Crealis" transport and the enhancement of the interconnections of the Modena area water system; in the sewers area, the progress of the work envisaged by the Rimini Seawater Protection Plan continued, including the first portion of the Ausa tank with the burying of the beach stretch

and the creation of the Dorsale Sud with the Hospital balancing tank, as well as the renovation measures on the sewage network in other areas; in the treatment area, mention is made of the creation of a header tank at the Riccione treatment plant, the adaptation of the Cattolica treatment plant, the revamping of the oxygen production plant at the Idar Bologna plant and, in the areas of AcegasApsAmga, the continuation of the adaptation work on the large treatment plants of Servola, Cà Nordio and Abano Terme.

The requests for new water and sewer connections increased with respect to the previous year, despite still being slowed down by the construction sector situation.

Capital grants for Euro 20.3 million include Euro 7.3 million relating to the tariff component envisaged by the tariff method for the Fondo Nuovi Investimenti (FoNI), and were up in total with respect to the previous year by Euro 6.6 million.

Net investments in the Waste Management Area concerned maintenance and enhancement measures on plants and amounted to Euro 50.7 million, up Euro 15.5 million when compared to 2015. The composting/digesters area was in line with the previous year due to the minor work at the Rimini plant which was subject to important measures in 2015, offset by the additional measures relating to the Ozzano, Sant'Agata composting plants as a result of the work linked to the biomethane project and Cesena plant.

The increase in investments on the landfills for Euro 10.8 million, is mainly attributable to the construction of the 9th sector of the Ravenna landfill, the launch of the 5th sector of the Sommacampagna landfill and the 4th sector of the Loria landfill. The measures carried out on the Tre Monto landfill for the installation of the new engine and the biogas collection networks are also highlighted, along with the work for redefinition of landslides and road conditions.

The WTE area disclosed a slight increase with respect to the previous year, due to the measures on the Modena, Ferrara and Pozzilli plants, while in the Special Waste Plants sector the increases essentially concerned the maintenance activities on the Ravenna plants.

With regard to drop-off points and collection equipment, there was an increase of Euro 2.0 million due to investments for separate waste collection in the areas of Padua, Trieste and Abano Terme, along with the measures for the Pesaro Collection Centre. Furthermore, mention is made of the implementation in the Triveneto area of Hergo Ambiente, the innovative information system which handles all the activities of the Hera Group Waste Management activities in an integrated manner, managing a network of interconnected individuals and devices so as to govern planning, operative scheduling and execution in the field.

In the selection and handling plants, the increase of Euro 1.9 million is essentially attributable to the consolidation of the company Waste Recycling with the work for the completion of activities on the chemical-physical treatment plant, the covering of the biological treatment plant and the new distillation plant for the recovery of solvents.

Investments in the Other Services area came to Euro 15.9 million, up Euro 0.6 million with respect to the same period last year.

In the telecommunications area, Euro 8.9 million in investments were made on the network and with regard to TLC and IDC (Internet Data Center) services, down slightly with respect to 2015.



With regard to the public lighting service, the investments for Euro 7.0 million related to maintenance, upgrading and modernisation measures for the lighting plants, involving an overall increase of Euro 1.0 million which concerned both Hera Luce and the management of the service within the sphere of AcegasApsAmga.

In the Central Structure, the investments concerned the measures on the properties of the 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 14.3 million when compared with the previous year.

### 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 managed 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 and Marche Multiservizi.

### Environmental investments

in millions of Euro	2014	2015	2016
Energy services	58.1	67.9	77.2
Integrated water service	100.0	106.5	107.3
Waste management services	20.0	17.2	22.9
Central Structure	1.5	0.9	1.2
<b>Total</b>	<b>179.6</b>	<b>192.5</b>	<b>208.6</b>

The data refers 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 were also considered.

For the water service, the interventions aimed at reducing losses within the water systems, the extensions of the sewage network and treatment plants and the interventions for the improvement of the environmental performance of the plants themselves were counted.

For the waste management services, the activities connected 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 waste management investments amounted to Euro 208.6 million, up by around 8% with respect to 2015 and corresponding to around Euro 16 million more. This change was made up as follows:

- increase in investments in the **energy services** (+14% compared with last year corresponding to around Euro 9.2 million) in particular on the gas networks and plants and the district heating networks;
- investments in the **water services** were more or less stable (+1% compared with last year corresponding to around Euro 0.7 million);
- investments in the **waste management services** rose (+34% compared with last year corresponding to around Euro 5.7 million) mainly due to the enhancement of the separate waste collection systems in particular new skips and “igloo” bins for separate waste collection in the areas of the Group.

Waste management investments accounted for 54% of non-financial operating investments.

## Customers

*In 2016, Hera Group served the homes of over 4 million people and over 258,000 companies, with whom it has set up fast track channels.*

*In de-regulated services, Hera has sold gas and electricity to over 2 million customers across many Italian regions.*

*Hera has measured its customers' satisfaction each year since 2005. Surveys are carried out by telephone to define improvement objectives.*

### The objectives and performance

What we said we would do	What we have done	Area*		
<ul style="list-style-type: none"> <li>Promote new gas and electricity solutions with value added and energy efficiency services.</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, the new Nuova Idea Hera and Hera Thermo solutions were offered to help customers reduce their consumption. (see page 61)</li> </ul>	H	A	M
<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 2016, 383 condominiums had individual heat metering systems (+110% compared to 2015). (see page 179)</li> </ul>	H	A	
<ul style="list-style-type: none"> <li>Continue to trial quantity-based tariffs and define Hera's industrialisation model.</li> </ul>	<ul style="list-style-type: none"> <li>The trial carried out in the Budrio municipality has ended and the trials are continuing in 3 other municipalities. The plan to extend quantity-based tariffs has been drawn up. (see page 111)</li> </ul>	H		
<ul style="list-style-type: none"> <li>Update and extend SOStegno Hera, the guide to tariff concessions, to all areas served.</li> </ul>	<ul style="list-style-type: none"> <li>SOStegno Hera has been updated and distributed in the areas served. The extension to the Triveneto region has been postponed to 2017. (see page 275)</li> </ul>	H	A	M
<ul style="list-style-type: none"> <li>Extend the protocol that prevents service disconnections for customers assisted by social services, to other new municipalities.</li> </ul>	<ul style="list-style-type: none"> <li>63 agreements (up from 45 in 2015) with municipalities to prevent service disconnections for customers experiencing financial hardship. (see page 80)</li> </ul>	H	A	
<ul style="list-style-type: none"> <li>Comply with the commercial quality standards for gas and electricity and with the Service Charter in 98.5% of cases.</li> </ul>	<ul style="list-style-type: none"> <li>99.8% of cases were compliant with water quality standards in 2016. (see page 84)</li> </ul>	H	A	M
<ul style="list-style-type: none"> <li>Define an action plan to improve technical and commercial quality in the integrated water service on the basis of AEEGSI's resolution 655/2015.</li> </ul>	<ul style="list-style-type: none"> <li>Hera Spa has complied with AEEGSI's new quality incentive scheme. It is active in the Bologna and Modena areas and brings improvements for 32 standards. (see page 84)</li> </ul>	H	A	
<ul style="list-style-type: none"> <li>Continue to implement the installation plan for electronic gas meters: 135,000 new installations in 2016</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, 150,390 electronic gas meters (equal to 10% of the total meters) were installed. (see. 84)</li> </ul>	H	A	M
<ul style="list-style-type: none"> <li>Increase the frequency of gas meter readings (compared to AEEGSI's requirement) to reduce the estimated component of bills.</li> </ul>	<ul style="list-style-type: none"> <li>The new meter-reading plan for 2016 has made it possible to increase the number of readings, keeping it higher than AEEGSI's requirements. (see page 86)</li> </ul>	H	A	
<ul style="list-style-type: none"> <li>Emergency gas services:</li> <li>Response times under 60 minutes, for 96% of calls.</li> <li>Answer 96% of calls within 120 seconds.</li> </ul>	<ul style="list-style-type: none"> <li>Emergency gas services:</li> <li>Arrival at call location within 60 minutes in 97.5% of cases. (see page 94)</li> <li>97.2% of calls answered in less than 120 seconds. (see page 96)</li> </ul>	H	A	

What we said we would do	What we have done	Area*		
<ul style="list-style-type: none"> <li>Continue with the plan for detecting leaks on the part above-ground of the gas network and on meters.</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, 16% of above-ground connections were inspected. (see page 94)</li> </ul>	H		
<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 2015. Improve waiting times at branch offices of AcegasApsAmga.</li> </ul>	<ul style="list-style-type: none"> <li>Overall average waiting times in line with 2015, for branch offices. Waiting times at AcegasApsAmga branch offices decreased from 27.5 minutes in 2015 to 21.8 in 2016. At the call centre, the average wait is 40 seconds. (see page 100)</li> </ul>	H	A	M
<ul style="list-style-type: none"> <li>Develop a multi-service app for customers, with functions similar to those of our online services.</li> </ul>	<ul style="list-style-type: none"> <li>The multi-service app has been developed and its launch is planned to occur in the first half of 2017. (see page 114)</li> </ul>	H		
<ul style="list-style-type: none"> <li>Continue to promote online billing (15% of customers in 2016) and online services (17% of customers in 2016). Extend the "Give a tree" campaign to Marche Multiservizi and plan a new promotional campaign.</li> </ul>	<ul style="list-style-type: none"> <li>16.1% of customers receive electronic bills and 17.5% is registered for the online service. (see page 102)</li> </ul>	H		M
<ul style="list-style-type: none"> <li>Identify improvement actions based on the results of the customer satisfaction survey and the customer experience project.</li> </ul>	<ul style="list-style-type: none"> <li>7 initiatives launched, including: new, more transparent and proactive sales offers, a new language for relations with final customers, renewal of on-line services. (see page 114)</li> </ul>	H	A	M
<ul style="list-style-type: none"> <li>Publish a new sustainability report dedicated to customers and local communities.</li> </ul>	<ul style="list-style-type: none"> <li>The "I mille volti del servizio" report was published in October 2016. (see page 238)</li> </ul>	H		

What we will do	Area*		
<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>	H	A	
<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>Continue to promote solutions for energy efficiency and individual heat metering in condominiums.</li> </ul>	H	A	
<ul style="list-style-type: none"> <li>Extend quantity-based tariffs for urban waste to 9% of users in Emilia-Romagna. Complete the extension to all the municipalities served by 2021.</li> </ul>	H		
<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>		A	M
<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>	H	A	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>	H	A	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>	H	A	M
<ul style="list-style-type: none"> <li>Continue to promote online billing (18% of contracts with electronic billing in 2017 and 23% in 2020) also encouraged by a new, dedicated campaign.</li> </ul>	H		
<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>	H	A	M
<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>	H		
<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> <li>complete the "Nuovo linguaggio" project for customers</li> <li>simplify procedures for acceptance of estimates and subscription of contracts, by applying digitization</li> </ul> </li> </ul>	H		
	H		

What we will do	Area*
- send customer SMS reminders for their technical service appointments - extend online services to AcegasApsAmga	H
	A

\* Geographic scope of the improvement objectives

H: Hera; A: AcegasApsAmga; M: Marche Multiservizi.

## Our customers

*The growth in the number of customers served is accompanied by close attention to the quality of contact channels and proper commercial conduct*

### Energy services customers

Thousands	2014	2015	2016
Gas customers	1,316.1	1,327.6	1,381.4
Electricity customers	795.2	856.8	880.1
District heating customers	11.5	11.8	11.9

### Integrated water service customers

Thousands	2014	2015	2016
Total customers	1,444.5	1,449.4	1,453.9

### Urban waste services

	2014	2015	2016
Municipalities served	189	189	188
Citizens served (thousands)	3,308	3,323	3,311

The Hera Group increased its overall number of customers again in 2016. 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 contributed to our 4.1% increase of methane customers and 2.7% increase of electricity customers. In 2016, we continued our project to strengthen our presence in the Abruzzo region by acquiring Julia Servizi Più in Giulianova (TE) (over 14 thousand customers) and Gran Sasso in Pratola Peligna (AQ) (over 18 thousand customers).

In energy services, there was an increase in free market residential customers (+21% compared to the previous year for gas, and +14% for electricity): as a result, we serve 48% of free market residential customers for gas and 73% for electricity.

The role of the Hera Group was consolidated also with respect to the types of customers served: in addition to the protected tariff market, the Group, through Hera Comm, provides the last resort service and the default service. Customers under the protected tariff market had decreased in December 2016 compared to the previous year (about 37 thousand customers compared to 54 thousand in 2015), but the public insolvency proceedings pursuant to law 125/2007, carried out for the assignment of the 2017-2018 period, confirmed Hera Comm as the main supplier of the service in 11 regions.

The increase in the number of customers for the water service is still rather limited (+0.3%) while in environmental services, the number of municipalities served decreased by 1 unit.

For the water service, the persisting negative economic situation has reduced the overall number of non-residential customers: this change was offset by an increase of residential customers thanks to initial signs of recovery in the real estate market.

The year 2016 was also important in relation to the initiatives we implemented to consolidate our proximity to our customers: in this context, during February we opened two Hera Comm Points, in Pesaro and in Lucca. During 2016, Hera Group's attention focused on consolidating the improvements we have made to sales processes to conclude contracts remotely.

Some specific initiatives contributed to achieving the results we obtained: in addition to opening two new Hera Comm Points and refurbishing the Giulianova and Luco dei Marsi branch offices, we presented the "Nuova Idea Hera" rate plan, that allows customers to freeze the price of the raw material for up to 30 months. We have enriched our offer with additional services for supplying electricity and gas: to help save, to our Hera LED initiative we have added Hera Thermo, the option that lets customers check their consumption, program turning on and off of their furnaces, even remotely, and provides an analysis report of their consumption to help save energy.

We will continue to focus on customer loyalty in 2017, paying attention to the requirements of our final customers, by:

- refining the on-line services we have recently upgraded;
- launching our multi-service app for customers, with functions similar to those provided by our online services;
- extending and training our sales network.

Given the importance of growth policies through acquisitions, we will set up initiatives to consolidate and grow the customer base for the sales organizations that have become a part of the group in recent years, as we have already done in 2016 when we integrated Julia Servizi Più and Fucino Gas.

### **The commercial policies**

The Group's commercial strategy once again considered all customer segments in 2016, which were reached using different sales channels that received specific commercial offers.

The mass market continued to be the segment with greatest commercial drive, whereas in customer segments with high energy consumption, we continued to pay careful attention to credit risk and to carefully assess commercial opportunities.

Proximity to our customers remains one of the main pillars at the basis of the Group's actions, leading us to develop a highly-structured customer relationship management platform: a widespread system of branch offices, target-specific call centres and self-care web channels. The high service levels we have reached are a sign of the quality of the path we have undertaken.

Proximity to customers is also fundamental in Hera Comm's areas of expansion. That is why, in 2014, we opened our first Hera Comm Points, the go-to places for all those that need information and assistance regarding new or existing contracts. To date, there are six Hera Comm Points: Ancona, Reggio Emilia, Parma, Lucca, Pesaro and Mantua.

2016 was also the year in which we completed the integration of some businesses we have recently acquired, with the objective of ensuring uniformity in the service quality delivered to final customers: it was not only a matter of working on the CRM systems, but also renovating the branch offices in the area, as we did in Giulianova (TE) and Luco dei Marsi (AQ).

Our offer portfolio for mass markets maintains its double orientation, with fixed price and variable price offers and, starting in 2016, has been enriched with new instruments to support energy efficiency.

Customers can therefore choose among offers of a complete portfolio that responds to a range of needs:

- access to the wholesale energy market is provided by the “Prezzo Netto” offer;
- stability and expense planning is offered by “Giorno Hera”, that guarantees a constant price per day all year long;
- the tranquillity of having a fixed price, sheltered from market fluctuations, thanks to the new “Nuova Idea Hera” offer.

#### **“Nuova Idea Hera”: the energy that help use less energy**

“Nuova Idea Hera”, launched at the beginning of May 2016, is an electricity and gas offer that is a step forward in customer relations sales proposals. Under the new rate plan, customers can actively choose the price and the duration of their energy supply contract. Customers can choose among five periods for a fixed price of the energy component/raw material: 6, 12, 18, 24, or 30 months. The longer the period, the lower the price. In addition, the plan includes two value-added services for energy saving: a consumption analysis service and an intelligent tool, Hera Fast Check Up.

The consumption analysis provides an analysis report, sent by email or post, with each bill, in which customers can check their consumption, compared to the previous year, to gauge the impact of their lifestyle on their consumption over time and to compare their consumption with that of other similar families in the same province. By accessing online services, families can also take advantage of Hera Fast Check Up: on the basis of data customers enter on their homes and on how they use electrical appliances, the service shows a breakdown of their electricity and gas usage, and offers tips to help them reduce waste and save money (such as for example by replacing appliances with those of the best energy efficiency class). Therefore, based on the family’s lifestyle, customers can decide how to optimize the energy consumption of their house, further reducing the expense, and by analysing their consumption, they can assess their habits and check the effectiveness of any improvements they may make.

The offer broadens the range of rate plans available to our customers, joining Prezzo Netto Natura and Giorno Hera in our portfolio. We launched it with a new look, and promoted it through an intense advertising campaign in the spring of 2016, in the entire area served by the Hera Group. As of December 2016, approximately 87,000 customers for electricity (12% of total) and about 91,000 customers for gas took advantage of the new plan (9% of total).

#### **“Pacchetto Natura”: our commitment to sustainability**

Families that sign up for the Pacchetto Natura option provided on all of Hera’s free market rate plans 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. Pacchetto Natura has been chosen by about 85 thousand customers (11% of total).

#### **“Hera LED” helps save and supports environmental sustainability**

To help our customers save money and support environmental sustainability, Hera Comm launched “Hera LED”, an offer under which Hera Comm’s free market customers can buy one or two kits of light bulbs with a 30% discount on their market value. LED lights have a low environmental impact because, in addition to using less power, they are made of materials which are not harmful and they are easily disposed of. Customers can configure their kits by choosing from six different types of bulbs, by shape, power and socket, and pay for them with 24 monthly instalments, conveniently added to their bill.

#### **The Hera Thermo option: consumption under control with smart thermostats**

In September 2016, Hera Comm broadened its offer of value-added services for energy efficiency by introducing the “Hera Thermo” option. Families who have chosen the Nuova Idea Hera, Prezzo Netto Natura and Prezzo Fisso rate plans, can add the Hera Thermo option that includes the purchase, (payable in instalments) of a Netatmo smart thermostat that the customer can program to switch their heating on and off using a smartphone, a tablet or a PC, and to optimize its operation according to the outdoor temperature and their habits, taking into account the house’s insulation level, thus ensuring both comfort and savings. In addition to the thermostat and its installation (optional), the offer also includes an analysis of the customer’s gas consumption, thereby providing an integrated monitoring and control of heating costs.

#### **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 2016, Hera Comm confirmed its basic 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;
- periodical mentoring at final customer premises by Hera Comm personnel in order to assess the conduct of the sales network;
- identification of door-to-door agents who must display an identity card to the customer they are visiting;
- monitoring of the quality of the work carried out by the sales network through surveys with the final customer.



In order to develop contact channels that are increasingly close to our customers, Hera Comm has extended its commercial network by opening two new Hera Comm Points, as mentioned earlier (in 2016 2 new points were opened) and started an initiative for small business customers, i.e. a dedicated sales channel represented by business agents, with specialist training in energy markets and related offers.

The proximity to our customers and their protection remain the fundamental principles of Hera Comm's sales activity. Besides measures to care for unwanted activations and contracts, as required by AEEGSI's resolution 153/2012/R/com as amended, the 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);
- a Euro 25 compensation paid if undesired contracts are activated or is activation is not blocked promptly

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.

Thanks to improved monitoring and closer supervision of its sales channels, Hera Comm recorded 159 complaints regarding undesired contracts (0.05% of contracts finalised outside our sales offices), down 45% compared to 2015. Our approach to handling complaints received has been completely oriented towards protecting our customers, and therefore all complaints have been investigated and all of them resulted in the application of corrective measures. Hera Comm signed a total of 317,000 new gas and electricity contracts in 2016 outside its commercial premises (266,000 for residential customers and over 51,000 for non-residential customers).

### **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** (AEEGSI 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, AEEGSI 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)

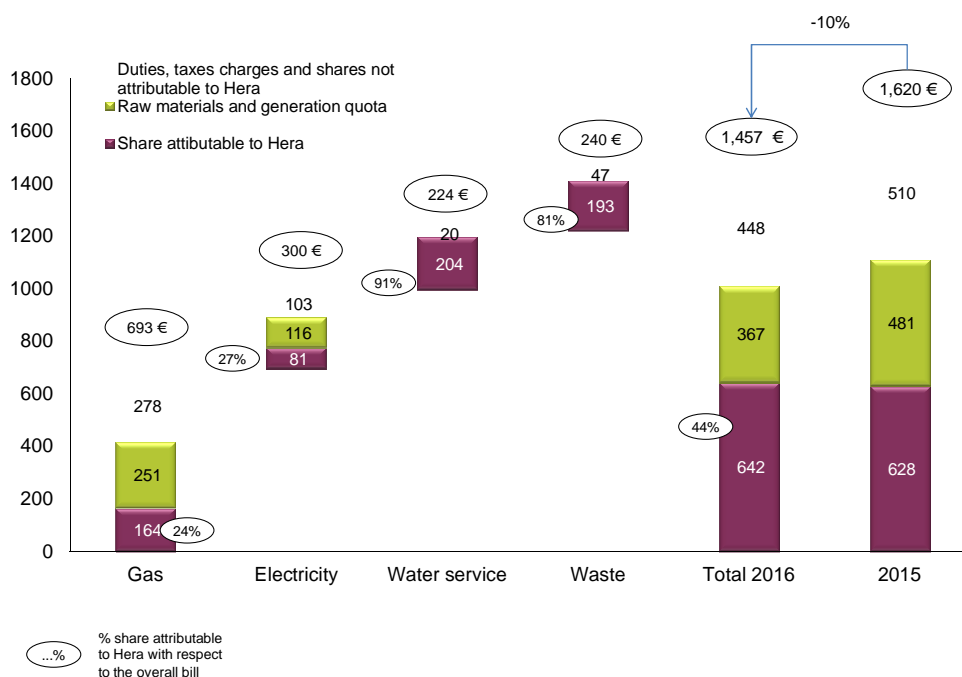
Euro	2015	2016	Ch. 2016/2015	Ch. % 2016/2015
Gas	860.69	693.02	-167.68	-19.5%
Electricity	306.12	299.71	-6.40	-2.1%
Water service	214.35	224.48	10.13	4.7%
Waste	238.78	239.71	0.93	0.4%
<b>Total</b>	<b>1,619.94</b>	<b>1,456.92</b>	<b>-163.02</b>	<b>-10.1%</b>
<i>of which attributed to Hera</i>	630.67	641.80	13.72	2.2%
<i>of which attributed to raw materials and generation</i>	481.49	366.74	-114.75	-23.8%
<i>of which duties, taxes, system charges and other charges</i>	507.78	448.38	-61.98	-12.1%

This is the spending of an average family in 2015-16 for the four services provided by Hera on the basis of the average gas, electricity and water consumption figures recorded in the two-year period. 868 m<sup>3</sup> of gas (-14% versus 2015), 1,794 kWh of electricity (-3%) and 110 m<sup>3</sup> of water (-0.5%). For the waste service, a family of 3 members living in an 80 m<sup>2</sup> flat was considered.

In 2016, the average family spent Euro 1,457 on the services supplied by Hera. Compared to 2015, there was a price drop of Euro 72 due to the changes of fuel market prices. In addition to this effect, there was a decrease in the volumes of gas (-14%), electricity (-3%) and water (-1%) used as a result of the seasonal climate trend that increased spending by Euro 91. The effect of these two factors led to a Euro 163 decrease (-10%) in overall spending for the four services.

44% of overall spending, amounting to Euro 642, is attributable to the components of bills issued by Hera. This share has increased in 2016 by Euro 14, broken down as follows: Euro -16 for gas, Euro +22 for electricity, Euro +9 for water and Euro -1 for waste.

## The costs of Hera's services for an average customer (real consumption)



The analysis for the like volumes used by an average Hera customer shows, for 2016, a decrease of the overall cost of the services by 3.6%, amounting to Euro 72, compared to 2015. This result is due to:

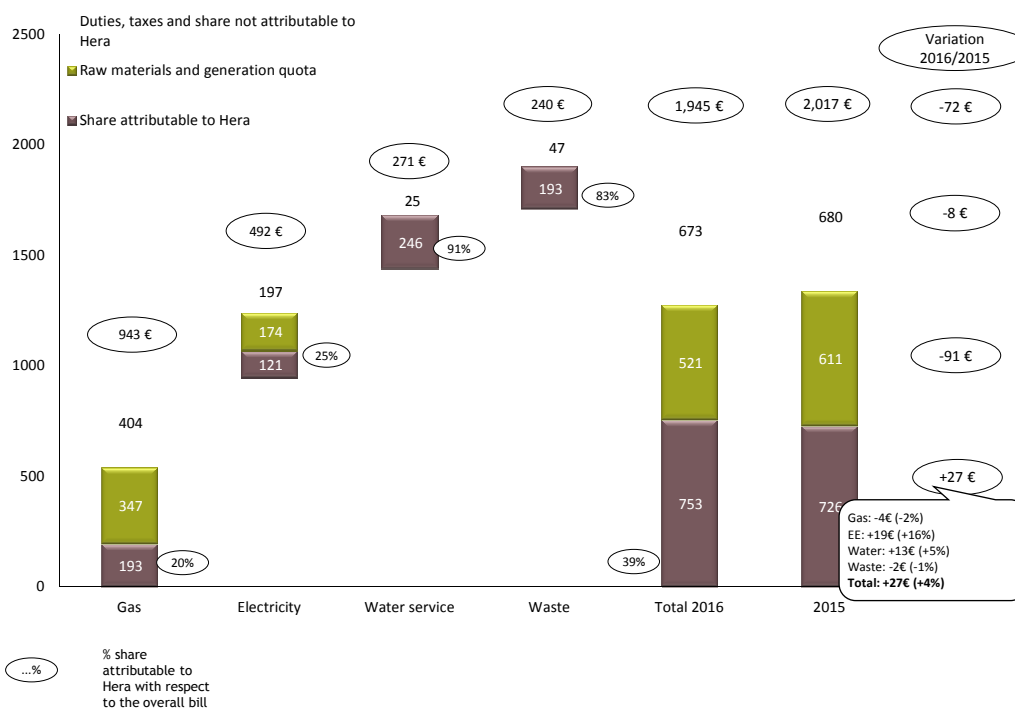
- a Euro 90 decrease of the cost of raw materials and of generation, directly related to fuel price trends;
- a Euro 27 increase of the bill components attributable to Hera. This increase corresponds to 1.2% of the total amount of the bills considered: it is due to increases of Euro 20 for electricity, Euro 13 for the water service and to decreases of Euro 2 for waste management and Euro 4 for gas;
- a Euro 8 decrease in duties, taxes, system charges and other charges, due to a decrease of fuel prices.

### The costs of Hera's services for an average customer (constant consumption)

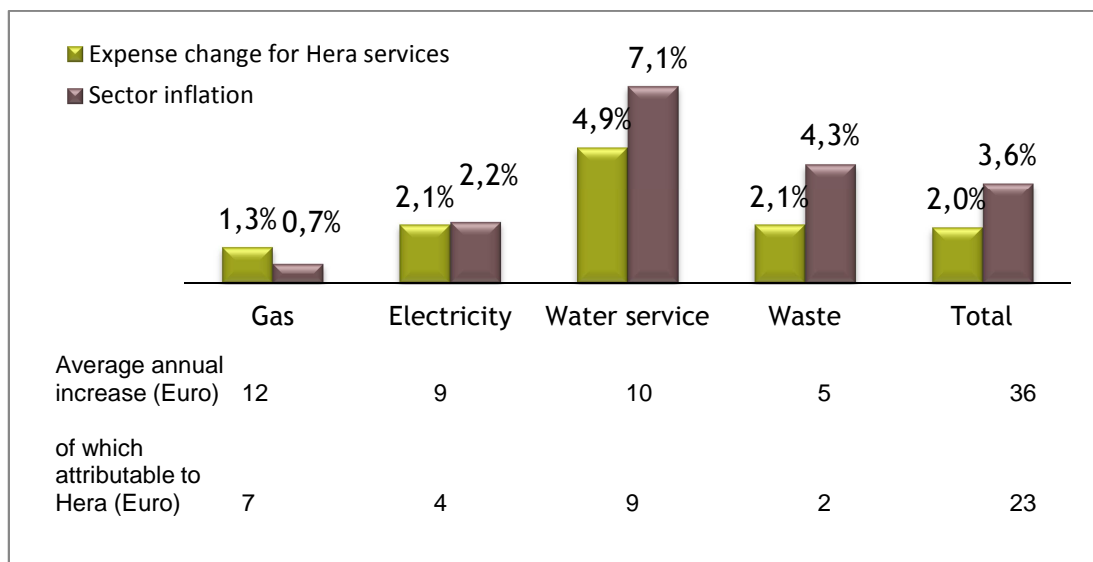
Euro	2015	2016	Ch. 2016/2015	Ch. % 2016/2015
Gas	1,017.38	943.05	-74.33	-7.3%
Electricity	504.30	491.72	-12.58	-2.5%
Water service	256.44	270.54	-14.10	-5.5%
Waste	238.78	239.71	-0.93	-0.4%
<b>Total</b>	<b>2,016.90</b>	<b>1,945.02</b>	<b>-71.88</b>	<b>-3.6%</b>
<i>of which attributed to Hera</i>	725.53	752.29	-26.76	-3.7%
<i>of which attributed to raw materials and generation</i>	611.26	520.69	-90.57	-14.8%
<i>of which duties, taxes, system charges and other charges</i>	680.11	672.04	-8.07	-1.2%

The table considers residential customers that use 1,200 m<sup>3</sup> of gas (customers under market tariff protection conditions), 130 m<sup>3</sup> of water and 2,700 kWh of electricity (standard-offer market customers), and typical for a family of 3 living in an 80 m<sup>2</sup> 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 2016 and inflation (annual average increase, CAGR)



The long-term analysis indicates that, between 2006 and 2016, the compound annual increase of the gas, electricity, water service and waste management bills in the Emilia-Romagna area served by Hera was below the Italian national average: +2.0% compared to +3.6% found at country-wide level. This gap is even more markedly in favour of Hera's water service customers and, even more for Hera's waste service customers. In the field of waste, Hera's share grew only by 1.3% (Euro 2 compared to the Euro 5 total expense increase).

### The gas bill

Euro	2014	2015	2016
Raw material component	449.76	409.90	346.77
Retail sale quota	72.01	67.64	64.75
Distribution tariff	133.78	129.18	127.85
System charges	25.53	34.20	37.43
Consumption tax	197.99	197.99	198.14
Regional tax	30.58	30.58	31.40
VAT 10%/22%	154.47	147.89	136.71
<b>Total</b>	<b>1,064.10</b>	<b>1,017.38</b>	<b>943.05</b>

20% of bill attributable to Hera

Weighted average on citizens for residential customers that use 1,200 m<sup>3</sup> of gas a year and with direct debit and electronic 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 AEEGSI; 49% of Hera's residential customers fall within this category. The complete data regarding the gas supply tariffs are available on the Group's website.

For the same consumption, on average the 2016 gas bill of a Hera residential customer under market tariff protection conditions cost Euro 74 less (-7.3%) than the previous year. The raw material sales quota fell by Euro 66 as a result of the

decrease of gas prices during the year; the retail sales component fell by Euro 4 due to the application of the bonus for customers with automatic debit and electronic billing, considered only for Emilia-Romagna. The distribution tariff fell by Euro 1, while system charges increased by Euro 3. Consumption tax and the regional tax are unchanged, while VAT fell by Euro 11 as a result of the above decreases.

**Gas distribution tariffs** are set annually by AEEGSI. 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. The tariffs are differentiated for the six macro-regional areas into which the country is divided, and are determined to guarantee the coverage, at macro-area level, of the 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). The reference used was the G4 meter class size for an average family living in the municipalities served. The obligatory tariff levels for the distribution and natural gas metering services for January-December 2016 were approved by resolution 645/2015/R/Gas of December 2015.

On average, the distribution tariff accounted for 14% of the bill's total in 2016. Part of the distribution tariff includes components to cover general gas system charges, such as energy saving promotion costs. These bill components are included in the system charges item and handled by distributors as contra-items: in fact, they pay the relative proceeds to the Energy and Environmental Services Fund (former Adjustment Fund for the Electricity Sector). In 2016, system charges updated by the 657/2015/R/COM resolution, as updated quarterly, increased by 14% compared to the previous year, in particular the component to cover the charges included in the Fund for energy saving measures and interventions and the development of renewable energy sources in the natural gas sector, on the Guarantee Fund to support the implementation of district heating networks and on the Account for Technological and Industrial Development, sustained the most significant increase, by 78% over the previous year, together with the component to cover the liabilities related to the supply interruption at redelivery points and the burden for arrears of customers supplied by last resort service suppliers (up by 60% compared to the previous year).

The **sales quota** relative to the economic conditions of the supply for the service subject to protection, defined by AEEGSI, 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 2016, raw material costs were indexed according to the gas price of the Dutch hub TTF, which reflects the costs of the European market. As per the reform implemented by AEEGSI in 2011 on protected service economic conditions, the activation of an Italian reference market in a subsequent tariff change phase is in the pipeline. In 2016, the tariff components attributable to raw material purchase accounted for 37% of the bill's total. Resolution 575/2015/R/Gas updated the level of the retail sales component, in particular for the fixed quota with an increase between 2015 and 2016. For payments of amounts by automatic debit and electronic billing, the 610/2015/R/COM resolution, introduced for customers entitled to protective economic conditions, a bonus worth Euro 5.4 for 2016.

Lastly, on average, **taxes** accounted for 39% of the total gas bill in 2016. Consumption tax, additional regional tax and VAT are paid to the State and

regional government authorities and are set through specific provisions by the Ministry of the Economy and Finance and the regional government authorities. In addition, these taxes vary according to whether the gas is used for heating or only for cooking or industrial uses. Beginning from January 2008, VAT is applied at 10% for up to 480 m<sup>3</sup> per year, and above that, VAT is set at 22% under Legislative Decree 76/2013.

As an alternative to the protective economic conditions, residential customers and small businesses may choose from various solutions in Hera Comm’s portfolio of free market offers. With the “Giorno Hera” offer customers can take advantage of a fixed, regular rate, helping them avoid high peaks in spending during the year. Meanwhile, the “Prezzo Netto” offer links the cost of the energy component to the wholesale natural gas market. With the “Prezzo Fisso” offer, the energy component remains fixed for 24 months (after which the price varies automatically depending on the performance of the wholesale natural gas market).

Before subscribing to Hera Comm’s free market plans, residential customers receive a comparative sheet drawn up according to the criteria defined by the Regulatory authority (ARG/com resolution 104/2010). This sheet compares the estimated annual cost of the offer with the economic conditions of the protected service defined by AEEGSI. The comparative sheets are available on the Hera Comm website.

In addition, in 2016 signing up for the Nuova idea Hera web offer generated savings of approximately Euro 59, equal to 6% of the bill indicated in the table.

### The electricity bill

Euro	2014	2015	2016
Energy generation quota	194.11	167.16	133.83
Dispatching quota	40.39	34.20	40.08
Distribution and sales quota	99.39	100.87	120.53
System charges	118.59	134.66	131.19
Taxes	21.52	21.57	21.37
VAT (10%)	47.40	45.84	44.70
<b>Total</b>	<b>521.40</b>	<b>504.30</b>	<b>491.71</b>

Attributable to Hera: 25% of the bill's total

Weighted average on citizens 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 2,700 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; 24% 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 fell by 2.5% in 2016 compared to the previous year (Euro 13). The Euro 33 decrease in the energy generation quota was partially offset by the increase in the remaining items. The sales quota increased by Euro 14 as a result of the increase of the component that covers the sales costs incurred by an operator on the free market, which applies to the economic conditions for greater protection, updated in 2016 and remained unchanged since 2012.

Only the distribution and sales quota is attributed to Hera: it is used to cover the management and maintenance costs of the power grid incurred by the distributor, and the costs for sales activities (invoicing, bill sending etc.) which are incurred by the sales company. Only 25% of the bill is attributable to Hera.

The 2016 bill is calculated using the two-rate tariff and the profile type defined by AEEGSI as one third of consumption in the peak period, from 8 am to 7 pm, Monday to Friday, and two-thirds during off-peak periods. The profile defined by AEEGSI 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;

Beginning from January 2016, and transposing European Directive 2012/27/EU on energy efficiency, AEEGSI has started to implement a process that gradually reforms residential tariffs. This process, which will be completed by January 2018, will lead to abandon the bracket-based structure for energy transport and the management of meters and system charges under which currently unit costs per kWh increase with usage (by consumption brackets). The complete tariff reform intends to eliminate price differentiation by consumption brackets. From 1 January 2016, the first intervention on the transport tariff reduced the effect of brackets, maintaining the structure unchanged, but increasing the weight of the fixed quotas (by point and by power). The directive also requires gradually reducing the effect of brackets for system charges, included within network services, starting from 2017. Among the system charges, the component that bears the highest cost for final customers (amounting to 81% of overall system charges) promotes the production of energy from renewable and similar sources through an incentive system which guarantees definite compensation for the energy produced and special conditions for the connection of 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 amounts by automatic debit and electronic billing, the 610/2015/R/COM resolution, introduced for customers entitled to protective economic conditions, a bonus worth Euro 6 for 2016.

Also for the electricity bill, as an alternative to the protective economic conditions, residential customers and small businesses may choose from various solutions in Hera Comm's portfolio of free market offers. With the "Giorno" rate plan, Hera offers customers the opportunity to take advantage of a fixed, regular rate, helping them avoid spending peaks during the year. In contrast, the "Prezzo Netto" rate plan links the cost of the energy component to the wholesale electricity market. With the "Prezzo Fisso" rate plan, the energy component remains fixed for 24 months (after which the price varies automatically depending on the fluctuations of the wholesale electricity market).

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 2015, renewable energy sources accounted for 26.8% of the mix of primary sources used to supply electricity to customers of the market with the highest protection. The other energy sources used were natural gas (37.3%), coal (24.4%), nuclear (5.8%) and other minor sources (5.7%).

### The water service bill

Euro	2014	2015	2016
Aqueduct	100.61	104.84	110.54
Sewage	29.83	30.87	32.57
Purification	75.64	78.09	82.47
Fixed quota	18.80	19.32	20.37
VAT (10%)	22.49	23.31	24.59
<b>Total</b>	<b>247.37</b>	<b>256.44</b>	<b>270.54</b>

Attributable to Hera:  
91% of the bill's total

Weighted average on citizens for a residential customer (family of 3) that uses 130 m<sup>3</sup> of water a year, considering the bills in the Bologna, Ferrara, Forlì, Imola, Modena, Padua, Pesaro, Ravenna, Rimini and Trieste municipalities. The grey areas refer to tariff components not attributable to Hera.

The average bill of residential customers that use 130 m<sup>3</sup> of water a year rose from Euro 256.44 in 2015 to Euro 270.54 in 2016: there was a 5.5% rise in the last year.

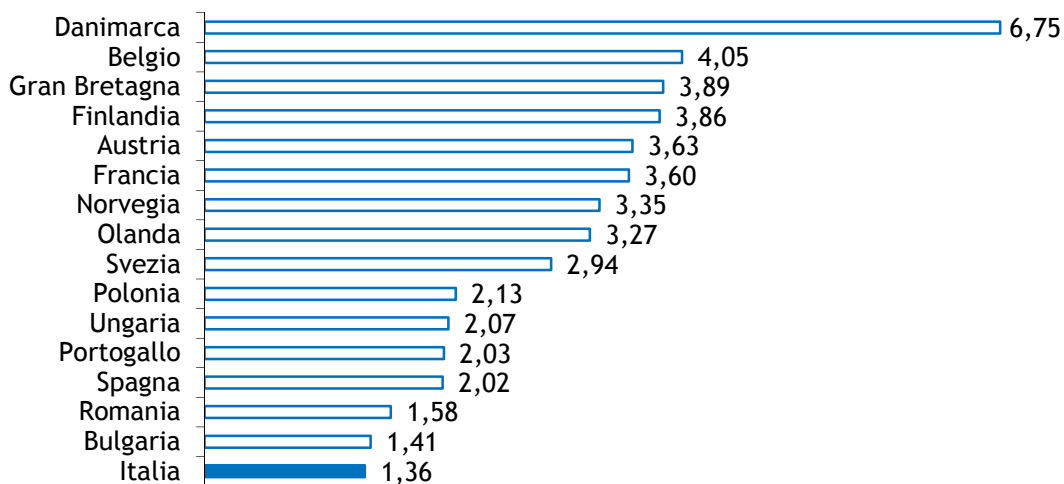
Since 2012, AEEGSI has been responsible for the regulation of the water service. It initially set up a provisional tariff method for the 2012-2013 period and subsequently a permanent tariff method for 2014-2015, later updated for 2016-2019. AEEGSI set the rates for 2016 by resolution 715/2016/R/idr for Emilia-Romagna, resolution 17/2017/R/idr for Padua and resolution 462/2016/R/idr for Pesaro Urbino.

Those rates also include adjustments for previous years, determined in accordance with the rules laid down by AEEGSI.

### 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 1.8 per m<sup>3</sup>) among the cities considered by the analysis.

### Average cost of water in Europe (euro per cubic meter)



According to the Integrated Water Service Dossier published by Cittadinanzattiva in 2016, the average cost in Italy for the consumption of 192 m<sup>3</sup> of water is Euro 1.82 per m<sup>3</sup>. In the province capitals served by Hera this cost is slightly higher (Euro 2.27), but still 18% lower than the weighted average on citizens (Euro 2.66 per m<sup>3</sup>) of the main European cities analysed in the report published by the International Water Association.

The average price for the integrated water service varies across the areas Hera serves due to the manufacturing cost structures of each area: in particular, it is affected by the differing quality of the water at the source, the proximity to the withdrawal source used and the investments made. The AEEGSI's regulation and the tariff mechanisms it has identified have made it possible to continue to make considerable investments, particularly the sectors that have the greatest environmental impact, such as sewage-purification decontamination.

In 2015, the portion of the tariff intended to cover the investments made and repay capital invested was 28% of the tariff, while the remaining 72% 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

AEEGSI took over the regulation of the water service in 2012, leading to a break from the previous national and regional regulations. AEEGSI's main objectives are to promote investment and pursue efficiency, economic and financial and service quality balance, and in line with these goals it has identified the criteria to recognize costs on the basis of tariff method.

In 2015, AEEGSI approved a new tariff method for the 2016-2019 tariff period (Resolution 664/2015/R/idr), which, based on the criteria that had already been defined by the previous tariff measures (MTT for the 2012-2013 period, MTI-1 for the 2014-2015 period), involves covering operating costs, depreciation and amortization, financial charges and taxes. The most important change introduced by the tariff method for the 2016-2019 period concerns the incentives which the Regulatory Authority will award upon achieving high service quality levels.

Resolution 655/2015/R/idr, starting 1 July 2016, defines minimum quality standards, automatic compensation to users for non-compliant service and rules and requirements concerning data record-keeping and reporting. In addition, it also includes a mechanism to provide incentives to the best-performing operators, if they achieve quality standards that exceed the minimum levels mandated by the national regulator.

A specific measure on the provision of metering services was also enacted during 2015. It lays down strict rules to encourage efficient and prudent use of the water resource, the relevant measurement of the volumes used, and consequently the efficiency of the system.

Additional issues, such as technical quality, limitation of overdue payments, simplification, for some of which procedures have already been implemented, will be covered by the regulator's future resolutions.

### The expense for waste collection and disposal

Euro	2014	2015	2016
Fixed quota	102.21	101.77	104.66
Variable quota	92.68	92.94	88.54
Fixed and variable quota not attributable to Hera	31.59	32.69	35.10
Additional province charges	11.32	11.37	11.41
<b>Total</b>	<b>237.80</b>	<b>238.78</b>	<b>239.71</b>

Attributable to Hera: 81% of the bill's total

Weighted average on citizens for a customer corresponding to 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 refer to tariff components not attributable to Hera.

A family of 3, living in an 80 m<sup>2</sup> flat, paid approximately Euro 240 (Euro +1; +0.4%) for waste collection and disposal; the share attributable to Hera however decreased by Euro 2 (-1%) compared to 2015. 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).

Starting from January 2014, both in the municipalities where the environmental hygiene tariff (TIA) was applied and those where the tax on waste and indivisible services (TARES) was applied, a waste tax (TARI) was applied. Municipal administrations may decide whether to apply a quantity-based tariff, adapting the collection system to collect the necessary information to do so, or a fiscal method, such as is the TARI tax. Both the fee and the new tax must ensure full coverage of the costs of the waste management service, which include street sweeping and washing, collection and transportation of waste, separate waste collection, waste treatment and disposal, and administrative costs. The municipalities using the TARI method may appoint the waste service operators to collect the tax. 44 municipalities have chosen to do so. Instead, the Budrio municipality decided, starting in 2016, to use the quantity-based tariff method, thus appointing Hera as the operator, to handle the financial aspects, besides the collection.

The estimate of the portion attributable to Hera of the TARI bill shown in the table does not include all the items not charged to Hera such as the cost of the fee collection and of payments not collected, if not carried out by Hera.

According to the national tariff method for defining urban waste management service tariffs, the tariff must fully cover the costs of the service: in addition, it must ensure a fair return on the capital invested by the operator to provide the service. In the municipalities served by Hera, 98% of the costs of the service were covered in 2015. 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.

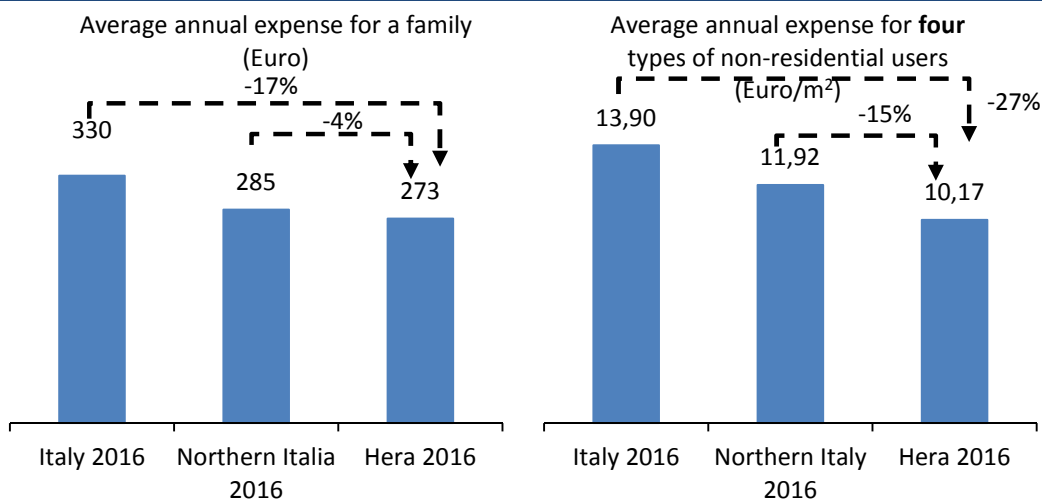
By analysing the data of the collection centres, it can be calculated that a family of 3 annually disposes of 259 kilograms of waste at separated waste collection centres (paper, cardboard, glass, tins, plastic, other materials such as oil, small appliances, etc.). The average attainable discount is approximately Euro 30. This discount, added to the savings on the additional province tax, comes to 13% of an average family's expense. 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 expense.

#### The cost of waste management services for residential and non-residential customers

In 2016, Hera charged its residential customers waste management costs that were 17% below the Italian average and 4% lower than the average of Northern Italy: 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 Ref Ricerche study considered four types of non-residential users in 64 province capitals. In the areas served by Hera, restaurants spend 30% less than the Italian average, and the savings is 20% for hotels, 29% for the food industry and 23% for supermarkets. Comparing the costs for the same types of non-residential users to the average cost they would sustain in northern Italy, shows that restaurants and supermarkets in the areas served by Hera, respectively, pay 23% and 14% less: while hotels and the food industry pay 12% and 10% more. The average of the four types of users considered by the research shows that the areas served by Hera are the most advantageous, with costs 27% below the Italian average and 15% below the average in Northern Italy.

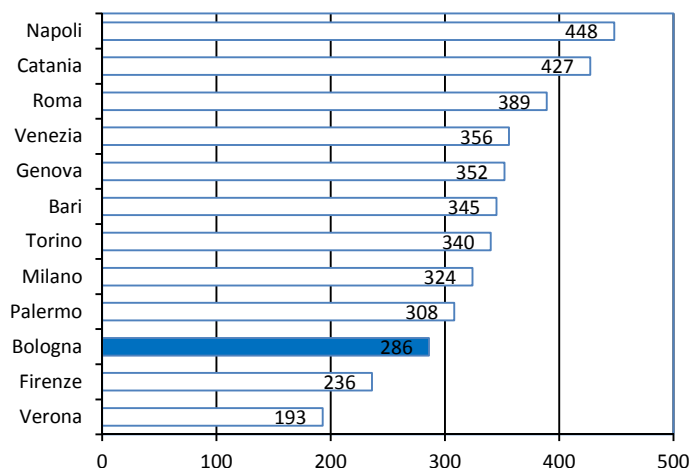
## The cost of waste management services for residential and non-residential customers



Source: Cittadinanzattiva, 2016 data, 3 persons in 1 2016 data, Ref Ricerche.

Cittadinanzattiva's 2016 report also compares the 2016 cost for urban waste service in the Italian province capitals. Among large-sized municipalities (over 250,000 inhabitants), Bologna ranks as one of the least expensive cities, with a TARES of Euro 286.

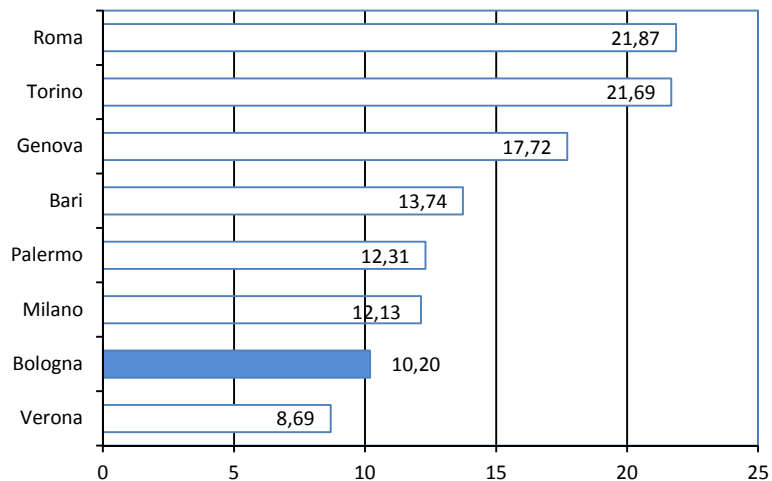
Total cost per user in cities with over 250,000 inhabitants (3 occupants, 100 m<sup>2</sup>, in Euro)



Source: Cittadinanzattiva, 2016 data, 3 persons 100 m<sup>2</sup>

The 2016 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, with Euro 10.20 per m<sup>2</sup>.

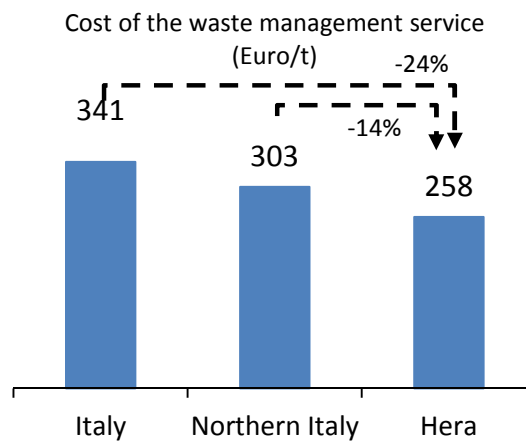
Cost for waste management for non-residential users in cities with over 250,000 inhabitants (Euro/m<sup>2</sup>)



2016 data, (Types of non-domestic users covered by the study: hotels, restaurants, grocery stores, food industry and supermarkets.) REF Ricerche

### The cost of the waste management service

Hera has lower costs than the rest of Italy, also for the cost per tonne of waste processed: 24% less than the Italian average and 14% less than Northern Italy (Source: Ispra for 2015). This result is also due to the higher amount of similar-to-municipal waste, whereby the fixed costs of the service can be spread across a larger amount of waste.



2015 data, Ispra and Hera.

## The district heating bill

Euro	2014	2015	2016
Meter rental	26.64	26.64	26.64
Variable quota	1,077.66	1,032.00	958.14
VAT 10%/22%	110.43	105.86	98.48
<b>Total</b>	<b>1,214.74</b>	<b>1,164.5</b>	<b>1,083.26</b>

Weighted average on citizens for the residential monomial tariff for 1,200 m<sup>3</sup> of methane measured at the meter, 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.

In 2016, the cost incurred by a family for district heating was 7% lower than in 2015 due to the decrease of the price of the fuels used.

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. In fact, 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.

Comparing the overall average spending of a family that uses district heating with what it would spend using a methane system, clearly shows that district heating costs less. The methods and the figures included in the expense comparison were certified by a PricewaterhouseCoopers study which carried out a tariff analysis on district heating during the first half of 2013. Average savings amounted to around 11% and are similar across the various areas in which the Group's tariff is fully applied (with the exception of Ferrara and Granarolo, where savings were greater, since customers in this area can take advantage of a "tax incentive" due to the prevalent use of renewable energy).

The savings for district heating versus the overall expense for gas is due the fact that with district heating, lower accessory charges are incurred for management of the plant: for district heating, accessory costs amount to Euro 45, while for gas, they amount to Euro 312 per year (the annual quota for the purchase of the boiler and the related ordinary and extraordinary maintenance costs).

### 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 7,500 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 71 to 153 while for families facing physical hardship, the electricity bonus provides annual savings of Euro 173 to 623. The amounts of the gas bonuses are determined each year by the Regulatory Authority, and change on the basis of the climate areas. They provide savings ranging from Euro 33 to 297. 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

	2014*	2015	2016
Number of bonuses issued	50,306	55,484	54,942
Value of bonuses issued (thousands of Euro)	5,778	5,735	4,995

\* Excluding Hera Comm Marche

In 2015, 54,942 gas and electricity bonuses were issued to Hera customers, for a total of almost Euro 5 million. Compared to 2015, there has been a slight decrease in the number of bonuses issued (down 1%) and a greater, 13% decrease of the total amount issued.

As for the **water service**, in 2016, 530 bonuses were granted to large families in the areas of Modena (only in municipalities where the per capita tariff is not applied), Ferrara, Ravenna and Rimini. The “Regulation for the allocation of tariff benefits for vulnerable users of the integrated water service”, approved by Atersir in 2014, was extended to 2015 (resolution 28 of 13 July 2015) and sets out how to calculate and provide financial aid to help customers facing financial hardship pay their bills for the integrated water service (from Euro 40 to 60 per year per family member, depending on the ISEE condition). During 2016, discounts were granted for Euro 1.7 million, for the year 2015. In the Padua area, 307 discounts for large families were granted within the Bacchiglione ATO.

Regarding **waste management services**, parties experiencing serious social/assistance hardship may be totally or partially exempt from paying TARI. The municipalities allocate the funds for these benefits according to the income of the applicants. In some areas, discounts apply to individuals living alone, that are affected by over 60% of permanent invalidity. TARI reductions are available for inhabitants 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 initiatives to support users facing financial hardship

In addition to the provisions of the Authority for electricity, gas and the water system concerning payment by instalments of bills and the application of interest on arrears, HERA offers to all households facing financial hardship (that are not behind with any payments, including instalments previously granted) the possibility to pay their bills in three instalments, with the application of an interest rate equal to the TUR (the official reference rate at which the European Central Bank grants loans to other banks and equal to 0% at 10/03/2016) increased by 3.5%. For amounts over Euro 2,000, Hera reserves the right to carry out more accurate checks before granting the instalment plan. In certain cases of financial hardship (customers using the temporary state layoff 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. This procedure is also applied to professionals and small condominiums.



Businesses can also request to pay in instalments which Hera grants on similar conditions following checks on their level of solvency.

Throughout 2016, over 186,000 instalment plans were granted to residential customers. On a like-for-like basis for 2015, over 181,000 instalment plans were granted, an increase of 8% compared to the previous year (8% less, in terms of the value divided into instalments due to the lower cost of bills as a result of seasonal trends). The number of instalment plans implemented for business customers (about 5,900 across the entire group) decreased slightly compared to last year. Excluding AcegasApsAmga, the approximately 85,000 mass market customers (families and professionals) requested payment by instalments of at least one bill in 2016, 5.6% of the total. Approximately 3,000 business market customers requested payment by instalments of at least one bill, 3.9% of the total.

#### Number and value of bills paid in instalments

	2014*	2015*	2016*	2016
Number of bills paid in instalments	146,687	164,346	181,455	186,476
Value of bills paid in instalments (thousands of Euro)	133,969	119,429	110,509	112,470

\* Excluding AcegasApsAmga

Hera has been collaborating for several years with the social services of the municipalities it serves and with local authorities that provide services to citizens, to **support customers that are facing financial hardship**. In fact, Hera provides reductions to customers assisted by municipalities and its staff carefully checks critical cases and provides advice on the management of the disbursements that municipalities allocate to these economically distressed citizens. Most often than not, special conditions for repayment in instalments make it possible to restore a disconnected service or avoid disconnecting it. Over 15,000 contacts were managed with the social services in 2016 for the Hera Group.

Our collaboration with the institutions that support consumers facing hardship has evolved and consolidated in the past few years, also by signing agreements that aim at preventing network service disconnections, and deal with a critical range of people that are assisted and selected by the organizations themselves. Adding to the protocols already in place with the Forlì-Cesena, Ravenna, Ferrara Asp (Azienda Servizi alla Persona), Modena and Imola municipalities, in 2016, we signed agreements with the Unione Reno Galliera (Bentivoglio, Castello d'Argile, Castel Maggiore, Galliera, Pieve di Cento, and San Pietro in Casale municipalities), with the Unione dei Comuni Terre e Fiumi (Copparo, Berra, Jolanda di Savoia, Tresigallo, Formignana, and Ro Ferrarese municipalities).

At the end of 2016, 63 municipalities had signed protocols with the Hera Group for customers that are experiencing hardship (+18 compared to 2015), and are protected under the protocols we signed. So far, application of these protocols has given very positive results, and about 90% of the disconnections have been avoided thanks to the protocols, for eligible customers.

In 2016, 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. One of the noteworthy innovations is the extension of the use of instalments to extend the timeframe in which bills can be paid, and that social services workers can approve for customers experiencing financial distress. This

method was designed to address the need to dilute the impact of these services on household budgets and avoid service disconnections. In 2016, about 50% of the 600 customers that applied were granted the subsidy, thus avoiding disconnection of their service. For the remaining customers, instalment plans were set up if the conditions to do so were met.

#### The district heating social bonus

In 2010, on its own initiative, Hera introduced a bonus to offset expenses for the district heating service, to be applied with the same procedures as those used for gas and electricity expenses. The bonus for 2016 is worth Euro 119 per year for households up to 4 members, and Euro 164 per year for households with a greater number of members. At the date of approval of this Report, 968 applications had been submitted for 2016 (923 the previous year) amounting to about Euro 120,000. The amount is in line with that of the previous year.

According to the contracts, except for Marche Multiservizi, **services may be disconnected** if bills are not paid. In these cases, a first reminder is sent approximately 20 days after the bill becomes due (only for customers in good standing with prior payments 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 supply 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 disconnection involves condominium users, Hera informs the owners individually before disconnecting the service.

Under the procedure used for the areas served by Marche Multiservizi, an initial reminder is sent by registered letter 20 days after the bill's expiry to inform the customer that the service may be disconnected, granting 10 days from the receipt of the notice to pay. If payment is not made, the supply is disconnected after at least 50 days 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 disconnection is for the condominium as a whole, it is normal practice to inform the individual owners via a warning on the condominium's notice board, before disconnecting the service.

As regards the gas 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 (the 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.

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 residential customers or mixed-type customers, it would limit the supply in all the Emilia-Romagna areas served but never cut off the service. This procedure will also be applied to the Padua and Trieste areas in 2015.

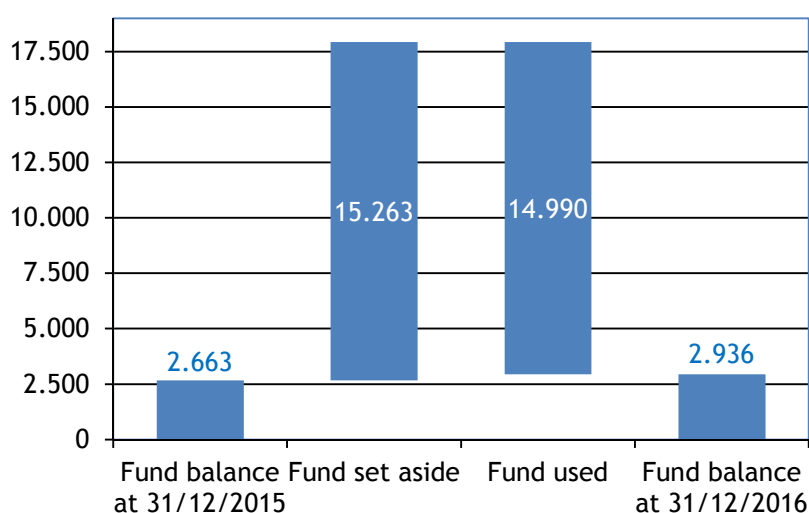
### The “water leak fund”

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 the customer’s own plumbing system. Pay 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

	2014	2015	2016
Funds disbursed (thousands of Euro)	6,536	14,555	14,990
Number of beneficiary customers	5,401	11,033	10,902
Average reimbursement (Euro)	1,210	1,319	1,375

The fund’s balance at 31 December 2016 is about Euro 2.9 million, of which about Euro 2.6 million is carried over from the balance at 31 December 2015. The balance just for 2016 is therefore of Euro 300 thousand, showing that basically the fund is balanced and that no measures need be taken concerning the membership fee, the excesses and the limits of liability applied.

Since the fund is exclusively for the benefit of the participating customers, interest was calculated on the monthly balances of the accrued fund at the legal rate in force for about Euro 6 thousand. Since its inception, the fund has reimbursed around 27,300 families and businesses, 10,902 of which in 2016, for an

average reimbursement of Euro 1,375. Only 4.0% of customers is not covered by the “Leak fund”. In 2016, a total of 1,500 requests for withdrawals were received. During 2016, over ten thousand individual notices were sent to users in the Ravenna and Rimini areas that had not participated in the leak fund, to remind them of the features and benefits they could have, by joining the new leak fund Regulation.

## **The quality of our service**

*Specific standards defined and constantly monitored to ensure a high-quality 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 Area 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 Atersir 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 Atersir and to users by publishing them in the bills. The forthcoming revision of the cards of the Service Charter will contain the new standards.

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

%	2014	2015	2016	Number of services provided (2016)
Gas	99.7%	99.7%	99.9%	2,616,195
Electricity	97.0%	98.1%	98.6%	65,953
Integrated water service	99.4%	99.5%	98.9%	142,997
District heating	99.2%	99.8%	98.9%	1,310
<b>Total</b>	<b>99.6%</b>	<b>99.6%</b>	<b>99.8%</b>	<b>2,826,455</b>

Includes the services for which the customer 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 have improved over 2015: in 99.8% of cases, the Group provided the service requested by the customer within the timeframes established by the Italian Authority for Electricity, Natural Gas and the Water System or by the services charters in force. This percentage has increased, on a like-for-like basis, from 95.8% in 2008 to 99.8% in 2016. Quality standards are close to full compliance (99.9%) in Hera’s and AcegasApsAmga’s gas services and Multiservizi’s Marche’s water service.

Starting from the second half of 2016, AEEGSI’s resolution 655/2015 has required automatic compensation for services of the integrated water service that do not meet the specific quality standards. In the above table, the 2016 services therefore also include the Triveneto and Marche regions, in which automatic compensation was not previously paid. Considering only the services required by AEEGSI’s new resolution 655/2015 and related to the water service, the percentage of compliance with the standard for 2016 is 98.4%.

## Compliance with specific gas and electricity quality standards

%	2014	2015	2016	Number of services provided (2016)
Gas sales	98.1%	97.5%	97.4%	10,714
Gas distribution (final customers and sales company)	99.7%	99.7%	99.9%	2,605,481
<i>Gas total</i>	<i>99.7%</i>	<i>99.7%</i>	<i>99.9%</i>	<i>2,616,195</i>
Electricity sales	98.2%	97.8%	97.6%	11,165
Electricity distribution (final customers and sales companies)	97.0%	98.3%	98.8%	54,788
<i>Electricity total</i>	<i>97.2%</i>	<i>98.2%</i>	<i>98.6%</i>	<i>65,953</i>
<b>Total</b>	<b>99.6%</b>	<b>99.6%</b>	<b>99.8%</b>	<b>2,682,148</b>
<i>Of which gas and electricity distribution</i>	<i>99.6%</i>	<i>99.6%</i>	<i>99.9%</i>	<i>2,660,269</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 timeframes for single services substantially improved over 2015. 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 97.0% to 98.6%), simple gas works (from 92.2% to 93.9%) and the activation of electricity supplies (from 97.5% to 98.7%). The figure for gas service re-activation due to late payment is slightly worse (from 98.4% to 96.9%).

The objective for 2017 is to guarantee compliance with the specific quality standards laid down by AEEGSI in 98.5% of cases.

### Initiatives for improving the quality of readings

Important new developments regarding meter readings occurred in 2016.

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 5,000 m<sup>3</sup> instead of the two required for customers with annual consumption between 501 and 1,500 and the three required for customers with annual consumption between 1,501 and 5,000.**
- **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 amount of readings collected by the distributor, optimise the reading loads and reduce the number of estimated readings and consequently the estimated component of the bills issued.

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 1,800 m<sup>3</sup> **instead of the two required** for customers with annual consumption between 1,800 and 3,000 and **the three required** for customers with annual consumption above 3,000.
- **four attempts per year to take a reading for all customers** with annual consumption between 500 and 1,800 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).

It is important to emphasize how both these innovations in the realm of reading taking have been harmonized and coordinated in order to safeguard the multiservice reading method that has always set Hera apart, making it possible, as much as is feasible, to combine the reading attempts of the various services that it provides so as to reduce the number of times access to the homes of customers is required.

To accompany these new regulations there is also the start of the new contract with the reading companies, which maintained the efficiency and strengths of the previous contract, notably increasing the use of photographic documentation of attempted readings in order to improve the quality of the data collected. Particular attention is also paid increasing the effectiveness of the auxiliary information collected during the readings, both as regards the status of the meter to support maintenance activities, both to better specify its position and how to access it, thus increasing the possibility of continuing to be able to read it over time.

As of the end of 2016, the Hera Group had installed over 188,846 electronic counters gas, amounting to 10% of the total, 150,390 counters which installed in 2016. By the end of 2017, we plan to have 19% of gas meters electronic and 48% by 2020 while we have started a project aimed to provide an enhanced version of the gas meter. The deployment plan has reached corporate objectives both in terms of meters installed and in terms of meters installed and actually read remotely. Consistent with sector regulations, the remote management we had started to test was the starting point for a working group within the Comitato Italiano Gas, which plans to issue a UNI/TR technical standard that governs how the device must actually be used. We have found a generalized technological immaturity of the equipment available on the market, in particular the devices designed to serve residential users (sizes G4 to G6). By monitoring failure modes, we have identified batches of devices that are not compliant with specifications, so as to protect our company from suppliers of those devices.

#### **Initiatives for improving billing quality**

When invoicing energy services, Hera Comm uses the data received from the distribution companies on the levels of consumption measured and the self-readings taken by customers and validated by the distribution companies.

For electricity, the dissemination of remote-controlled electricity 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 of the customers the consumption estimates are still essential and it is in this context that Hera is working to make these estimates match actual customer consumption as closely as possible.

In 2016, specific areas were examined in detail in order to maximize the use of the actual readings, to act in a timely manner on customers with estimated bills, and to facilitate final customers in reading their own meters.

The project was carried out in 2016 and produced a dedicated report that helps control situations related to billing and to the managing the readings but that has also identified a specific analysis area: that of large customers. In this regard, in 2017, we will launch some initiatives to increase the use of readings, not only to bill precisely but also to improve these forecasts, create and use a specific drawing curves, align annual consumption presumed to the readings actually received in previous periods. No less important in this context is using data formats in the bills that make it easy to understand what is being billed and to explain to users how they can provide their own meter readings.

The project launched in 2015 to optimize the estimation of gas consumption, by modulating the estimates in relation to the temperature trends of the current year was extended to the areas served by Hera Comm Marche.

## The quality of drinking water

### *Over 400,000 analyses on water to guarantee its high quality*

In 2016, a total of **415,000 analyses** were performed by the Group's laboratories **on drinking water**, amounting to over 1,100 per day. Of these, 61% were carried out on samples collected in the **distribution networks**.

The controls on the quality of the water used in the production of water for drinking and human consumption are governed by Legislative Decree no. 152/2006 and Legislative Decree no. 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.

### How much does water cost?

As well as benefiting the environment, drinking tap water instead of mineral water also saves money: considering an average yearly consumption 1,000 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 2016 average of the bills in the nine main cities served by Hera). Italy is third in Europe for the consumption of bottled water with 201 litres of water consumed per capita in 2014 (Source: International Bottled Water Association 2015).



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 **legal 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. As of the second half of 2014, this set of parameters was extended to include six more, as required by AEEGSI: **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. This service covers 165 municipalities in which Hera manages the water distribution service and includes the values of 13 water-quality parameters compared the limits set by law (total alkalinity, ammonium, calcium, chlorides, pH, hardness, fluorides, magnesium, nitrates, nitrites, dry solids at 180°C, sodium and sulphates). 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 Forlì-Cesena, Ravenna and Rimini areas is purchased wholesale by that company, and Hera's involvement in quality is limited to **managing the supplementary disinfection stations** along the distribution networks.

## 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	Padua	Pesaro-Urbino	Ravenna	Rimini	Trieste
pH	5.8-8.0	6.5-9.5	7.5	7.7	7.8	7.7	7.4	7.7	7.9	7.7	7.7
Hardness (°F)	0.7-88	50*	31	20	24	32	25	27	21	24	19
Dry solids at 180°C (mg/l)	22-932	1,500*	366	277	286	506	288	392	283	295	242
Sodium (mg/l)	0.3-67	200	23	19	13	57	5	22	21	21	8
Fluorides (mg/l)	0.03-1	1.5	0.11	0.12	<0.10	<0.10	0.10	0.22	0.10	0.13	0.04
Nitrates (mg/l)	1-9	50	8	7	6	18	13	6	5	8	8
Chlorides (mg/l)	0.2-80	250	32	29	20	84	9	27	33	29	13

\* Recommended value.

Comparison carried out with the data provided on the labels of 17 widely available mineral waters. The data on the drinking water refer to the average values of 18,251 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.

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, hardness, dry solids at 180°C, sodium, fluorides, nitrates and chlorides. 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 2016 the average values for Hera water are comparable with those of commercial mineral waters and that **no departures were granted** from compliance of the limits set forth in Legislative Decree no. 31/2001.

If we consider several significant parameters in terms of assessing water quality (aluminium, cadmium, chlorites, escherichia coli, iron, manganese, nitrates, lead and trihalomethanes-total), in 2016 a total of **51,921 analyses** were performed. Of these, 99.7% produced results that complied with the legal limit, demonstrating stable levels of quality with respect to the previous year. In cases where even one parameter falls within non-compliant levels, **Hera immediately carries out interventions to return to compliant levels** (washing of pipes, disinfection control, etc.) also based on the indications of the Local Health Authorities. For hygiene, health and public safety reasons, the Municipality may issue an order declaring that the water is not fit for drinking for specific periods of time. In these cases, the use of water for cooking and drinking may be completely prohibited or subject to particular precautions (e.g. boiling the water, if the cause is due to non-compliant microbiological indicators) while, as a rule, it can continue to be used for all other purposes.

During 2016, 28 orders were issued (of which 2 exclusively as precautionary measures), affecting a total of about 7,000 people. Of the 6 orders in Emilia-

Romagna, 1 was in the province of Bologna and 5 in the province of Rimini, and more in detail:

- one order concerned an area of the Casalecchio di Reno municipality and affected 30 inhabitants for 18 days;
- one order concerned an area of the Verrucchio municipality and affected 6 inhabitants for 9 days;
- two orders concerned the Novafeltria municipality (one of the two was issued only as a precautionary measure) and affected 1,798 inhabitants (of which 1,791 only as a precautionary measure) for 24 days;
- one order concerned the Castello d'Argile municipality and affected 200 inhabitants for 7 days;
- one order, also issued only as a precautionary measure, covered the Sant'Agata Feltria municipality and affected 1,505 inhabitants for 5 days;

In the area served by AcegasApsAmga no orders were issued by mayors regarding the unsuitability of drinking water, while in the Pesaro Urbino province 22 orders were issued affecting over 3,000 inhabitants. The number of orders and the corresponding number of inhabitants involved is nonetheless down compared with 2015 (5,700) since the orders were almost exclusively related to small municipalities or small areas of larger municipalities. In almost all cases the unsuitable drinking water orders are related to problems at the disinfection plants of small aqueducts where, due to the low flow rates and to their position, in isolated areas, monitoring and regulation is generally more difficult. The total number of orders and their duration remained essentially stable.

Regards the presence of **cement-asbestos** pipes in the network (see paragraph "Water production and distribution") 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 destined for human consumption (Legislative Decree no. 31/2001) does not set limits regarding the presence of asbestos fibres: in particular, Ministerial Decree of 14 May 1996, annex 3, cites 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). 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 Italian National Health Institute (Istituto Superiore di Sanità) once again reiterated these positions in one of its communications which, among other things, asserts 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, the one defined by the US EPA (Environmental Protection Agency) as 7 million fibres/litre for fibres of longer than 10 mm.

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 to check for the presence of asbestos cement, the frequencies and the analytical parameters to analyse. The inspections carried out during 2016 show that the most of the samples contain no asbestos fibres. Where it was found, the size of the fibers was  $>10 \mu\text{m}$  (ref. EPA). The average of the values found is more than 75 times lower than the EPA limit referenced above. In most cases, the water distributed by Hera has aggressive levels above 12 (and is non-aggressive with respect to the cement base).

## Safety and continuity of our services

*Energy, gas and water served to millions of customers within a safety monitoring system*

### Safety and continuity of the electricity service

In 2016, the distribution grids operated by Hera Spa distributed approximately 2,186 GWh of electricity to around **260,000 users** in 24 municipalities of the Bologna, Modena and Ravenna provinces in Emilia-Romagna. A further 163,000 users were also served in the Trieste and Gorizia areas.

The electricity grids operated by Hera in Emilia-Romagna are 10,155 kilometres long, 73.2% of them carry low voltage, 26.4% medium voltage, and 0.3% high voltage. 41.7% of the lines are underground, and the rest are above ground. Following work carried out in 2016, the high voltage distribution grid was expanded by 8% compared to 2015, the medium voltage grid by 0.3% and the low voltage grid by 0.2%.

The physical and administrative losses recorded for the distribution grid amounted to 1.2%. No accidents involving citizens occurred in relation to the electricity grids operated by Hera, in 2015.

In 2016, supplies relative to electricity grid management and maintenance activities required around 10,000 days of work for activities related to new plants that were installed and grid maintenance. When suppliers sign the agreement, they are required to train and inform their personnel on the specific risks that could arise when work is being carried out, and on the protection and prevention measures to be implemented, and to provide their personnel with the proper clothing and safety equipment suitable for the work they perform. The company has adopted a documentation system consisting of procedures and operating instructions which specify the criteria, the methods, the roles and the responsibilities for emergency measures, emergency management and the supervision of service disconnections.

The continuity of electricity distribution is regulated by AEEGSI 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 document 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 has 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 Hera by AEEGSI's 702/2016/R/eel resolution, applicable to this regulatory period (2016-2023).

### Continuity of the electricity service

	2015	2016	2015-2016 average	2016 trend
Average number of power cuts per customer in high concentration areas	1.17	0.86	1.02	1.24
Duration of power cuts (minutes) per customer in high concentration areas	10.26	7.92	9.09	28.00
Average number of power cuts per customer in medium concentration areas	3.67	1.05	2.36	2.86
Duration of power cuts (minutes) per customer in medium concentration areas	52.45	18.51	35.48	45.00
Average number of power cuts per customer in low concentration areas	5.17	5.13	5.15	5.13
Duration of power cuts (minutes) per customer in low concentration areas	65.92	53.41	59.67	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 2016 trend is the objective of the indicator for 2015-2016. The trend level for the number of power cuts in low concentration areas is 4.30 for Imola-Faenza and 5.34 for Modena compared to the final values of 2.16 and 5.93.

In 2016, except for the low-concentration area of Modena, the electricity continuity indicators (number and duration of power cuts) improved over 2015 and stood below the level trend set by AEEGSI. In order to reduce the number of power cuts and electrical stress on the Group's equipment, the project for the installation of 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. During December 2016, installation of Petersen coils was completed at the primary substations of Strettara and S. Michele in Modena, which are planned to go live in 2017.

In 2015, power cuts in the areas served by the Group lasted 32% less than the national average and there were 10% fewer cuts (source: AEEGSI Annual Report).

In 2015, resolution 685/16 of 24/11/2016 awarded Inrete Distribuzione a total of around Euro 557,000 as **incentives related to continuity recoveries of the electricity distribution service** and issued **penalties** for around Euro 506,000. By 30 November 2017, the Italian regulatory authority will publish the results achieved by the distribution companies in 2016 which, for Inrete Distribuzione Energia, are expected to amount to incentives of around Euro 200,000. AcegasApsAmga also takes part in the incentive and penalty system for continuity recoveries related to the electricity distribution service: **in 2015, it was awarded an incentive of Euro 150,000.**

The number of requests for connection to the distribution network operated by Hera Spa in 2016 was substantially identical to that of 2015 (492 requests with respect to the 476 of 2015). The power per unit of the low voltage installations has gone down by nearly 25% while it has increased for medium voltage installations due to two important biogas and cogeneration plants (3 MW and 3.3 MW respectively) coming on line. The **total input power** demand for connection of manufacturing plants was **15.4 MW**, up compared to the **12.1 MW** of 2015.

#### **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 obligations on the inspection of networks, on odorising and on incentives to upgrade the odorising systems.

Since 2009, Hera Spa has participated in the incentive system for safety improvements in the gas distribution service, as defined by AEEGSI. Compliance with the requirements allowed Hera to participate voluntarily in 2009, while since 2010 Hera has been required to participate in the system, which assesses four elements:

- compliance with **service obligations**, **absence of gas accidents** falling under the responsibility of the operator, **absence of breaches** in this area connected with AEEGSI controls or inspections;
- the number of measurements of the **level of gas odorising** compared to the required minimum;
- the number of conventional **leaks** reported by third parties compared to the objective set by AEEGSI for the period.
- the number of upgraded **odorising systems** (flow-proportional and remote controlled injection-type odorisation systems).

For 2015, resolution 686/2016 awarded to Inrete Distribuzione Energia a total of Euro 3.7 million as **incentives related to the continuity recoveries of the electricity distribution service** for the areas it manages in provinces of Reggio-Emilia. More specifically, Hera achieved positive results both for the gas odorisation component and for the component regarding leaks reported by third parties. By 30 November 2017, the Italian regulatory authority will publish the results achieved by the distribution companies in 2016 which, for Inrete Distribuzione Energia, is expected to have a balance of incentives and penalties amounting to around Euro 2.9 million. In 2015, AcegasApsAmga received incentives for Euro 1 million and penalties for Euro 0.1 million, while for 2016 incentives are expected for Euro 0.7 million. Marche Multiservizi received incentives for Euro 0.3 million for 2015 and expects the same result in 2016.

### Gas emergency service

	2014	2015	2016
Average arrival time at the call location (min.)	35.6	35.9	34.9
Calls with arrival time at the call location within 60 minutes (%) (service obligation 90%)	98.3%	97.7%	97.5%

Despite an increase in the number of calls received, the positive results of the security and continuity indicators confirm that the Group is firmly above the levels set by AEEGSI: compared to the minimum service obligation required by AEEGSI of 90%, in 2016 the Group intervened **within 60 minutes** for **97.5% of the 24,705 calls** received (+14% compared with 2015). Analysis of the individual areas shows a slight decrease in the 3 years considered in some areas served by Hera Spa (Ravenna, Modena and Bologna) and Marche Multiservizi while in the Triveneto region the performance recorded was stable.

### Inspections and leaks in the gas network

	2014	2015	2016
Percentage of total high and medium pressure network inspected (service obligation 100% in 3 years)	56.3%	53.3%	56.3%
Percentage of total low pressure network inspected (service obligation 100% in 4 years)	63.2%	68.9%	78.1%
Number of leaks on distribution network located upon inspection per kilometre of network	0.099	0.085	0.065
Number of leaks on distribution network located upon notification by third parties, per kilometre of network	0.055	0.043	0.041

The calculation criteria for 2015 were in line with those of this year.

In 2016, the percentage of the **grid that was inspected was significantly higher than the minimum standard** required by AEEGSI (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 56% and the low pressure grid was 78%. Since 2015, the inspection of the gas networks has been performed repeatedly by internal staff, a method that has been extended to the Udine area, using a vehicle equipped with an automatic laser-based leak detection system.

In 2016, 100% of the high pressure network and of the medium and low pressure network classified as having a high probability of leaks, was inspected. That network, identified on the basis of an analysis of past data related to leaks and an accurate mapping of the hydro-geological risk of each area in which the network is located, spans 790 kilometres, 6% of the medium and low voltage network operated in Emilia-Romagna. In the remaining cases, the inspection is carried out every three years. The substantial reduction of the network classified as having a high probability of leaks (which was 14% of the total in 2015) is due to completion of the full replacement of the cast iron pipes with hemp-lead joints and the significant reduction of the steel mesh with ineffective cathodic protection,

thanks to the improved performance of cathodic protection systems on steel meshes.

2016 was the third year for Emilia-Romagna and the second for the Triveneto region in which the **new criteria for planning and carrying out gas network inspections** have been applied, with the objective of increasing inspection effectiveness pursuant to AEEGSI's 574/2013 resolution. The general criteria involve an annual inspection of the entire high pressure network and of the medium and low pressure network if classified as having a high probability of leaks (high pressure network, steel mesh with in effective cathodic protection or materials other than steel and polyethylene and network in areas subject to hydrogeological risk).

Scheduled searches for gas leaks continued throughout 2016, 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 meter in question is carried out.

These operations are carried out both by company staff and by external companies, guided by specific instructions, and identified the location of 845 leaks, 544 of which in above-ground connections and 301 in meters. 16% of the part above-ground of the gas network was inspected in 2016.

In 2016, a new software and a new innovative portable technology was tested for the inspection of the user connections and of the overhead networks in the Modena area.

In 2016, in the Group's entire gas distribution network, 41 leaks were reported by third parties, per thousand kilometres of network, compared to 43 in 2015. On the other hand, in 2016 there were 65 leaks on the Group's distribution network identified by means of inspections, per thousand kilometres of network, compared to 85 in 2015.

### **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 one per area (Emilia-Romagna and Triveneto) in addition to a joint toll-free number 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**

	<b>2014</b>	<b>2015</b>	<b>2016</b>
Gas	99.2%	99.4%	98.8%
Other services (water and district heating)	96.1%	95.0%	98.0%
<b>Total</b>	<b>97.0%</b>	<b>96.4%</b>	<b>98.3%</b>
<i>of which for gas emergencies (general level 90%)</i>	96.5%	97.9%	97.2%

Excluding Marche Multisevizi. The 2014 figures do not include AcegasApsAmga.

The percentage of emergency gas calls is calculated according to criteria defined by AEEGSI, considering the calls received, answered or abandoned within 120 seconds.

**Average technical call centre waiting times**

s	<b>2014*</b>	<b>2015*</b>	<b>2016</b>
Gas	18.0	17.0	16.8
Other services (water and district heating)	35.0	39.0	20.9
Number of calls	171,197	258,465	364,023
<i>of which for the gas emergency service</i>	45,039	70,444	102,092
<i>of which for other emergency services</i>	126,158	188,021	261,931

\*Excluding AcegasApsAmga.

In 2016, a total of around 364,000 calls were made to the Forlì technical call centre, down 1.2%, on a like for like basis, compared to 2015, a year that had an exceptional snowfall in February and a dry summer.

2016 was characterized by the regulatory change introduced by AEEGSI with resolution 655/2015, which extends to the integrated water service the requirement to answer within 120 seconds for 90% of calls, using the same calculation criteria currently applied to the gas emergency service. To take into account the new objectives, various actions have been taken: changing the automatic answering system (shortening that of the integrated water service to 30 seconds from the previous 58), improving specific messaging for the provision of information to customers which can also be activated easily by shift managers, and implementing organizational measures.

We continued operations to increase the response efficiency and effectiveness, such as georeferencing the disturbed area in real time in order to have more awareness in responding to the customer, publishing the service journal online showing the work in progress, and lastly rationalising the video wall so that it provides more information to operators.

**Safety downstream of the meter**

AEEGSI's resolution 40/2014/R/gas updated resolution no. 40 of 2004. Starting from 1 July 2014, it added the requirement to inspect the safety of gas systems for requests of

new activations and for systems that are modified and transformed (with disconnected or dis-activated supply). The scope of application again regards user systems with non-technological use of gas (e.g. home use, boilers for district heating etc.).

In 2016, a total of 6,007 safety inspections were carried out to comply with resolution 40/2014, of which 5,016 were for new systems and 991 were inspections on modified or transformed systems. Of the 6,007 investigations, 5,378 passed and 629 did not pass.

When activating gas supplies, Hera 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 Hera'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 (AEEGSI resolution 574/2013/R/gas).

Since 1 January 2017, under AEEGSI's resolution 223/2016/R/gas, the new improved insurance policy is in force, that protects final customers against accidents caused by the use of natural gas and LPG, provided via the network. The new policy lasts for four years and its maximum levels of compensation in case of fire and accidents are higher than those of the previous insurance policies. In particular, under the policy, anyone using combustible gas (natural gas or LPG) provided through 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 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 2016, over 6,400 kilometres of network were inspected by the Group, amounting to 18.5% of the total water network, in line with 2015. Higher percentages were inspected in the Trieste area where the age of the network and the working pressure are higher than average, therefore causing more frequent breakages. An innovative satellite technology was used to find leaks in 600 kilometres of the network in Emilia-Romagna. The leak search activity was organised on the basis of a criticality analysis in terms of network leaks, breakage indexes of the pipes and possible issues concerning the availability of water resources (in particular during the summer).

### Continuity of the water service

	2014	2015	2016
Percentage of network subject to active searches for leaks	21.0%	18.1%	18.5%
Number of breakages per km of network*	0.98	1.16	1.09

\* 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 decreased by 6% for Hera Spa, compared to last year.

### The security of information

The design and management of information security is now a consolidated asset within Hera Group. The management model used for information security within the Hera Group, set up on the basis of the ISO 27001 standard, has proven its effectiveness again in 2016. The results of the information security risk assessment (presented in the Risk Committee last September) show a decrease of the risk index, in 2016.

The initiatives proposed for the 2017-2021 Business Plan for the mitigation of information-related risks are designed to achieve a further reduction of the risk index during 2019. The most significant information security related projects in 2016 include:

- extending the periodical technical checks on security vulnerabilities of the systems and networks of AcegasApsAmga, in the context of the broader project of harmonisation of information systems;
- implementing training measures (in e-learning mode) addressed to all the personnel of the Group, designed to: teach the basic principles of information security, increase the awareness on risks to information security, inform users on the requirements of the Group's Security Policy;
- starting (in collaboration with the Enterprise Risk Manager) a Business Impact Analysis aimed at assessing the risk scenarios for business continuity arising from: natural, catastrophic and criminal/subversive events, operating problems, organizational deficiencies, changes in the competitive-regulatory environment.

### Customer relations

*The contact channels with customers comply with the requisites of simplicity, speed, completeness and transparency*

In 2016, the Group 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, the branch offices, online services and email.

#### Customer service requests

(%)	2014	2015	2016
Call centre	53.4%	53.5%	55.7%
Branch offices	29.1%	28.4%	26.1%
Online services	11.9%	12.6%	12.6%
Email	5.6%	5.5%	5.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Excluding AcegasApsAmga and Marche Multiservizi

In 2016, the total volume of requests handled by the contact channels increased by 10%. The channel that increased the most was the call centre (+15%), followed by the web (+11%) and by the traditional mail channel (+9%).

## The call centre

In 2016, approx. 2.7 million calls were received at the Group's call centres, up 18% compared to the previous year.

## Call centre quality

	2014	2015	2016
Average waiting time at the call centre for residential customers (s)	41	38	40
Calls with satisfactory outcomes for residential customers (%)	93.4%	94.7%	94.0%
Number of residential customer contacts at the call centre (thousands)	2,434	2,311	2,732
Average waiting time at the call centre for business customers (s)	31	26	36
Calls with satisfactory outcomes for business customers (%)	95.6%	96.3%	94.8%
Number of business customer contacts at the call centre (thousands)	411	370	375

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.

2016 was characterized by significant national regulatory changes caused both by the activation of new processes (such as, for example, the RAI subscription in the electricity bill) and the update of existing processes (for example: the "unbundling" project, the separation of technical and commercial data banks). These factors increased the number of contacts handled by the call centre operators by over 18%. To this we must add that we opened up our toll-free number for household customers to mobile phones, which has considerably improved accessibility to the service. Despite the increase in traffic volumes and the significant changes, the indicators remained at a high performance level, while worsening slightly in particular for business customers.

In 2016, the average response time for residential customers increased slightly to **40 seconds** (38 in 2015). In particular, there was a slightly worse performance for Hera Comm's call centre, that in 2016 had an average wait time of 34 seconds (4 seconds more than last year) and for Marche Multiservizi (+74 seconds); in the latter case the increase is due to the considerable increase in the number of calls. The call centres of AcegasApsAmga and of EstEnergy markedly improved their response times by 19 seconds and 18 seconds respectively, due to targeted training of staff and mentoring, assigning expert staff to existing workers.

Using the method to determine the waiting time set out by AEEGSI (which also considers the time of the automatic answering system), the average waiting time at the Group's call centres were 87 seconds for households and 75 seconds for business customers in 2016: both values are significantly below the 200-second objective set by AEEGSI.

Hera Group's customer service offers a number of support channels: users that need to request information, manage their contracts or carry out any other activity concerning the service, can go to the branch offices, use the Hera OnLine service or contact the call centre.

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 organisations, who have signed with Hera Comm a standard agency mandate.

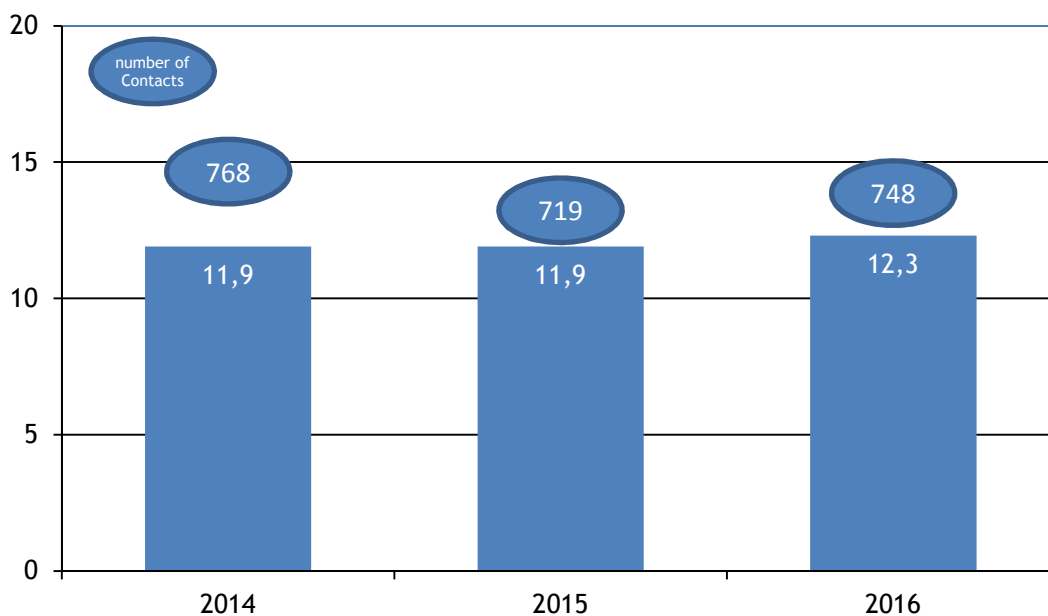
Also, considering management of the emergency service call centre for gas, water and district heating, which is always active in the event of failures and emergencies and manned by dedicated staff inside the company and located at Forlì, during 2016, about 90% of the calls was handled from Italy.

In 2016, the call centre continued to promote electronic billing and direct debiting, and started to contact customers to remedy or pro-actively prevent problems encountered during their first contact, or to provide feedback on the status of procedures, so as to improve their customer experience. Extensive monitoring was carried out to optimize processes and reduce the number of unsatisfied customers. During 2016, and at an experimental level, we started carrying out surveys within the next day after signing the contact, on a large sample of customers who had lodged a request with Hera Group's call centre.

#### The branch offices

In 2016, the influx to the branch offices increased by 4%, partially recovering the reduction experienced in 2015.

#### Average waiting times at branch offices



### Average waiting times at branch offices

Min	2014	2015	2016
Hera	11.1	8.9	10.4
AcegasApsAmga	17.7	27.5	21.8
Amga Energia&Servizi	-	9.7	9.3
Marche Multiservizi	9.4	11.7	14.6
<b>Weighted average on contacts</b>	<b>11.9</b>	<b>11.9</b>	<b>12.3</b>
Number of contacts	768,058	719,584	747,964

The performance of the Group's branch offices is substantially in line with that of previous years, even though there was a greater number of customers, especially in Emilia-Romagna (in particular in Modena) and in Pesaro. For Marche Multiservizi, the increase of customers at the branch office was determined mainly by the introduction of new computerised system that has improved the regularity and punctuality of the billing. The average waiting time for AcegasApsAmga in the Padua and Trieste areas has markedly improved, and despite the 4% increase of the contacts, they improved by almost six minutes also thanks to the organizational changes made, with a "lean" approach that has rationalised the entire organizational process of the branch offices.

For 2017, the goal is to provide average waiting times at branch offices in line with those of 2016, and improve the waiting times at branch offices of AcegasApsAmga.

Considering only Hera Comm, 4.5% of customers waited at the branch office for over 40 minutes. The high quality of Hera Comm's branch offices is clearly shown in the customer satisfaction analysis with respect to the perceived quality of the branch office, that in 2016 rose to 83 points (over one point compared to last year).

The Group has 72 branch offices in Emilia-Romagna, 10 of which are open for 33 hours per week from Monday to Friday. Considering also the area served by the subsidiaries AcegasApsAmga, Marche Multiservizi and Amga Energia & Servizi, there are 108 branch offices overall (there were 112 in 2015). In addition, there are 22 branch offices managed by Hera Comm Marche and Gran Sasso in Abruzzo for a total of 130 branch offices.

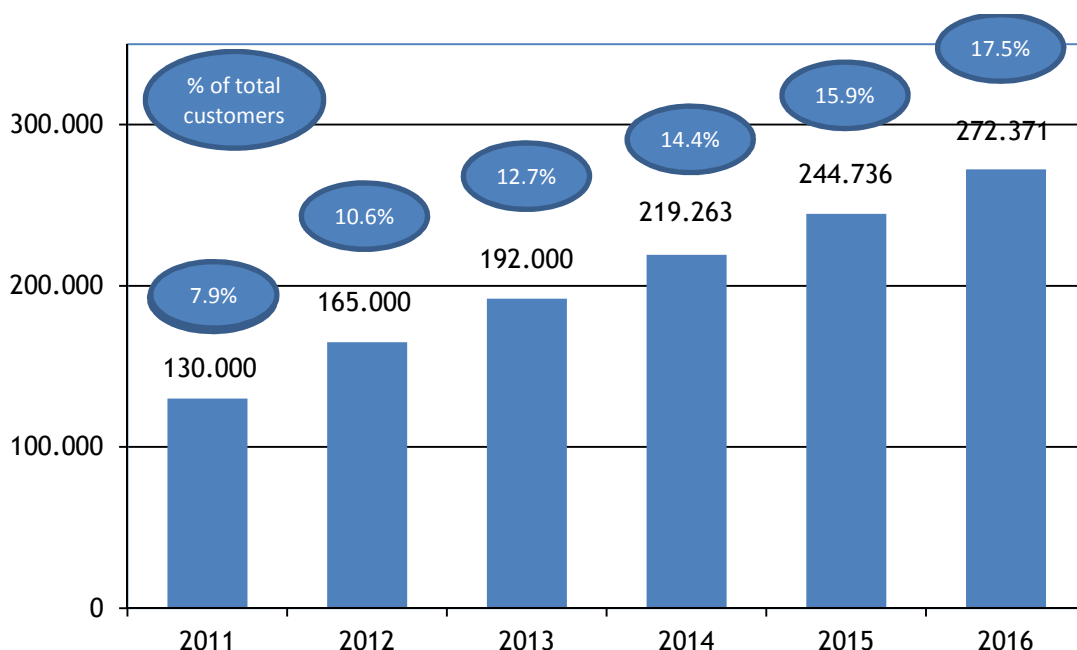
### Waiting times at the branch offices of the main Italian utility companies

According to a comparative analysis carried out by Utilitatis among the main Italian utility companies, the average waiting time at Hera's branch offices in 2015 was 17% lower than the average of the 11 companies considered (14.3 minutes).

### The online services

The on-line services of the Hera Group continue to prove to be a useful tool that customers can use independently to view their bills, check their consumption, make reports, submit self-readings and check the progress of procedures. The on-line services were significantly upgraded, leading up to the release, in January 2017 of a completely renovated new website.

### Customers subscribed to online services

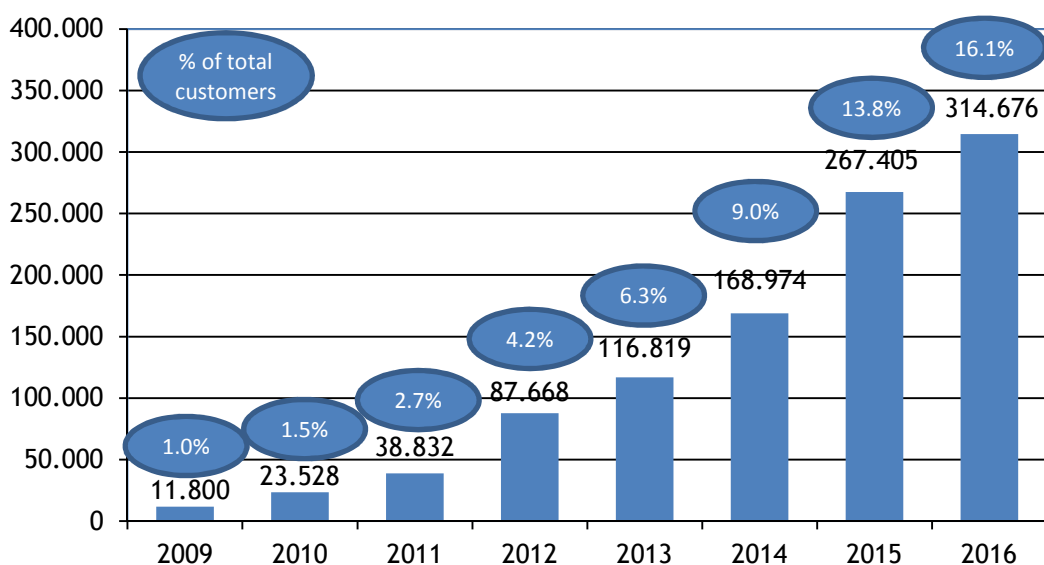


Excluding AcegasApsAmga and Marche Multiservizi

Hera Comm's online services proved very popular among customers again in 2015: the growth trend of the past five years is continuing and in 2016, 17.5% of our customers are subscribed to the services. The number of subscribers has in fact **grown by 11%** compared to last year, reaching 270,000 customers.

Electronic billing, supported again this year by the "Get rid of bills. Give a tree to your city" campaign, has been chosen, by end 2016, by **314 thousand customers** (+86% compared to 2014 and +18% compared to 2015).

### Customers with electronic billing



Excluding AcegasApsAmga and Marche Multiservizi

There has also been an increase in the number of customers (462 thousand customers in 2016 against 381 thousand in 2015) who have submitted their own meter readings at least once during the year (+21%).

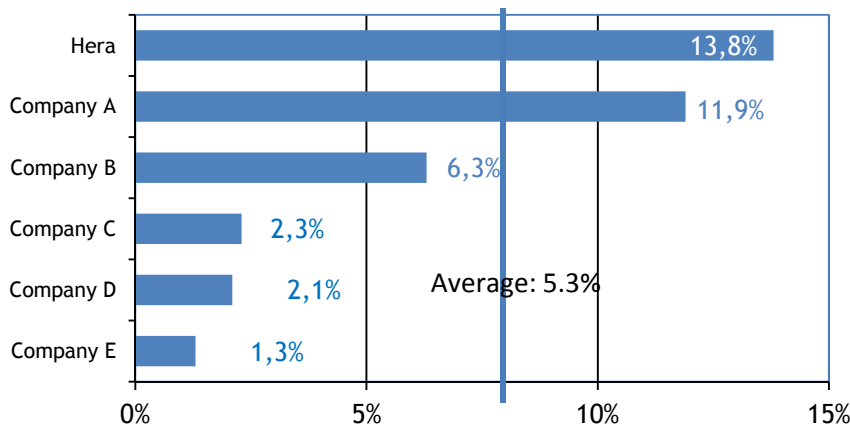
For 2017, actions are planned to continue to promote electronic billing (also by a new dedicated advertising campaign), further improving our on-line services and increasing the number of subscribers.

Almost 30 thousand customers have enrolled in the on-line services of Estenergy and Marche Multiservizi (8.7 % of the total and up by three percentage points over last year) while about 18,000 customers have chosen electronic billing (5.1 % of the total and up almost three percentage points over last year).

### Online billing in the main Italian utility companies

According to a comparative analysis carried out among the main Italian utility companies by Utilitatis, Hera ranks first among the 6 companies considered, by the percentage of contracts that are billed electronically. In 2015, 13.8% of Hera's contracts were billed electronically, versus an average of 5.4%.

Percentage of contracts with electronic billing (2015)



### Complaint management

In 2016, there was an increase compared to the previous year: about more 9,800 complaints, equal to about 32% more than in 2015. The increases are however different according to the type of service: gas (+35%) and electricity (+42%), water sector (+13%) and environment (+37%).

There has been a growth in the level of litigation and, therefore, in the complexity of cases. As a result, average response times rose to around 19 calendar days compared to the 17 in 2015 and the number of complaints handled within the standard time decreased by 5 percentage points, dropping to 87.8%.



## Complaints received

	2014	2015	2016
Average complaint response time (days)	14.5	16.7	19.1
Percentage of complaints that were dealt with within the standard timeframe (%)	93.4%	93.4%	87.8%
<i>of which electricity and gas complaints relating to sales</i>	<i>98.2%</i>	<i>97.6%</i>	<i>87.4%</i>
Number of complaints received (no.)	32,062	31,198	41,050

Excluding AcegasApsAmga and Marche Multiservizi. The complaint response time is indicated in calendar days, with a reference standard of 40 days. There were 20,742 complaints relating to gas and electricity sales in 2016.

Excluding AcegasApsAmga and Marche Multiservizi, in 2016 the volume of complaints sharply increased reaching 41,000, +32% compared to 2015. The rate of complaints increased from 1.1% in 2015 to 1.34% in 2016. The average response times increased with respect to 2015, to stand at around 19 average calendar days. Handling times were similar for gas, electricity and waste; those for the water service were lower. During 2016, the actions to improve the management of complaints were mainly focused on analysing the communication style and the language used in our communication with customers. The activities launched in 2016 will continue in 2017, together with all the facilities that manage complaints, in order to implement the main guidelines identified in the analysis phase.

For AcegasApsamga, the average response times to complaints are 27 calendar days and the percentage of complaints answered within the standard time is 85.6%. On the other hand, in Marche Multiservizi, the average response time to complaints is 9 calendar days and the percentage of complaints answered within the standard time is 99.5%.

## 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 2016, 60 requests for mediation were received, 49 of which were accepted. 20 of them were for the gas service, 6 for the electricity service, 2 for both services and 21 for the water service.

Out of the 49 requests received, 17 were settled with mediation, 7 failed to be settled through mediation, while the rest, mainly arrived in the last months of 2016, were at the negotiation stage as of 31/12/2016.

Regarding the 11 requests which could not be accepted:

- 7 regarded services excluded from the mediation regulations;
- 3 were submitted by customers that were not entitled to submit them;
- 1 lacked other requisites laid down in the regulations.

From 2010 to 2016, 391 requests were processed or are being processed, 248 of which concluded with a settlement, 96 with a failure to reach a settlement and 11 with the request being abandoned since the problem had been solved in the meantime. The remaining 36 cases are currently pending at 31 December 2016.

AcegasApsAmga gas and electricity customers may resort to joint mediation as set out by a specific protocol agreed with consumer groups: in 2016 13 requests for mediation were received, of them, 6 were eligible, 2 were not reconciled, 3 were reconciled and 1 was being resolved at the end of 2016.

### **Disputes with customers**

At the close of 2016 there were 497 disputes pending with customers (221 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 221 disputes, 156 were for the gas, electricity and district heating services, 36 for the water service, 28 for the waste management service and 1 for other customers (public lighting). 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 addition to these disputes, at the end of 2016, 588 other disputes are pending that concern the disconnection of gas supplies of late-paying final customers that had entered into contracts with salespeople of the distribution network operated by In Rete Distribuzione Energia.

### **The protection of personal data**

In 2016, the risk analysis on the processing of personal data already carried out within Hera Spa was also performed by Hera Comm and Herambiente, using the consolidated methodology, with a focus on risk ranking and compliance assessment. The analysis showed that the risks relating to availability, integrity and confidentiality are at an acceptable level and that the non-technical measures required by Legislative Decree 196/2003 are substantially complied with.

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.

At Group level, the "Regulation on methods used by technological tools and corresponding inspections" was formalised, to implement the 2015 changes to Article 4 of the Statute of the rights of workers. The contents of the e-learning courses for personal data protection for the data processing staff and of the course on information security for department managers and key users were updated and 38 reports were prepared on the processing of personal data, as part of specific projects.

Particularly relevant is the supervision of the new European Regulation 679/2016 for the protection of personal data, as we assessed its operational impact within the Group.

We have constantly updated the forms and the documentation contained in the corporate information portal, to ensure the dissemination of regulatory developments on personal data protection and we have constantly designated the external data processor in the context of intercompany service contracts, also in the light of the recent corporate changes.

Some of the most significant activities for the processes of Hera Spa are: analysis and compliance for video surveillance equipment and the security devices installed in collection centres subjected to dangerous burglaries; preparation of

personal data protection documentation for the joint school-work experience courses and to implement the Atersir Regulation on the application of the per capita water tariff.

The following activities have been carried out for the companies of the Group: in collaboration with Hera Comm, document management for activations, takeovers and transfer of the TARI tax; provision of forms and personal data protection documentation for the newly formed Inrete and Heratech companies; support for procedures that involve the personal data of customers, received by Hera Comm, and the assessment of requests for access rights pursuant to art. 7 of Legislative Decree 196/03 and for provision of personal data.

During 2016, the findings of the previous audits were dealt with and resolved. As a result of the 2015 audit by our internal supervisory body, we have enhanced our corporate information portal to provide more effective communication with internal personal data protection managers/process owners, also to promote operating standards. We also outlined the update of the "Management of corporate personal data protection compliance" procedure. The update must be gradual, also considering the impacts arising from EU Regulation 679/2016.

### Customer satisfaction survey and other dialogue initiatives

*The ongoing assessment of customer satisfaction is the starting point for high-quality services*

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)	2007	2008	2009	2010	2011	2012	2013	2014*	2015*	2016*
Service satisfaction index (Services CSI)	71	72	72	74	73	73	75	75	75	75
Overall satisfaction index (CSI)	65	67	69	69	70	69	70	69	70	70
Global satisfaction	68	70	73	71	72	71	72	72	73	73
Satisfaction with respect to expectations	63	66	68	68	69	68	68	67	68	69
Satisfaction with respect to the ideal	62	64	67	66	68	66	67	67	67	68

\* Includes Hera Spa, Hera Comm, Hera Comm Marche and AcegasApsAmga

The overall satisfaction of residential customers stands at 70, a high level of satisfaction. Satisfaction compared to expectations and compared to the ideal

have improved by a point. The excellent level of satisfaction with the services provided was confirmed in 2016: 75 points.

All services exceed the threshold of 70 points, which indicates a high level of satisfaction.

The contact channels show a high level of customer satisfaction and above all are consistently high: the ratings of branch offices, call centres and online services are respectively 76, 76 and 77.

#### 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. Approximately 5,900 telephone interviews were carried out to understand 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 16 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.

In addition to the annual survey, initiatives continued during 2016 to obtain customer feedback through satisfaction surveys on the Branch Office and Call Centre contact channels with over 6,500 phone interviews carried out with customers who visited branch offices or contacted the Call Centre.

#### Assessment of district heating customer satisfaction

CSI (from 0 to 100)	2010	2011	2012	2013	2014	2015	2016
Overall satisfaction with the district heating service (district heating CSI)	75	75	73	72	72	70	73
Overall satisfaction index (CSI)	68	68	67	66	67	68	68
Global satisfaction	71	71	70	68	70	71	70
Satisfaction with respect to expectations	67	67	65	64	64	66	68
Satisfaction with respect to the ideal	65	66	66	63	65	64	67

In January 2017, the survey on the satisfaction of residential customers with the district heating service was carried out.

In 2016, district heating service improved significantly (+3 points). Customers with central heating have an increasingly high opinion of the service (74 points) but especially for those who have independent heating (71 points). The generally positive opinions on service reliability (77) and the benefits of the service (78) are in line with last year. The other services were rated at 72 points.

In the second half of 2016 we launched a new offer that, also thanks to the support of the initiative dedicated “Discovering hot water”, was chosen by almost 1,000 customers in just a few weeks. We presented a new rate plan for residential customers connected directly to the network, designed with the involvement of customers in special focus groups, in the of Bologna and Imola areas. It was the end result of a project aimed at renewing the district heating service, based on innovation and environmental sustainability.

#### Assessment of business customer satisfaction

CSI (from 0 to 100)	2010	2011	2012	2013	2014	2015
Service satisfaction index (Services CSI)	72	71	71	70	73	74
Overall satisfaction index (CSI)	65	66	66	66	67	68
Global satisfaction	69	68	69	69	70	71
Satisfaction with respect to expectations	63	64	66	64	65	67
Satisfaction with respect to the ideal	61	64	64	63	65	66

The year 2015 confirms a positive growth trend of the overall satisfaction index, which stood at 68, and the index of satisfaction of the services, which stood at 74.

The average ratings are particularly high for Top customers and confirm values for the free market above those of the standard tariff market.

Energy services have improved (+2 points for both electricity and gas).

During the year, we continued to closely monitor satisfaction levels for the contact channels, investigating the main reasons for which customers are unsatisfied. The Customer experience project also involves business segments, to determine how much they would appreciate other forms of contact between customers and the company (in addition to the satisfaction for the service provided at branch offices and when calling the call centre). The aim is to identify situations in which the service deviates more significantly from customers' expectations in order to set up improvement projects.

#### Other dialogue and consultation initiatives

##### *A dedicated channel has been provided for consumer groups to handle their reports*

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 2016, 5,571 visitors accessed the web, for a total of 13,689 page views, in line with 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 2016, 785 cases were managed through this channel (789 in 2015), 94% of which were solved successfully, with an average resolution time of 3.9 days.

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 2016. A total of 14 meetings were held on topics in which the associations showed particular interest or in relation to which they requested clarification and further details: the progress of the Leak Fund, updates on mediation cases, news related to the Brand unbundling (only for the Modena and Imola areas), the presentation of the Acquologo app, but above all, the representatives of the associations have been particularly interested in the issue of payment of the RAI fee in electricity bills.

Italy's economic situation has affected the Trade Associations: some have ceased operations, others have started to consolidate. Despite these changes, the Hera Group has continued to cooperate with over 80 local trade associations who are therefore able to take advantage of innovative services and favourable supply conditions.

Our actions throughout 2016 were not only aimed at consolidating relationships in the areas the Group serves, but were also designed to be in line with our commercial expansion effort in central Italy: we also finalised our collaboration with CIA Umbria Confederazione Italiana Agricoltori Umbria), Arci Umbria, CNA Abruzzo, Arci Pescara, and Confartigianato Grosseto.

Specifically, we agreed to open a Hera Comm branch office inside the CIA Umbria Confederation offices in 2017, inaugurating a new model of supervision and management of the needs of the members that brings us closer to our customers and to the specific needs of the area.

As regards initiatives in the areas the Group has served in the past, in 2016 we renewed our collaboration with Ascom Bologna, with an initiative that revolves around providing "Gold Cards": the card entitles to dedicated advice from Hera Comm with exclusive economic bonuses for the supply of electricity and gas, for both companies and private individuals.

A further confirmation thereof is the support we provided to Modenamoremio, a company that promotes the old town of Modena, a tangible donation to cover specific initiatives aimed at promoting appreciation of the historic town centre (such as, for example, the lighting during the Christmas period), in collaboration with prestigious partners.

## Case studies for our customers

### The cost of our services

#### New quantity-based waste management tariff trials

After completing the trial phase, the Budrio municipality has officially switched to quantity-based tariffs, starting from 1 January 2016. During the year, we have completed the development of the system that calculates and bills the tariffs and in July we issued the first invoices to our customers. Budrio is the first municipality in the area served by Hera to apply quantity-based tariffs. The collection service applied is the door to door collection, with unseparated waste bins equipped with transponders that recognize the client disposing of the waste.

In parallel, during 2016, we continued the trials we had started the previous year and that were set up to improve the data collection systems used to determine the quantity of waste conferred by inhabitants.

In particular, the San Giovanni in Marignano municipality has concluded the trial phase and has officially approved the switch to quantity-based tariffs, starting from 1 January 2017. In Castelfranco Emilia, the trial has been extended to the villages north of the municipality, using waste bins equipped with a waste disposal control system and volumetric limiter on the non-separated waste and user identification on the separated waste bins.

In November 2016, a new trial started in an initial area of the Ferrara municipality, the Pontelagoscuro area (about 3000 users), in which we placed the new waste bins equipped with a waste disposal control system and volumetric limiter. In the Castelfranco Emilia and Ferrara municipalities, the trial will be extended to the entire municipal area by 2017, and the official switch to quantity-based tariffs is planned for January 2018. The switch of the Monte San Pietro, Bastille, Bomporto and San Cesario sul Panaro municipalities is also planned for 2018, for a total number of inhabitants affected that amounts to 9% of the total served in Emilia-Romagna. The objective is to switch over to quantity-based tariffs for the municipalities Hera serves, by 2021.

During 2016, moreover, Hera has initiated and started work on a project to implement quantity-based tariffs for large scale industries, so as to uniformly and optimally define all the processes and systems involved, both the technical, operating and IT aspects and those related to the management of the contact with the customer, providing a system which covers the entire management process of the new tariff.

#### The "Nuovo teleriscaldamento Hera" offer

In 2016, the Hera Group presented a new district heating rate called "Nuovo teleriscaldamento Hera", for families with individual heat meters and with an annual consumption under 25,000 kWh. The price is fixed for 30 months, requires a monthly fee to rent the meter and includes the innovative "consumption analysis" service. The product was designed to provide an easy way for customers to access district heating, with a price that does not change over time and that shelters them from any increases in the cost of energy. The "consumption analysis" service helps customers understand their consumption patterns, and improve them over time to increase savings, thanks to a periodic report which illustrates, with some simple indicators, how they use their energy, and provides some tips to save money. The new rate plan was presented in November 2016 with

a discount on the monthly fee, which will be free until 30 June 2017: a further step towards savings.

### **SOSTegno Hera, updated version to be issued in 2016**

The SOSTegno Hera guide outlines all the ways Hera customers can **save on their water and energy service bills**, in a single document. By using this easy-to-read tool, the company illustrates all of the facilitations available to people facing financial hardship, even if only temporarily. 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.

SOSTegno Hera was offered to customers for the first time in 2015 as part of the HeraLAB projects, the multi-stakeholder advisory board that the company set up in the areas it served, to improve its dialogue with local communities. In October 2016, over 15,000 copies of the guide were distributed through our customer branch offices and our PR offices in Emilia-Romagna's main municipalities and to consumer groups. Besides the paper version, SOSTegno Hera is available on Hera Group's website.

### **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 penalise 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 inhabitant, equal to 55 cubic metres per year. The per capita supply and the consumption bands vary according to the number of family members, thereby favouring large households which necessarily consume more.

The per capita tariff is applied only to domestic users and, in 2016, was applied in 52 municipalities in the Province of Bologna (including the city of Bologna), 21 municipalities in the Province of Modena (including the city of Modena) and one municipality in the Province of Ravenna. 52% of the population served by the Group resides in the municipalities that apply the per capita tariff.

Atersir, which took the place of the former Water and Waste Regulatory Authorities, encouraged the switch to the per capita tariff making a specific request to municipalities that had not provided the personal details necessary for switching to this tariff.

### **The quality of our services**

#### **Multi-service smart metering: remote management solutions to serve our customers**

The trials of the multi-service smart metering that was initiated by Aeegsi under resolution 393/2013/R/gas continued in 2016. In the final rankings, Hera's project was first among those that were actually implemented. The project was setting up a multi-service communication infrastructure of over 13,000 remotely managed points in Modena. The project is particularly significant because it is designed to integrate all the services Hera offers: gas, water, electricity, district heating and



waste management. 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 project also involves behavioural surveys on consumption, pursued as a collaboration with the Milan Polytechnic.

Other additional functionalities make it possible to test a new way of managing the networks, enabling water and heating balances to be made on individual portions of the distribution network.

The role of the operator that oversees data traffic is carried out by Acantho.

## Quality of drinking water

### Urban Sources

Citizens can also have good and checked drinking water by obtaining it from the Urban Sources, public dispensers of drinking water, located throughout the area Hera serves. The water provided is identical to that in the taps of homes but is cooler (refrigerated) and sparkling water is also dispensed. In 2016, we completed new installations in the Rimini, Santa Giustina (RN), Viserba (RN), Modena, Foiano (FC), Mezzano di Ravenna (RA), Savarna di Ravenna municipalities, which join the existing facilities, bringing the totals to 37 Water Houses and 33 Urban Sources in Emilia-Romagna at 31 December 2016. In addition to these, there are 5 similar initiatives in AcegasApsAmga's areas and 5 in those of Marche Multiservizi.

In 2016, over 22 million litres of water were supplied, 30% of which were sparkling. The savings, in terms of plastic were also remarkable, as they amounted to over 14 million bottles, corresponding to 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 2,500 tonnes. The savings for families, corresponding to the average expense to purchase mineral water, is around Euro 4 million.

### **“In Good Waters”, the report on drinking water quality has reached its eighth edition**

In 2016, Hera published “In buone acque” [In Good Waters], a report on tap water, its quality to the economic and environmental benefits arising from a more sustainable and responsible use of this precious resource. “In buone acque” [In Good Waters], at its eighth edition, is the first and only thematic report published in Italy on the topic of tap water.

Based on the 2015 data, we once again prove that the mains water is good and safe, low in mineral content and low in sodium content, comparable to the quality of the leading bottled waters on the market. These results are guaranteed by over **2 thousand analyses per day** on the tap water (summing those carried out by Hera and by the Local Health Units). In fact, **99.9% of checks** prove full compliance with the water quality requirements set by law.

The report also contains, area by area, the data of the analyses of **28 parameters**. The analyses also concern pesticides and parameters not required by law, such as emerging pollutants and asbestos fibres, and the results are excellent also in these cases.

Besides being a sustainable choice for the environment, drinking tap water is also good for our customers' wallets. In fact, the report shows that one thousand litres of tap water cost only **Euro 2** - half what customers pay in other European

countries and much less than the cost of the same amount of bottled mineral water (about Euro 270).

To ensure maximum transparency and reliability of the data reported, the report was examined and audited by DNV GL for the first time, this year.

#### **At Hera we drink tap water**

The Hera<sub>2</sub>O project, launched in 2008, encourages Hera's employees to drink tap water. By drinking over 463,000 litres of tap water in 2016 from the dispensers installed in Hera's canteens and offices, workers avoided the production of almost 15 tonnes of plastic, equivalent to around 466 bins, and over 710,000 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 48 tonnes of oil equivalent and reduced greenhouse gas emissions by 133 tonnes.

#### **Service safety and continuity**

##### **At Pavullo the power grid is smart**

The objective of the smart grid demonstration project is to resolve problems that are due to the substantial presence of active generation on the power grid. This translates into a greater monitoring and remote control of the network itself and in a more selective action to identify and isolate faults, by installing dedicated devices and developing advanced logic on the control system.

The project focuses on two main aspects: the upgrade of the medium voltage network's automation and voltage regulation. As regards the upgrade of the automation, a system has been developed which, together with a high-speed communication infrastructure developed specifically for the project by Acantho, makes it possible to disconnect fewer stations of the distribution system affected by a failure. The resulting advantages are an improvement of the service offered to users, in terms of reduction of the number and duration of long unscheduled outages upstream of the fault and a faster identification thereof.

As regards voltage regulation, the goal is to increase the availability of energy that can be connected to the network to allow the connection of additional producers, without needing to enhance the network itself, and to improve the quality of the service offered, by limiting the voltage fluctuations. All this can be obtained by monitoring and managing the voltage in the primary substations and distributed generation along the power lines thanks to a dedicated application interfaced with the company's remote control system.

##### **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 apparatus, introduced by AEEGSI resolution 554/2015, makes it possible to interrupt the supply of gas but cannot be used to identify potentially dangerous conditions.

The innovation proposed by Hera is a piece of equipment 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 on the command of the user. Anomalies can be caused by the movement of the Earth 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 apparatus 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.

The technical partnerships and the first prototypes will be developed in 2017.

### **Customer relations**

#### **Online bill: 25,000 new applicants and 500 more trees for our cities**

Launched in November 2012 and relaunched in June 2015, the "Get rid of bills. Give a tree to your city" campaign involved planting 1 tree for every 50 users that chose online billing, in areas identified by the municipalities that participated in Hera's initiative.

Thanks to the 150,000 customers who have chosen on-line billing, as of April 2016 Hera has been able to allocate 3,000 trees to a total of 111 green areas in 59 municipalities, those with the largest numbers of users having chosen electronic billing: a major contribution to the value of our cities in terms of regional planning and environmental protection.

The objectives achieved with the two editions of the campaign have made it possible each year to avoid printing and physically delivering about 900 thousand bills and therefore has avoided the use of over 3,600,000 sheets of paper and the emission of 67 tonnes of CO<sub>2</sub> to produce, print and deliver paper bills. These environmental benefits are in addition to those related to planting the new trees that will absorb a total of 300 tonnes of CO<sub>2</sub> each year. Moreover, by planting trees in town centres, the initiative has helped to limit the "heat island" effect, typical of those areas and to absorb gaseous pollutants and particulate matter.

Thanks to this initiative, over 16.1% of Hera customers have chosen online billing, ranking Hera first among the Italian utilities in terms of reduction of paper usage. The effort of our partner municipalities in promoting the campaign has also been a key factor to achieve this result, which is in addition to the success of the Opzione Natura offers since besides supplying energy from renewable sources, it also includes electronic billing.

#### **The customer experience project to improve customer relations**

The customer experience project, that started in 2015, analysed a number of touch points and customer journeys to identify projects to improve their experience, to reduce the gap between the service provided and what was expected.

As to the development of digital channels, 2016 was the year in which we worked to renovate our Servizi OnLine on line services, which have been accessible to customers starting from January 2017: the existing functionality remained, including the management of readings, contracts and bills, and some useful tools were added, such as a consumption chart with average daily energy consumption history and the tracking of the status of customers' contract activations. During 2017, other new features will be implemented, such as the ability to book call-backs for support and commercial information and an energy platform display that displays consumption, for business customers. The new customer service app that lets customers handle their contracts on mobile devices will also be launched in 2017.

The objective of greater speed and transparency has been effectively implemented in 2016. On the one hand in the branch offices by advancing and

improving the efficiency of the tool used to manage the customer queuing, by using ATM and credit cards in specific situations and ensuring the safety of the premises using a virtual guard system, on the other hand in the customer services' telephone service by sending copies of bills in real time, in order to deal promptly with customers' requests. In 2017, we will develop a project that will simplify the way documentation is handled by adding, among other improvements, new channels to exchange contractual documentation with customers and the use of digital signing at branch offices.

In 2016, we implemented a new project that involves all the customer service operators, under which they use a new language in their relations with final customers, that is friendly and that helps simplify the comprehension of individual situations, enhancing the service orientation: by doing so we have increased our capability of responding completely and concretely to requests.

In relation to the development of dedicated services, in 2016 we started a process to provide tools that help improve the specific experience of customers and businesses. In 2017, we will develop a project on self-readings that aims to make it possible to use all available channels (on-line services, app, telephone and branch office) to send in readings and receive real time feedback that the reading has been received. In 2017, a new alert system will also be developed to help customers remember deadlines and check the status of their procedures.

## Workforce

*The Hera Group had a workforce of 8,374 people as at 31 December. On average, 97.0% of workers have an open-ended contract. In the last three years, 587 people were hired on the basis of open-ended employment contracts.*

### The objectives and performance

What we said we would do	What we have done	Scope
<ul style="list-style-type: none"> <li>Implement the actions included in the welfare plan defined in 2015 by listening to the needs of employees. Set up new actions in four areas: health and healthcare assistance, education, services to citizens, well-being and income support.</li> </ul>	<ul style="list-style-type: none"> <li>The actions included in the welfare plan defined in 2015 were implemented by listening to the needs of employees. New actions in four areas were set up: health and healthcare assistance, education, services to citizens, well-being and income support. In 2016, a total of Euro 1.9 million were distributed (see page 152)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Launch actions to optimise work time through the digitisation of internal processes and innovative tools (Hera smart project).</li> </ul>	<ul style="list-style-type: none"> <li>Skype diffusion was launched, Wi-Fi was extended to sites and 2 interactive whiteboards were installed. A service app is being implemented for the workforce.</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Put in place the development process for employees, middle managers and managers: set up 15 development actions for homogenous groups of workers.</li> </ul>	<ul style="list-style-type: none"> <li>12 actions were set up which involved 1,218 employees. (see page 153)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Implement the regional protocol on joint school-work experience courses and continue with the Heracademy and Hera teaches you a trade... at school initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, the first 60 joint school-work experience courses were implemented out of the total 180 courses envisaged for the three-year period 2016-2019. The Heracademy and Hera teaches you a trade... at school initiatives continued. (see page 153)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Involve the workforce in the third updating of the code of ethics, continue CSR seminars and complete AlphasEthics training in AcegasApsAmga.</li> </ul>	<ul style="list-style-type: none"> <li>The 4th edition of the Code was defined with the involvement of the workforce and was approved by the BoD in February 2017. CSR seminars continued and AlphasEthics involved 85% of AcegasApsAmga employees. (see page 43)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Set up accident prevention actions - accident frequency index for 2016 equal to 21.4 (-3% compared to the average of the last three years) - and further increase the near-accidents/accidents ratio.</li> </ul>	<ul style="list-style-type: none"> <li>The accident frequency index was equal to 17.8 (-20% compared to the average of the last three years) and the near-accidents/accidents ratio rose from 173% to 206%. (see page 133)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Implement the internal climate improvement actions defined on the basis of the results of the sixth survey carried out in 2015.</li> </ul>	<ul style="list-style-type: none"> <li>8 improvement actions were implemented; the improvement plan will continue in 2017. (see page 147)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Herasolidale 2016/2017: involve the workforce in solidarity initiatives to support associations working in all of the local areas served by the Group.</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, over Euro 12 thousand were donated by the workforce to support 11 local non-profit organisations. (see page 150)</li> </ul>	H A M

What we will do	Scope*
<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 AlphasEthics (H, AAA, MMS)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Continue to involve the workforce through Heureka +: stimulate innovative ideas in two</li> </ul>	H A M

What we will do	Scope*		
new areas in 2017.			
• 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	H	A	M
• Continue to implement coaching activities for workers returning to work after leave and carry out initiatives for raising disability awareness in the company	H		
• Continue to promote Hextra, the Hera Group's welfare system: increase the share available to employees by 80% in 2017	H	A	M
• Disseminate Hera Group's new Leadership model	H	A	M
• Launch a digital innovation community	H	A	M
• Continue the HerAcademy activities: guarantee an average of 24 training hours per capita in 2017	H	A	M
• Accident prevention: 18.9 frequency index in 2017 (-6% compared to the average of the last three years)	H	A	M
• Accident prevention: Carry out training and awareness raising actions (also on road safety)	H	A	M
• 2017 Climate Survey: reach a 64/100 employee satisfaction index and complete the internal climate improvement actions defined after the 2015 survey	H	A	M
• Continue to promote Herasolidale, the solidarity initiative that supports local non-profit organisations and plan the new 2018-19 edition	H	A	

\* Geographic scope of the improvement objectives

H: Hera; A: AcegasApsAmga; M: Marche Multiservizi.

## Workforce

*On average 97.0% of Group company workers have an open-ended contract*

As at 31 December 2016, the total **workers with open-ended contracts** in Group companies amounted to 8,374.

Changes in the scope regarded the entry of Julia Servizi Più (6 employees) in 2016. Compared to 2015, workforce reduction is 52 units.

## Staff figures at the end of the year

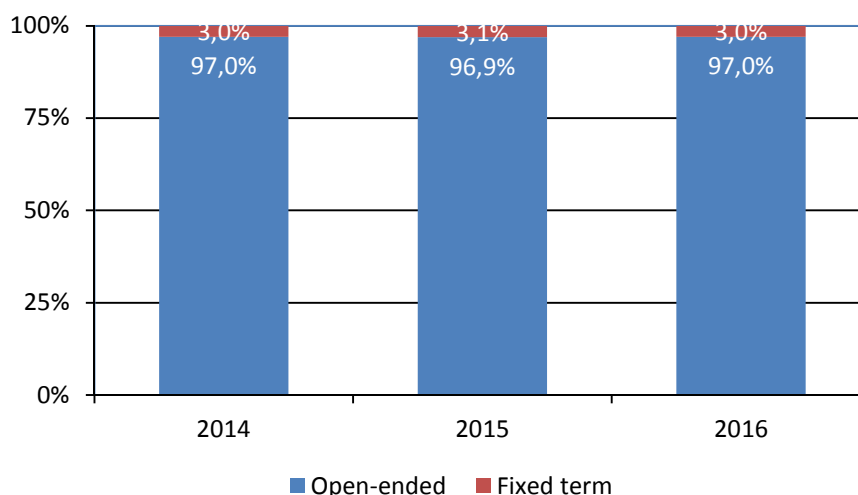
no.	2014	2015	2016
Managers	152	146	151
Middle managers	507	526	524
White-collar workers	4,341	4,449	4,514
Blue-collar workers	3,419	3,305	3,185
<i>Open-ended contract employees</i>	<i>8,419</i>	<i>8,426</i>	<i>8,374</i>
Fixed-term contract workers	91	109	101
Job training and entrance contracts, apprenticeships	30	18	12
<i>Fixed-term contract employees</i>	<i>121</i>	<i>127</i>	<i>113</i>
Staff leasing contracts	32	17	15
Project based contract workers	3	1	0
<b>Total</b>	<b>8,575</b>	<b>8,571</b>	<b>8,502</b>

Data as at 31 December

The increase in managers (5 individuals) is due to the acquisition of Waste Recycling, 1 recruitment, 7 moves from the role of middle manager to manager, and the exit of 8 managers during 2016. The number of middle managers dropped by 2 units, which is the result of 12 exits, 3 new entries, 14 moves from the role of

white-collar worker to middle manager and 7 from the role of middle manager to manager. The increase in white-collar workers is due to the entry of 148 new workers and 33 career advancements, offset by 116 exits. The drop in blue-collar workers is the result of the exit of 148 workers and the move by 47 workers from the role of blue-collar to white-collar worker. 75 entries of open-ended blue-collar workers are also reported. Furthermore, 131 entrances of fixed term blue-collar workers included in open-ended contract consolidation processes are reported.

### Workforce figures (average)



On average, in 2016 97% of Group workers had an open-ended contract.

Employees with fixed term contracts account for 2.5% of average workers, while the remaining 0.5% of workers were hired with other flexible arrangements (staff leasing contracts). Average workers are 8,629.

We hereby reiterate the Group's will to limit the usage of flexible contracts to urgent situations only (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 2016, the average number of workers hired with staff leasing contracts and project work was 42, 14% lower than 2015 and 34% lower than 2014.

### Open-ended contract employees (breakdown by function)

no.	2014	2015	2016
Grid services	2,955	2,834	2,848
Waste management services	2,364	2,493	2,431
Other services	758	752	751
Commercial	774	783	782
Coordination activities	1,568	1,564	1,562
<b>Total</b>	<b>8,419</b>	<b>8,426</b>	<b>8,374</b>

Data as at 31 December

Of the workforce, 34% operated in grid services (gas, electricity, water service and district heating) and 29% operate in the waste management sector. 9% 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 2015 is a result of the acquisition of companies specialised in this business.

#### Open-ended contract employees (breakdown by location of workplace)

no.	2014	2015	2016	% 2016
Bologna area	1,733	1,730	1,746	21%
Ferrara area	465	465	453	5%
Forli-Cesena area	591	588	585	7%
Gorizia, Udine and Pordenone area	285	316	312	4%
Imola-Faenza area	653	663	673	8%
Modena area	1,039	1,012	985	12%
Padua area	752	725	716	9%
Ravenna area	641	624	625	7%
Rimini area	650	626	600	7%
Trieste area	811	783	772	9%
Marche Multiservizi area	590	582	569	7%
Other	209	312	338	4%
<b>Total</b>	<b>8,419</b>	<b>8,426</b>	<b>8,374</b>	<b>100%</b>

Data as at 31 December

#### Open-ended contract employees by educational qualification and position (2016)

no.	Managers	Middle managers	White-collar workers	Blue-collar workers	Total
Primary education	0	0	10	28	38
Junior secondary education	1	4	602	1,499	2,106
High school diploma	16	146	2,046	899	3,107
University degree	115	293	977	7	1,392
<b>Total</b>	<b>132</b>	<b>443</b>	<b>3,635</b>	<b>2,433</b>	<b>6,643</b>

Data as at 31 December, excluding AcegasApsAmga

The overall percentage of employees holding high school diplomas and university degrees is equal to 68%, slightly higher compared to 2015, especially as regards university degrees.



### Average age and average seniority of employees with open-ended contracts by role (2016)

Years	Age	Years of service
Managers	51.7	15.6
Middle managers	49.4	17.9
White-collar workers	47.4	18.3
Blue-collar workers	49.8	18.4
<b>Total</b>	<b>48.5</b>	<b>18.3</b>

Data as at 31 December

The average age of employees with open-ended contracts is 48.5 (basically in line with 2015 which recorded an age of 48.2). The average years of service of employees with open ended contracts is 18.3 years.

### Hours of absence and hours worked per capita for employees with open-ended contracts (by type)

Hours	2014	2015	2016
Illness	61.0	64.5	62.7
Maternity/paternity and parental leave	11.6	12.4	13.1
Accidents	5.8	6.8	5.1
Strikes	1.4	0.1	1.7
Union meetings	1.2	0.9	1.0
Union leave	6.0	6.1	6.8
Other	33.8	30.9	32.6
<b>Total absences (h)</b>	<b>120.7</b>	<b>121.7</b>	<b>122.9</b>
Regular hours worked	1,536.4	1,547.5	1,537.8
Overtime hours worked	44.4	43.2	39.7
<b>Total hours worked</b>	<b>1,580.8</b>	<b>1,590.7</b>	<b>1,577.4</b>

The data refer at 31 December and to the following companies: Hera Spa, Acantho, AcegasApsAmga, Fea, Herambiente, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi and Uniflotte. The hours worked are calculated net of overtime hours for recovery.

The **hours of absence per capita** are in line with the previous 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 and electoral purposes. In 2007, there were 13.6 average hours of absence per capita due to injury and since then they have decreased by 63% (5.1 hours).

Even in 2016 overtime hours continued to represent a small percentage of the total hours worked and the per capita average continued to decline, falling from 43.2 hours per capita in 2015 to 39.7. New indicators were developed as part of the SA8000 project. In addition to allowing in-depth monitoring of overtime in compliance with current legislation on working hours, they provide useful information with a view to improving working conditions.

### Turnover

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.

#### Personnel hired during the year (breakdown by position)

No.	2014	2015	2016
Managers	0	1	6
Middle managers	1	2	3
White-collar workers	80	151	142
Blue-collar workers	23	103	75
<b>Open-ended contract employees</b>	<b>104</b>	<b>257</b>	<b>226</b>
Fixed-term contract workers	169	257	250
Staff leasing contracts	101	53	54
Job training and entrance contracts	0	0	0
Project based and freelance contract workers	11	7	1
Seasonal workers and apprentices	3	3	5
<b>Non-open-ended contract employees</b>	<b>284</b>	<b>320</b>	<b>310</b>

Net of the change of scope, in 2016, 226 workers were hired with open-ended contracts, 65 of which concerned staff under 30 years of age. Of the 226 recruitments, 101 moved on to being hired on an open-ended basis. Over the past three years, overall **587 open-ended contract workers were hired**, 413 of which following initial hiring with the Group under a fixed-term contract.

#### Women hired during the year (breakdown by position)

N	2014	2015	2016
Managers	0	0	0
Middle managers	0	0	1
White-collar workers	40	67	64
Blue-collar workers	1	1	0
<b>Total</b>	<b>41</b>	<b>68</b>	<b>65</b>

In 2016, 65 female workers were hired with open-ended contracts (3 less compared to 2015 but 14 more than 2013). The percentage of newly hired female managers, middle managers and employees was 43%.

#### Personnel hired during the year (breakdown by age)

N	2014	2015	2016
less than 30 years	46	81	65
between 30 and 50 years	53	167	145
other than 50 years	5	9	16
<b>Total</b>	<b>104</b>	<b>257</b>	<b>226</b>

65 recruitment involved people with less than 30 years of age.

### Open-ended contract leaving by reason

no.	2014	2015	2016
Resignation	54	80	78
Retirement	44	195	151
Death	11	12	16
Dismissal	3	9	7
Inability	39	54	32
Transfer to other companies/deconsolidations	5	12	0
<b>Total</b>	<b>156</b>	<b>362</b>	<b>284</b>

In 2016, there were 284 cases of job leaving: 81% were due to retirement and voluntary resignation.

### Turnover rate for open-ended contract workers by role

%	2014	2015	2016
Managers	5.3%	7.5%	5.3%
Middle managers	1.0%	2.8%	2.3%
White-collar workers	1.4%	2.8%	2.6%
Blue-collar workers	2.3%	6.0%	4.6%
<b>Average</b>	<b>1.8%</b>	<b>4.2%</b>	<b>3.4%</b>

### Turnover rate for open-ended contract workers by gender

%	2014	2015	2016
Men	2.0%	4.6%	3.7%
Women	1.3%	2.8%	2.3%
<b>Average</b>	<b>1.8%</b>	<b>4.2%</b>	<b>3.4%</b>

### Turnover rate for open-ended contract workers by age

%	2014	2015	2016
under 30 years of age	2.2%	2.0%	3.6%
between 31 and 50 years of age	1.2%	0.9%	1.1%
over 50	2.6%	8.0%	5.7%
<b>Average</b>	<b>1.8%</b>	<b>4.2%</b>	<b>3.4%</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 2016, it was equal to 3.4%, less compared to 2015. 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.

### Career progress during the year (breakdown by position)

No.	2014	2015	2016
Managers	4	5	9
Middle managers	40	39	14
White-collar workers	476	416	377
Blue-collar workers	280	204	188
<b>Total</b>	<b>800</b>	<b>664</b>	<b>588</b>

Career progress has slightly dropped compared to 2016 also as a result of the professional interventions already carried out during previous years. There were 9 promotions from middle manager to manager in 2016. **Career advancement involved 166 female personnel**, totalling 28% of all cases. Excluding blue-collar workers, where women are around 5%, career advancements involving female personnel represented 40% of the total. Career progress involving female middle managers and managers amounted to 43% (34% in 2015).

### Ad interim positions covered

No.	2014	2015	2016
Ad interim positions at the end of the year	14	13	12
Ad interim positions covered	7	8	4
<i>of which by internal personnel</i>	7	7	4

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.

**Internal mobility** is a direct consequence of the complete activation of the reorganisation that the Group has been carrying out since it was formed. The objective of internal mobility is to create an opportunity for Hera employees to increase their knowledge and capacities transversally, while allowing them to continually place themselves in new contexts and develop richer and more complete work skills, while strengthening their sense of belonging to the Group. In the course of 2016, a total of 84 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 833,069 visits, and there have been 300 announcements published and 154 positions filled; only in 2016, 114,274 visits were posted for the page, and there were 37 announcements published and 20 positions filled.

### Diversity and equal opportunities

The commitment for **equal opportunities, work-life balance** and **enhancement of the value of diversity** in the Hera Group is confirmed and summarised in the Code of Ethics. 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. Furthermore, the **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”.

A number of initiatives were carried out in 2016, some of which in keeping with the previous year; among the most significant was Hextra, the Hera Group’s welfare plan (thoroughly described in the case study of this chapter).

Continuation of Hextra, the company welfare plan, is envisaged in 2017 with an 80% increase of the share available to employees. Furthermore, the actions to optimise work time through the digitisation of internal processes and innovative tools will continue, and a survey will be carried out with employees to define new actions. Lastly, coaching activities for workers returning to work after leave and initiatives for raising disability awareness in the company will continue.

### **Summer camps**

The opportunity for the children of employees belonging to all of the Group’s companies (from ages 3 to 14) to attend **summer camps** continued in 2016. The facilities with which our Group has special arrangements include daytime summer camps in various local areas in which Hera operates and residential summer camps (including overnight accommodation). Hera paid 50% of the subscription fee for the first week. In addition to Emilia-Romagna, the proposal was also extended to AcegasApsAmga and Marche Multiservizi workers. For the facilities of Emilia-Romagna, this initiative was carried out together with the corporate recreational associations. 127 children joined the initiative in 2016, recording an overall satisfaction level of 97.5%.

### **Positive return policies**

The project activities continued in 2016: **coaching groups** or 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 2016).

### **Staying in shape at the desk**

This is a new company initiative promoted by Diversity Management together with the Regional Healthcare Service of Emilia-Romagna and the Local Health Unit of Bologna 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.

### **Health courses**

The courses for raising awareness on the prevention of breast cancer continued in 2016, with the organisation of an event held in Pesaro on 20 October.

### Women staff with open ended contracts (breakdown by position)

%	2014	2015	2016
Managers	16.4%	18.5%	19.9%
Middle managers	28.8%	29.2%	30.3%
<i>Total managers and middle managers</i>	<i>25.9%</i>	<i>26.9%</i>	<i>28.0%</i>
Management employees	32.1%	32.0%	32.3%
<i>Total managers, middle managers and management employees</i>	<i>30.0%</i>	<i>30.3%</i>	<i>30.9%</i>
Non-management employees	41.1%	40.9%	40.7%
<i>Total employees</i>	<i>38.3%</i>	<i>38.2%</i>	<i>38.1%</i>
Blue-collar workers	3.8%	3.6%	3.5%
<b>Total</b>	<b>23.3%</b>	<b>23.7%</b>	<b>24.2%</b>

Data as at 31 December

Women staff levels among open-ended contract workers reached 24.2% in 2016, compared to a national average in the energy-water-waste management sector of 15.9% in 2014 (source: Eurostat).

The impact of female personnel among managers and middle managers rose by over 1 percent, settling at 28.0%. Considering all contractual qualifications that provide for a managerial role (managers, middle managers and management employees), women comprise 30.9%. To complete the picture regarding roles of responsibility, 43% of career advancements in 2016. Finally, with regard to the composition of the Board of Directors, members are appointed in compliance with the equal balance of gender required by current laws: the share reserved to women will be increased by 1/3 in the next Board of Directors.

### Personnel with open ended contracts by age group

%	2014	2015	2016
Under 30 years of age	2.1%	2.9%	2.7%
between 30 and 50 years of age	54.6%	52.1%	48.8%
between 50 and 60 years of age	43.3%	45.0%	43.6%
over 60			4.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Data as at 31 December

There are over 4,000 open-ended contract employees over 50 years of age: 413 of these are over 60 years of age. The portion of over 50-year olds increased compared to 2015 and 2014 (+12%), confirming the ongoing upward trend of the last 3 years.

### Part-time contracts

No.	2014	2015	2016
Men	50	47	44
Women	285	294	298
<b>Total</b>	<b>335</b>	<b>341</b>	<b>342</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 2016, 233 requests for part-time arrangements were submitted, 224 of which were accepted. Over the last three years, preference towards part-time work among female workers continues to be strong (87% in 2016). In 2016, all requests submitted for part-time arrangements from women following maternity leave were accepted.

#### Maternity, paternity and parental leave

	2014	2015	2016
Maternity leave taken (no.)	44	39	43
Paternity leave taken (no.)	225	247	252
Duration of parental leave taken, per capita (days)	28	29	25

In 2015, 43 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 is in line with 2015, 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 dropped compared to the previous year.

#### Persons belonging to the categories set forth by Law no. 68/1999

no.	2014	2015	2016
Persons belonging to the categories set forth by Law no. 68/1999	392	400	387

The data refer to 31 dicembre and to the following companies: The data refer to the following companies: Hera Spa, Acantho, AcegasApsAmga, Fea, Herambiente, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi and Uniflotte.

In all the provinces in which it operates, Hera complies with the obligations of Law no. 68/1999, which requires that **personnel belonging to protected recruitment categories be hired in the proportion set forth in that law**. Fulfilling those obligations involves the use of the regional compensations and agreements, the objective of which is to gradually fulfil employment obligations. This legislation promotes the recruitment and integration within the sphere of

work of certain classes of persons (the differently-abled, orphans etc.), and also provides that the worker's recruitment process is carried out by way of solutions agreed between the company, the regional employment office and the worker.

At the end of 2016, there were **387 persons belonging to the categories protected by Law no. 68/1999** working in Group companies: **323** were classified under Article 3 of the law (disabled). Overall the persons belonging to protected categories are: 142 blue-collar workers, 239 white-collar workers and 6 managers/middle managers.

#### Developing resources: action plan implementation

Enhancing the competences and potential of differently-abled persons working in the company, analysing their satisfaction, improving their work and, if necessary, implementing work requalification while increasing productivity. This is why in 2008 the Developing resources project was developed with the support of the Asphi Foundation which promotes the integration of differently-abled persons in schools, the workplace and society. Once again in 2016, ten individual projects were carried out and monitored according to the procedures defined in 2010 and regarded (inter alia): specific training, job changes, IT implementation, the removal of architectural barriers and the purchasing of corporate vehicles with specific equipment.

### Training and professional development

*245,583 training hours provided in 2016 with an investment of over Euro 1.7 million*

At Group level, 245,583 (approximately 29 hours per capita) training hours were provided overall: around 44% were delivered using internal trainers. This increase is mainly due to the organisation of extraordinary training activities: Government-Regions agreement, Word-of-Mouth project, new CRM language and, with regard to Hera, on-the-job training and unbundling project. With regard to AcegasApsAmga, of note is the H-Manager project aimed at developing managerial skills, while safety culture training courses were carried out at Marche Multiservizi.

#### Total training hours per area of intervention

hours	2014	2015	2016
Sales and market	18,529	13,942	15,542
Managerial	20,033	26,555	35,308
Quality, safety, environment, SA8000 social responsibility	83,659	95,852	72,257
Information systems	22,560	23,468	30,827
Technical-operational	67,786	81,212	73,602
Ethical values and corporate culture	19,941	21,096	18,048
<b>Total</b>	<b>232,058</b>	<b>262,125</b>	<b>245,583</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 (AlphabEthics, corporate social responsibility and code of ethics in day-to-day management). The **managerial** area specifically



includes the training initiatives on the leadership model, institutional training activities for middle 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 activities were delivered connected to the New CRM Language project which is aimed at developing Hera Comm's sales language and so achieving greater accessibility and distinctiveness.

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.

Lastly, in the **technical-operational** area, we gave further continuity to the scuola dei mestieri (school of trades), especially to the on-the-job training activities in the operations area; whilst in the **information systems** area of note are the widespread and cross-cutting training activities related to the unbundling project and to Office Automation.

#### Training hours (average, per capita)

Hours	2014	2015	2016
Managers	40.3	51.3	59.2
Middle managers	40.9	53.6	53.3
White-collar workers	27.2	30.3	28.2
Blue-collar workers	26.6	28.8	25.4
Project based contract workers and workers with staff leasing contracts	38.0	27.8	40.2
<b>Average</b>	<b>28.0</b>	<b>31.4</b>	<b>29.3</b>

There were 29.3 training hours per capita. Average training per capita in female workers amounted to 30.1 hours (+4.8%) against 29.1 average hours in male workers, in line with Group per capita hours.

#### Professional training in the main Italian utility companies

Hera is in fifth place among the 16 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 2015 Hera value was 31.4 hours, 37% higher than the 22.8 average.

#### Percentage of workforce attending at least one training course

%	2014	2015	2016
Managers	99.2%	100.0%	100.0%
Middle managers	96.6%	99.5%	100.0%
White-collar workers	96.0%	99.8%	99.4%
Blue-collar workers	97.1%	98.7%	95.9%
Project based contract workers and workers with staff leasing contracts	100.0%	100.0%	99.2%
<b>Total</b>	<b>96.9%</b>	<b>99.3%</b>	<b>98.1%</b>

98% of workers were involved in at least one training event: the reason for this was the development of widespread initiatives such as Word-of-Mouth project

training, the unbundling project, Waste Management training in AcegasApsAmga and the safety culture project in Marche Multiservizi.

### Assessment of training

%	2014	2015	2016
Degree of satisfaction of trainees (quality perceived on a scale from 1 to 5)	4.26	4.38	4.43
Outcomes (correspondence with needs) (% of replies with assessment score of 4 or 5)	72%	74%	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 on the rise compared to 2015.

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	2014	2015	2016
Sales and market	103	55	52
Managerial	364	398	589
Quality, safety, environment	564	604	541
Information systems	33	21	60
Technical-operational	309	430	361
Ethical values and corporate culture	15	9	15
Other	267	213	135
<b>Total</b>	<b>1,655</b>	<b>1,730</b>	<b>1,753</b>

The data refer to: Hera Spa, Acantho, AcegasApsAmga, Herambiente, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi and Uniflotte.

The overall financial investment made by the Group in 2016 exceeded **Euro 1.7 million**, net of costs for staff undergoing training and internal trainers, around Euro 623 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** (160 hours delivered): Implementation of the **AlphabEthics** training project also continued, with the aim of disseminating the principles and contents of Hera Group's code of ethics to the entire workforce (1,400 hours delivered). This year, the first edition was also developed for Amga Calore&Impianti and Amga Energia&Servizi. Of note are also the Workgroup meetings in charge of **reviewing and updating the Code of Ethics**.

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 (242 individuals involved), 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 **leadership model** (key element: exemplary leadership) for a total of 5,200 hours, the third edition of the **institutional middle-management training** programme (1,320 hours) was developed. This latter initiative involved middle 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 (2,464 hours delivered).

Furthermore, **lean sigma / lean organisation** training and certification programmes continued with over 1,600 training hours delivered; of these, 292 hours were yellow belt, 529 hours green belt, 409 hours black belt, 60 hours champions and around 350 hours as on-the-job training.

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**. The project will involve around 350 resources, 192 of which already trained in 2016 (around 55%, with 4,158 hours delivered). The high level training course "**Regulation and Markets in Public Utility Services**" held in collaboration with the University of Bologna is also worthy of mention (around 1,000 hours).

In the **technical-operational** area, in keeping with the Scuola dei mestieri (School of Trades) initiatives, on-the-job training activities were implemented, mainly in the general operations department area, with 15,702 hours delivered. Training was also organised in the **economics and finance** area, aimed at strengthening the knowledge of economic and financial dynamics across all levels.

Lastly, as part of the project for spreading the **new code for tenders**, over 2,600 hours of training were delivered regarding the implementation and interpreting of the new legislative decree by the main process owners; training and diffusion were also organised for company contacts and technical-regulatory contacts of the affected organisational structures.

Among the **information systems** activities carried out, 8,258 training hours were delivered for the **unbundling** project and the initiatives related to the **HergoAmbiente** project continued (3,218 training hours).

The Group's training actions continued to give key importance to training on safety in daily work practices: 72,200 training hours were provided overall in the **quality, safety and environment** area, with particular reference to training required by the State-Regions Agreement. Still in the Quality, safety and environment area, transversal training activities were carried out on **energy efficiency and energy management** issues: in particular, the training course for energy management specialists and the second edition dedicated to designers, plant managers and buyer energy management, totalling around 300 hours delivered.

With regard to **AcegasApsAmga**, in addition to the initiatives already reported, the change management and related integration activities continued: specifically, the activities regard alignment to the Group's procedures and information systems. Of interest is the H-manager training programme, aimed at developing managerial skills, in cooperation with the MIB School of Management of Trieste. The training activities carried out by AcegasApsAmga in the technical and operational skills area were also significant. They were mainly aimed at developing or refining the technical skills especially related to operational procedures or to the use of new tools, for example, the organisation of the waste management training programme, with involvement of the organisational areas operating on the business line.

With regard to **Marche Multiservizi**, of note is the extremely positive trend connected to training on compliance with safety legislation, as well as projects for raising awareness on the culture of safety, for example the safety culture project (3,216 hours of training delivered) and activities aimed at developing technical and behavioural skills. Lastly, training related to the project for the harmonisation of IT systems was also organised.

### **The Scuola dei Mestieri and its progress**

The **Scuola dei Mestieri** is a consolidated system that for over ten years has developed and enhanced the technical and operational skills of the Hera Group, also with a view to knowledge management. Its aim is to raise the level of awareness of professional conduct and of skill 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 who collect waste and workers who connect new meters) 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. In 2016, the revision of the Group's first notebook "Gas emergency response operator" was published, following integration of the processes carried out in the Triveneto local areas.

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 2016, our commitment towards the activities and projects that were started over the past years continued, especially in the spheres of sales and market, regulation matters and energy tariffs, customer technical Department and energy management (relating to ISO 50001 certification on energy efficiency).

Furthermore, new communities with regard to tax matters (available across all Group companies) and to the updating of the Code of Ethics were set up.

### **The leadership model**

A good number of leadership model initiatives continued to be carried out in 2016. The first part of the year was dedicated to the training meetings planned for the key element of the exemplary leadership model and its distinctive components: development of co-workers, change leadership and team leadership.

In July, Ali Reza Arabnia (Chairman and CEO of Geico Taikisha) and Mauro Berruto (former head-coach of the Italian national volleyball team) carried out an in-depth workshop for managers, thus concluding the year dedicated to exemplary leadership.

At the same time, the leadership model was reviewed in 2016 and the following phases were carried out:

- interviews with top management and managers;
- workshops addressing directors for guidelines;
- training classrooms for middle management and focus groups with white-collar employees and management employees;
- external benchmarks and corporate document analysis.

In the first quarter of 2017, initiatives for launching the new leadership model will be organised, followed by a series of training and detailed activities (e-learning and classroom training).

Integration of AcegasApsAmga in all leadership model initiatives is fully consolidated.

During the course of 2016, training on the leadership model involved a total of over 4,550 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, the Consorzio MIB School of Management in Trieste, ISTAO (Adriano Olivetti Institute) and the MIP-Polytechnic in Milan; it is also a member, together with the Pirelli and Ferrero companies, 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**

*Improving conduct and increasing knowledge with regard to health & safety is a continuous objective for Hera*

Ever since its establishment, prevention and safety at work have been among Hera's founding principles; improving conduct and strengthening corporate awareness towards health and safety is an ongoing target for the Group.

The 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

	2014	2015	2016
Frequency index	22.6	20.6	17.8
<i>of which for ongoing accidents</i>	3.4	4.0	4.0
Severity index	0.61	1.28	0.56
Rate index	3.5	3.2	2.9
Average accident duration (days)	26.2	62.1	31.0
Number of accidents	277	264	226
<i>of which for ongoing accidents</i>	43	52	51

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.

The data refer to the following companies: Hera Spa, AcegasApsAmga, Fea, Hera Comm, Hera Luce, Herambiente, Inrete Distribuzione Energia, Marche Multiservizi, Uniflotte and Waste Recycling. These companies employ 92% of the Group workforce.

The accident frequency index for the Hera Group in 2016 was 17.8 (-14% than the previous year and -20% compared to the last three years). The index has more than halved if we consider a longer period: it settled at 49.6 in 2005, year in which however the rate of blue-collar workers was 52% of the total (compared to 37% in 2016). The frequency index rises to 20.8 (24.5 in 2015) if we consider the accidents lasting less than 3 days (39 in 2016). The goal for 2017 is to reach an index of 18.9 (-6% compared to the average of last year) and to carry out training and awareness raising (including road safety).

The overall number of accidents for the Hera Group declined further in 2016 (-14% compared to 2015). The number of ongoing accidents (while travelling to/from work) accounted for 23% of the total, dropping slightly in absolute terms compared to the figure of the previous year, although representing the second reason for accidents after falls and slipping. In 2016, the number of days of absence due to accidents attributable to ongoing accidents (while travelling to/from work) accounts for 25% of the total days of absence (19% in 2015).

The frequency index of the Group in 2016 was equal to 0.56, significantly lower than 2015 when a mortal accident that occurred in March 2015 had been calculated. Net of this event, the index in 2015 was equal to 0.70. The number of days of absence due to accident in 2016 was 15% lower than the average of the past three years with an overall drop in absolute terms of 1,247 days.

If we analyse the single accidents that occurred during 2016, there were no critical situations as regards how they occurred or their consequences.

A mortal accident occurred in Padua in December 2013 which involved a waste management service operator who was seized by a sudden illness while he was in the changing room at the end of his work shift. The event was reported as a workplace accident but was closed by INAIL since not recognised as such.

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. The next hearing is set for 31 March 2017.

### 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 2015 index of Hera (20.6) is 29% lower than the average index of the 6 companies considered (equal to 28.9).

#### Accident frequency index (by function)

	2014	2015	2016
Grid services	16.4	16.1	14.5
Waste management services	33.4	34.5	35.7
Coordination activities	3.1	8.3	10.4
<b>Average</b>	<b>19.9</b>	<b>18.1</b>	<b>17.7</b>

The data refer to Hera Spa.

The greater exposure to accident risks for certain services affects the index levels ranging from lower levels recorded in the grid services to higher levels in the waste management services. The accident frequency index in the grid services is less than over half that reported in the waste management services, where the higher efficiency of the resources involved has a greater impact than accidents.

#### Accident frequency index (by blue-collar workers)

	2014	2015	2016
<b>Total</b>	<b>43.8</b>	<b>39.0</b>	<b>34.9</b>
Of which grid services	30.0	28.1	22.2
Of which waste management services	58.8	53.3	50.9

Data refer to Hera Spa, AcegasApsAmga Spa and Marche Multiservizi.

Accident indices are higher for workers, since they are more at risk of accidents. In 2016, the accident frequency index for blue-collar workers was 34.9. The value has clearly improved over the three-year period (-26% compared to 2013) especially in AcegasApsAmga for all blue-collar workers involved in the grid services and in Marche Multiservizi.

With regard to Hera Spa, a detailed analysis of the manner in which accidents occur reveals that falling/slipping (37.5% of cases) and ongoing accidents (22.5%) are the two main causes of accidents. Injuries caused by road accidents during working hours instead represent 9% of total cases.

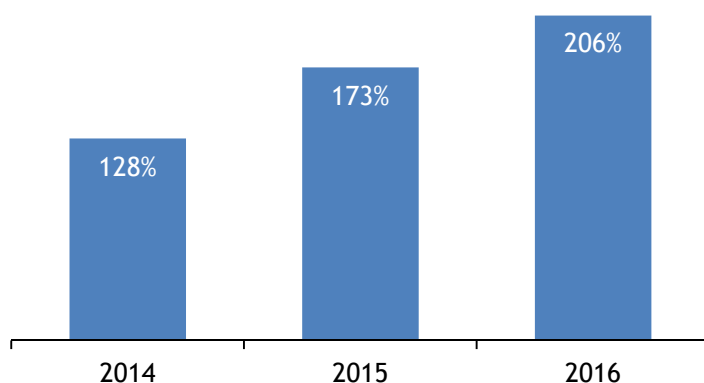
### Accident indexes of some subsidiaries (2016)

	AcegasApsAmga	Herambiente Group	Marche Multiservizi	Hera Comm	Uniflotte	Hera Luce
Frequency index	19.1	19.0	21.0	3.4	42.3	9.1
Severity index	0.7	0.5	0.4	0.1	2.0	0.8
Rate index	3.1	3.1	3.4	0.5	6.8	1.6
Workforce	1,500	873	593	562	133	64

Regarding accidents in Hera Group companies included in the scope of consolidation, some improvements may be seen in the accident frequency indices for Hera Luce (from 18.4 to 9.1), Marche Multiservizi (from 46.7 to 21.0), Hera Comm (from 18.7 to 3.4), AcegasApsAmga (from 21.4 to 19.1) and Herambiente Group (from 22.3 to 19.1, a figure that includes the new acquisition of Waste Recycling, net of which the index is 18.5). The figure relating to Uniflotte is higher compared to 2015, but no particular criticalities may be seen as regards the way the accidents occurred and their consequences. In 2017, specific training activities are planned for the safety supervisors of Uniflotte.

A key topic for the purpose of preventing accidents is the ability to report, collect and analyse accidents and near misses. Near misses are anomalous events that could have caused detrimental effects to objects or persons which could have potentially generated an accident. Their correct analysis 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.

### Ratio between near misses and accidents



The data refer to the following companies: Hera Spa, AcegasApsAmga, Fea, Hera Comm, Hera Luce, Herambiente, Inrete Distribuzione Energia, Marche Multiservizi, Uniflotte and Waste Recycling.

In 2016, the ratio between near misses reported and accidents that occurred for the Group's scope of reporting was 206% (higher than 2015). The indicator shows a growing trend over the past three years (equal to 128% in 2014). Of note in the



Group's overall result are the results achieved by Herambiente (443% equal to 133 near misses reported against a total of 30 accidents) and by AcegasApsAmga (250%). Regarding Hera Spa, although the trend over the last 8 years is positive in terms of the ability to organise near miss reporting, the final figure in 2016 was not entirely satisfactory and reporting was under expectations (68 near misses less compared to the same period during the previous year); the goal set for the year in terms of ratio between accidents and near misses was nevertheless achieved.

During 2016, 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, 62 training activities were organised at the training site in 2016, involving around 1,100 Hera Group workers for a total of 5,800 hours.

During 2016, a new training procedure for Hera Spa safety supervisors, which had been planned and tested during 2015, was implemented. 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. For the year 2017, in addition to extending the training project to other Group companies, a further training campaign will be provided to all project participants in order to gather and share their feedback and to further consolidate safety culture/awareness.

During 2016, 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) started to be implemented in some of Hera Spa's business units (Water Division, InRete) and at the same time, specific training was provided to the managers and supervisors of the structures involved. In 2017, the instrument is planned to be consolidated at the business units 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 fully implemented during 2016. The project optimised the entire operational flow and also ensured a smooth approach in all areas managed.

The "Healthy lifestyles" project, which was launched for promoting healthy behaviour by Hera Group employees, identified the area of interest 'promotion of healthy diets'.

Specific information activities regarding healthy diets for employees were carried out in 2015 and 2016. 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 completed and validated during 2016. 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.

For future years, in compliance with the indications set out in the Group's Business plan and with the health & safety improvement actions both implemented and scheduled, a further reduction in the accident indices (-6% in 2017 compared to the previous three years) and an increase in the near misses reported by the employees are envisaged.

During 2016, a new working method was developed to ensure that workers are fully protected when removing gaskets containing asbestos, for reclamation purposes, from gas plants. The effectiveness of the method was confirmed by scientific research conducted by the Occupational Medicine Operational Unit of the University of Bologna. The procedure to obtain good practice in workplace health and safety by the Ministry of Labour and Social Policies is underway for this project also.

In AcegasApsAmga companies, the activities for the rationalisation of the Risk Assessment Documents and risk profiles, which dropped from 140 to 48, were completed in 2016 with significant simplification of the working procedures and preventive measures. The health protocol was aligned to the parent company's with considerable advantages in terms of optimisation of health performances. Furthermore, initiatives were promoted to improve the culture of safety including on-field activities with over 100 inspections in working environments carried out by AcegasApsAmga's Prevention and Protection Office.

## Remuneration and incentives

### *Sustainability objectives are included in employees' bonus systems*

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 2016 Federgasacqua labour agreement, which governs the employment relationship of 50% of 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 the Federgasacqua contract and the minimum one applied was conducted by considering the minimum classification conditions for the three employment classes.

### Relation between minimum pay and salary conditions according to labour agreements and Hera pay and salary levels (Federgasacqua contract, 2016)

Euro	Min. pay/salary (according to lab. agr.)	Min. pay/salary (Hera)	Average pay/salary (Hera)
Middle managers	3,025	3,292	4,643
White-collar workers	1,672	1,767	2,813
Blue-collar workers	1,672	1,844	2,420

The data refer to the following companies: Hera Spa, Hera Comm, Hera Trading, Herambiente, Fea, Inrete Distribuzione Energia and Uniflotte.

The average salary applied is higher than the minimum labour agreement conditions for all three positions: +53% for middle managers, +68% for white-collar workers and +45% for blue-collar workers.

Even the minimum salary applied is 9% higher than that envisaged by the labour agreement for middle managers, 6% higher for white-collar workers and 10% for blue-collar workers.

These differences are directly related to the average age level of the corporate population, which is 48.5 years of age, and to the policies aimed at favouring internal professional growth.

#### Ratio between senior management salaries according to labour agreements and Hera levels (Utilitalia contract)

Euro	2016
Minimum according to labour agr.	5,077
Minimum Hera Group	5,769
Average Hera Group salary	9,515
Average market salary for managers	10,057

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 87% higher than the minimum according to the labour agreement, while the minimum salary applied by Hera is 14% higher than the Utilitalia contract. The average salary of Hera managers is 5% lower than the average market salaries for managers, as reported in the Hay Compensation Report - Total Cash Italia 2016.

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 51.7 years) and of years of stay in the Group (on average 15.6 years) for the category of managers.

#### Average salaries by gender (2016)

Euro	Men	Women
Managers	9,913	8,184
Middle managers	4,705	4,547
White-collar workers	2,902	2,701
Blue-collar workers	2,420	2,303

The data refer to the following companies: Hera Spa, Hera Comm, Hera Trading, Herambiente, Fea, Inrete Distribuzione Energia and Uniflotte.

The **salary gap between men and women** within the management class is significant (Euro 1,729): this figure is influenced by the number of female directors (5 out of 41). The salary gap for middle managers, blue-collar workers and white-collar workers is contained. The salary gap between men and women is due to the fact that 68% 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 (94%) 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).

In 2016, 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 9.6. The gross annual salary of the person with the highest salary has not varied since 2009, whereas the median variation percentage of workers increased in 2016 by 1.3%.

#### Gross performance bonus (per capita)

Euro	2014	2015	2016
Middle managers	2,038	2,054	2,054
White-collar workers	1,766	1,780	1,780
Blue-collar workers	1,628	1,642	1,642
<b>Weighted average on contacts</b>	<b>1,733</b>	<b>1,747</b>	<b>1,747</b>

The data refer to the following companies: Hera Spa, Hera Comm, Hera Trading, Herambiente, Fea, Inrete Distribuzione Energia and Uniflotte.

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.

#### Bonus system related to short-term 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 2016, 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.

In 2016, the balanced scorecard system was extended to the middle managers and managers of Marche Multiservizi.

### Pension funds

The number of employees participating in the pension funds as at December 2016 was 5,353, or around 64% of total Group employees. The slightly downward trend in the percentage of participation in the funds with respect to the total number of employees continued, while the percentage of participation in the main pension funds with respect to the overall percentage of subscribers rose slightly. 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)

%	2014	2015	2016
Pegaso	8.16%	2.30%	3.46%
Previambiente	8.87%	3.11%	3.15%
Previndai	4.49%	3.05%	0.33%

### Industrial relations

At **Group level**, on 26 July 2016, Hera Group's new memorandum of intent on tenders was entered into with sector-specific national trade-unions organisations. This protocol is valid for all Group personnel and, therefore, for all Hera Spa facilities and national subsidiaries.

The protocol was drawn up in compliance with the new regulatory agreements and provisions on tenders and outsourcing of services and work; based on these new agreements (Atersir protocol signed with confederation trade unions on 22 April 2016 and Italian Legislative Decree 50/2016), the system of appointments and tenders will be governed according to principles of **transparency, equity and impartiality**.

The protocol requires the commitment to implement all measures aimed at protecting the workers used in the tenders. Suppliers are required to comply with the application of the sector-specific National Collective Labour Agreement (NCLA), with specific detail of the NCLA applied to the most significant tenders as well as of safety rules, the rules for disabled persons' right to work and the exercise of trade union freedom. In the event that the contractor/sub-contractor fails to comply with the above requirements, the former will be immediately requested to implement them. In case of non-implementation, the penalties

provided for in the contract will be applied, including termination of the employment relationship, where feasible.

The new protocol also includes the application of so-called social clauses provided by sector-specific NCLAs; in the event that the NCLAs do not provide regulations on this matter, it is provided that in work and services tenders regarding certain activities, the new party awarded the contract will be required to make an employment offer to the staff employed permanently and used mainly in the activities covered by the tender, on the payroll of the outgoing operator. In all the other cases of takeover of tenders, a prior meeting will be held between the outgoing contractor, the new contractor and the trade union organisations, for the purpose of assessing any possible solution aimed at safeguarding employment.

The protocol reiterates the importance of the qualification requirements for companies wishing to participate in Group tenders in order to exclude those that fail to comply with contribution, social security and insurance requirements as well as regards anti-mafia certification.

As for the choice of the companies, with the exception of cases provided for by law, in order for the assessment to take place only with regard to price, the contract will be awarded to the economically most advantageous offer, with evaluation of qualitative technical aspects appropriate to the nature and subject matter of the contract.

Like other certifications, SA8000 is also considered in all respects as an element of the offer assessment. The protocol also establishes the procedures for dialogue with the trade union organisations by identifying the information made available to them, both before publication of the call for tender and after the signing of the tender contracts. The role of LaborHera is confirmed for shared in-depth study of tenders.

On 11 April 2016, the **agreement for Hera Group's integrated welfare system** was signed together with national, regional and local trade unions and with Single Trade Union Representations. The welfare plan became operational in July 2016. Specifically, the parties agreed to set up, for the three-year period 2016-2018, a **flexible welfare package** for a total value of Euro 385/year per permanent employee; this amount includes a Euro 50 share for each employee provided by Cral to be deducted from the annual company contribution. This amount will be achieved through a gradual process that will end by the end of 2017. The package comprises goods and services included in the following 6 macro-categories: health and healthcare assistance, insurance and social security, education/child support, services to citizens, well-being, income support and Hera Solidale. The parties also decided to set up a commission, composed of company members and 18 trade union members, with the aim of monitoring the implementation of the plan and of reporting the welfare initiatives taken by the company and by Cral. The members of the commission, which will normally meet once a year, may propose new services and initiatives; the company will act as an interface with the welfare platform operator that, in turn, will evaluate the proposals received. Use of the integrated welfare system may be open, during its period of validity, even to other parties (e.g. suppliers) which will be the subject of discussion and evaluation between the parties, provided that the related costs are borne by the companies to which the recipients belong.

The framework agreement on financed training was signed at Group level for 2016.

In the **Emilia Romagna area**, regarding the organisational and corporate evolution of the Hera Group resulting from the current unbundling requirements, the minutes of a meeting with regional and local trade unions and with Single Trade Union Representations were approved. The joint examination procedure required by the law regarding the transferral of the business unit Energy Distribution Networks from Hera SpA to Inrete Distribuzione Energia S.p.A. was carried out during the meeting.

Subsequently, the parties met to carry out the joint examination procedure regarding the transferral of the business unit related to Hera Spa's Customer Technical Department and Engineering Department from Hera SpA to Heratech Srl. As a result of this transaction, all engineering and technical services provided to customers were included in a single corporate structure, aimed at achieving greater efficiency when managing the design and implementation of plants and networks, and when dealing with technical activities for the final customer.

Also in the area of Emilia Romagna, following all verifications, it was also decided that measures will be taken to optimize the current on-call status models. In the area of Bologna, with regard to the Aqueduct Network, after a thorough analysis of the work orders, the Apennine area was improved, through implementation of an on-call line, and an on-call line was established in the municipalities of Valsamoggia, in consideration of the specific features of the service in that area.

In the area of Rimini, with regard to Sewage Networks and Sewage-Treatment Plants, some lines with a very low number of interventions were transferred to other existing lines, with a view to rebalancing workloads and streamlining the models throughout the various districts.

In the area of Imola, an operational on-call district heating line was set up following the establishment of Inrete and resulting separation of the activities.

In addition to the agreements already signed in the areas of Forlì-Cesena and Ravenna, in the areas of Bologna, Modena and Rimini, in the sectors of Aqueduct Networks and Sewage Networks of the Water Department, working hours have been redistributed over 6 days per week, during the summer (from Monday to Saturday with better coverage during the ordinary time slot), thereby reducing on-call overtime.

In the area of Ravenna, with regard to the Sewage and Treatment Plants, the schedules in the two sub-districts (coast and hinterland) were redefined by standardising them with the Group's schedules according to the agreement of 24 November 2014.

In September, an agreement was signed in Hera Comm for extending the "virtual security" project, aimed at protecting employees from potential and dangerous forms of aggression by customers, also to the operators of the Bologna, Cesena, Imola and Ravenna branches.

In October, as a result of the obligations arising from Aeegsi Resolution 655/2015, concerning the regulation of the contractual quality of the integrated water system, new working schedules were defined (Monday to Saturday) for the office staff of Hera Comm, working in the Household Market Department - customer and customer care management, in the areas of Cesena, Ferrara, Ravenna and Rimini.

Agreements were also entered into with respect to the reporting of the performance bonus indicators for year 2015, in compliance with the provisions of the supplementary labour agreement of 5 March 2014.

Furthermore, agreements were reached for both the establishment of two new work schedules for Herambiente WTE shifts (covered, where allowed by technical and organisational conditions, by the so-called 7th “outside shift” team, and for replacing the so-called “biweekly” schedule with the new schedule for the personnel in charge of Herambiente maintenance activities, with start times staggered by one hour (7:30 or 8:30), in order to ensure better coverage in the afternoon.

In compliance with the provisions of the NCLA of the chemical industry of 15 October 2015, the attendance bonus for Hera Group staff to which this contract is applied will be included, as from 2017, as a specific objective in the Group performance bonus, based on the same calculation methods and same application criteria.

An agreement was also signed regarding a new, more structured on-call organisation, for staff to whom the NCLA of the chemical industry is applied and who operate on Herambiente’s selection and recovery systems and selection and recovery maintenance.

On 23 November 2016, in compliance with the procedure set out in the agreement for the renewal of the NCLA for Utilitalia waste management services of 10 July 2016, the talks for defining the application methods of the new working schedule distributed over 38 hours per week for Hera Spa, Herambiente, Fea, HASI, Uniflotte staff were concluded. The new schedule, in line with the Group agreement regarding working hours of 24 November 2014, started on 1 January 2017.

In November, an agreement regarding the snow emergency service for the 2016-2017 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.

In the area of Ferrara, the agreement on the 2017-2018 production calendar regarding collection services during holiday periods was signed.

The procedure set out in the current collective labour agreement concerning the transfer (with effect from 1 January 2017) of Uniflotte employees belonging to the “Romagna vehicle management” unit based in Coriano and the “container management” unit based in Rimini, to the Rimini and Pievesestina sites, respectively, was carried out. This operation allowed the rationalisation of repair shops and concentration of containers for the Romagna area.

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 2016 led to the renewal of the NCLA for the waste management services and which, especially in the last days of almost uninterrupted negotiation, saw the active participation of the Hera delegation which enabled us to achieve significant results.

In the **Friuli Venezia Giulia and Veneto area**, in the course of 2016, the shares of Società Trieste Onoranze Funebri, held entirely by AcegasApsAmga, were transferred entirely to another shareholder following the sale of 100% of the shares; individual agreements were signed regarding the procedures for transfer of employees to the new employer.



The agreement on Hera Group's welfare was applied, also by establishing negotiations relating to the harmonisation of company Crals through the various local areas of AcegasApsAmga.

An agreement was also signed regarding the possible extension of the assignment of waste management activities to social cooperatives. Again, as part of the waste management services and on account of the end of the concession for the services in the Municipality of Duino-Aurisina, the procedure laid down by the NCLA and aimed at the transfer of the employees to the new contractor, was completed.

Also during 2016, with regard to AcegasApsAmga, the joint examination procedure established by law was performed, in order to implement the transfer of the business branch pertaining to AcegasApsAmga's laboratories in Padua and Trieste to HeraTech, controlled by Hera.

Regarding the renewal of the NCLA for Utilitalia waste management services, the trade union procedure was carried out, in view of the application of the new schedule, due to the increase in working hours. Starting from 1 January 2017, the working schedule for employees to whom the NCLA for waste management services is applied, is 38 hours/week.

In the **Marche** area, an agreement was signed in March regarding "2016 closing of facilities". It was agreed that the facilities would close for 4 days during 2016 in order to recover untaken holidays.

On 30 November 2016, a memorandum of understanding for the transfer to Marche Multiservizi Falconara Srl of 74 employees of Marche Multiservizi was signed, as a result of the transfer of the business unit which took place on 1 January 2017.

In December 2016, in compliance with the procedure set out in the agreement for renewal of the NCLA for Utilitalia waste management services of 10 July 2016, the minutes of the meeting regarding the new working schedule for employees belonging to the NCLA for Utilitalia waste management services were signed, with the agreement of 38 hours/week with effect from 1 January 2017.

Furthermore, the training plan was approved together with two agreements: the first regarded behaviour as an added value for services, with the aim to provide human resources with useful tools for achieving effective communication; the second intended to create a culture of safety in order to enhance and complement the awareness and skills of staff involved in the field of effective behaviour for safety and teamwork purposes.

### Open-ended contract workers that are members of unions (breakdown by trade union)

No.	2014	2015	2016
CGIL	2,580	2,467	2,398
CISL	821	788	775
UIL	738	716	697
CISAL Federenergia	8	45	40
FIADEL	245	238	241
RDB	0	0	5
ADL		8	8
UGL	38	30	23
USB	41	29	10
FESICA CONFESAL	16	12	9
FEDERMANAGER	7	13	14
ASSOQUADRI	17	0	0
CIU MIDDLE MANAGERS	1	1	1
SNALV		5	6
CONFIAL		1	1
Basic confederation		0	1
Basic trade union	0	0	13
<b>Total</b>	<b>4,512</b>	<b>4,353</b>	<b>4,242</b>
<b>Percentage of workforce as at 31/12</b>	<b>54%</b>	<b>53%</b>	<b>50%</b>

The data refer at 31 december and to Hera Spa, Acantho, Fea, Hasi, Hera Comm, Hera Luce, Hera Trading, Herambiente, Medea, Uniflotte, Hera Comm Marche, Hera Servizi Energia, Asa, Inrete Distribuzione Energia, Waste Recycling, Biogas 2015, Amga Energia & Servizi, Amga Calore & Impianti and Hestambiente.

50% of the Group's open-ended contract workers are members of a union: the percentage value is around three points less than in 2015. Analysis of the figures by position shows that the union membership rate of blue-collar workers (60%) dropped by five percentage points, while the rate of white-collar workers (47%) and of middle managers (21% of the total) dropped by two percentage points.

### Open-ended contract workers that are members of unions (breakdown by position)

%	2014	2015	2016
Middle managers	26%	23%	21%
White-collar workers	51%	49%	47%
Blue-collar workers	64%	65%	60%
<b>Total</b>	<b>54%</b>	<b>53%</b>	<b>50%</b>

The data refer at 31 dicembre and to Hera Spa, Acantho, Fea, Hasi, Hera Comm, Hera Luce, Hera Trading, Herambiente, Medea, Uniflotte, Hera Comm Marche, Hera Servizi Energia, Asa, Inrete Distribuzione Energia, Waste Recycling, Biogas 2015, Amga Energia & Servizi, Amga Calore & Impianti and Hestambiente.

## Strikes (hours)

Hours	2014	2015	2016
Total time on strike (hours)	10,483	727	13,682
Time on strike (per capita)	1.4	0.1	1.7

The data refer at 31 dicembre and to the following companies: Hera Spa, Acantho, AcegasApsAmga, Fea, Herambiente, Hestambiente, Hera Comm, Hera Luce, Hera Trading, Inrete Distribuzione Energia, Marche Multiservizi and Uniflotte.

In 2016, two 8-hour **strikes** were announced by Fp-Cgil, Fit-Cisl, Ultrasporti-Uil and Fiadel, following failure to renew the NCLA for waste management services. A further 8-hour strike was announced by national independent trade unions to object to the content of the agreement reached.

A 50-minute strike was announced by Fp-Cgil, Fit-Cisl, Ultrasporti-Uil and Fiadel, following the mortal accident in Civita Castellana (VT) in a plant not run by companies belonging to the Hera Group.

Further three strikes, announced by national independent trade unions, for overall 24 hours, regarded political, economic and social issues.

## Litigation with the workforce

No.	2014	2015	2016
Litigation pending at the close of the year	39	43	34

As at 31 December 2016, 35 cases of litigation were pending in the Group: Excluding AcegasApsAmga and Marche Multiservizi, there were 20 cases of litigation pending at year end: Of these: eight were for dismissals for just cause and one for the end of an apprenticeship contract, five for compensation of damages and the payment of contractual indemnity, two for recognition of a higher employment level, two regarding pensions and settlement of contributions, one was pending to appeal a transfer, and one was promoted by the company. In 2016, 15 cases were initiated (compared to 10 in 2015). The AcegasApsAmga Group has 15 occupational cases pending. Among these: five for recognition of an employment agreement by employees of contracting companies, following the claimed illegal nature of the contract, four for recognition of an open-ended employment agreement by former temporary workers, two for disciplinary dismissals, two for compensation of damages and one for an INAIL action of recovery. In AcegasApsAmga, the disputes with former temporary workers initiated in 2015 were closed during 2016. As at 31 December 2016, Marche Multiservizi did not have any pending cases.

In 2016, 181 **disciplinary measures** were taken against Group employees, in compliance with the applicable national labour agreements (179 in 2015): they mainly involved withholdings on salary (88 cases totalling Euro 2,365), oral or written reprimands (45 cases) and 41 temporary suspensions from work. In seven cases, it was necessary to resort to termination without notice.

## The internal climate survey and other dialogue initiatives

The internal climate survey is a fundamental instrument in the process of ongoing improvement and of involvement and enhancement of the workforce, two of the operational principles set forth in the Hera Group Charter of Values. It began

being applied in the Hera Group in 2005 and is carried out every two years to implement and consolidate the actions for improvement.

In 2016, centrally-managed improvement actions were implemented which had already been defined after the 2015 climate survey. The overall implementation plan, which also includes the actions of the individual structures, will also continue during 2017. In 2017, the two-year biennial survey will be carried out with the aim of achieving a worker satisfaction index of 64/100.

### Progress to 31 December 2016 of the improvement actions launched as a result of the 2015 internal climate survey

Role in Hera	
Improvement actions	The situation as at 31 December 2016
<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>	<ul style="list-style-type: none"> <li>Information articles were published in the company house organ and welfare was included in the Passaparola" ("Word of mouth") project for top-down communication purposes</li> <li>During the 18 meetings organised by the Executive Chairman and Managing Director with all Group employees, a video was shown explaining the function of the new company, Inrete. Specific articles were published in the house organ in order to explain some corporate changes: Inrete, Hera Servizi Energia, Geo Nova and Waste Recycling</li> </ul>
Workplace	
Improvement actions	The situation as at 31 December 2016
<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>	<ul style="list-style-type: none"> <li>During the 18 meetings organised by the Executive Chairman and Managing Director with all Group employees, customer satisfaction details were presented. Customer satisfaction was included in the Passaparola (Word of mouth) project top-down communication.</li> <li>The "Corporate Social Responsibility Policies and the Code of Ethics in day-to-day management" course was planned and implemented.</li> <li>The Group's Code of Ethics was updated after the workgroup's specific meetings. The code was approved by the Board of Directors in February 2017.</li> </ul>
Immediate superiors	
Improvement actions	The situation as at 31 December 2016
<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 training programme on exemplary leadership was carried out with the participation of all Group managers and middle-managers</li> <li>After the assessment phase, another phase regarding dialogue on performances was developed, where all persons in charge met their co-workers and exchanged opinions with them.</li> </ul>
Corporate culture	
Improvement actions	The situation as at 31 December 2016

<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>The first cycle of Passaparola (Word of Mouth) meetings (top-down communication) was carried out throughout the Group with the aim of involving and informing employees about the Group's strategic plans, organisational changes, etc. An e-learning course on the Passaparola project was organised for the speakers and employees who could not physically attend the meetings.</li> </ul>
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### Other dialogue and consultation initiatives

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 6,843 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.

With regard to the Technical study group for organisational innovation and work quality (LaborHera), confirmed by the industrial relations protocol signed with the trade union organisations in July 2015, we are still waiting for appointment of the new members. The two meetings held during 2016, regarding performance bonus objectives reporting, were conducted with the old members appointed in the previous protocol of industrial relations.

In order to provide detailed information to all Group employees, both the description of the objectives contained in the Agreement on the performance bonus (with relevant allocated amounts) and the texts of the most recent renewed NCLAs were published on the corporate intranet, under the contracts section.

Furthermore, dialogue activities regarding Hera Spa's SA8000 certification were also carried out: around 250 workers were interviewed during the internal audits and those conducted by the inspection company. Nine SA8000 reports were received by the SA8000 workers' representatives: 5 closed, 2 under evaluation, 1 non-pertaining and 1 brought to the attention of the Ethics Committee.

### Internal communication

The community of those who work in the Hera Group is constantly involved through communication actions and aggregation projects in order for it to become increasingly more cohesive, aware and motivated.

Among the new initiatives promoted by internal communication, the visits to two of our plants (the treatment plant of Sasso Marconi and the waste-to-energy plant of Ferrara) were particularly important and appreciated: over 200 Hera employees with their family members had the opportunity to gain better knowledge of their colleagues' work and of the innovative technologies that provide citizens and the environment with top quality services.

The ongoing renewal process of the corporate house organ continued in 2016; over the last quarter, it was available not only in traditional paper and browsable pdf format, but also in a digital version, with a layout close to the websites of major newspapers and with multimedia content (infographics, photos and videos) that makes every article, tag or link more pleasant and also simplifies searches for whoever wishes to know more about a topic. Among the topics most frequent: HExtRA, the integrated corporate welfare system set up at mid year that allows employees to use contributions for a wide range of services. A communication plan focused on various corporate tools was prepared for this important project, which led to excellent results.

Several communication actions were implemented in 2016 to support the work of the canteen commissions in the company's main sites, with the aim of monitoring and proposing improvements to increase the quality of the service offered. Among the innovations introduced: together with the operator Elior, the Clicca&Gusta (Click&Taste) portal dedicated to Hera Group catering, accessible from smartphones and PCs to consult the updated menu, send reports and suggestions, and express satisfaction.

Employees and their families continue to particularly appreciate the recreational and sporting gatherings: they are organised in collaboration with the employee recreational associations to facilitate meeting and integration amongst co-workers from different areas. The long skiing weekend with the ninth edition of the Hera Ski Adventure giant slalom counted 400 participants: the initiative was extended to the workers of Padua, Trieste, Udine, Gorizia and Pesaro to promote their involvement in the Group.

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: 1,600 people (on the rise compared to the previous year) 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, 4,957 employees were members of the associations in 2016 and the activities of the associations were financed with contributions by the company (approximately Euro 580 thousand) and by employees (Euro 17 thousand). Participants in the activities organised by cultural associations amounted to 16,834 in 2016.

## Case studies for the workforce

### Workforce

#### Social certification (SA 8000)

In April 2016, Hera Spa successfully passed the 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.

During the inspection, DNV GL closed all the findings apart from 3 opportunities for improvement and opened just one finding all classified as opportunity for improvement. The topics to be further examined regarded monitoring working hours, handling feedback to employees and raising awareness in company contacts/assistants on the monitoring of companies. The importance of the role of SA8000 workers' representatives was emphasised as well as the need for them to have a more active role.

Among the many **strengths highlighted**, the quality of internal control on suppliers as regards compliance with standard guidelines and the effective support to solving the detected problems stand out, as well as the great attention to the training and development of resources. It is important to underline how the proactive approach of the units involved, led to examining and closing 29 reports identified during the interviews carried out by the certifying agency.

2016 was also the year in which the adjustment activities to the **new SA8000:2014 standard** were started. 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 permanent body has the task of suggesting to Top Management any corrective or improvement actions for the functioning of the system by monitoring and assessing the risks relating to working conditions and SA8000 requirements. In 2016, 10 reports were addressed within the SA8000 management system. None of these involved cases of discrimination.

#### **HeraSolidale, workers' solidarity towards local non-profit organisations**

The new HeraSolidale was relaunched in December 2015, Hera Group's internal initiative that promotes support by employees to local social realities. Now at its second edition, the associations for years 2016/2017 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). HeraLab is 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.

Starting from March 2016, 802 workers joined HeraSolidale, accepting to donate Euro 1, 3, or 5 (or another amount) every month which was withheld directly from their payslip. This successful project led to collecting Euro 17,886 over the year: an amount that Hera has decided to double but to which Euro 7,101 must also be added, donated from employees through Hextra, the integrated corporate welfare system.

#### **Smart Hera**

Since the end of 2015 a group of Hera employees has met periodically to study and develop small projects to improve and increase the efficiency of working tools, and to introduce new innovations. They have already carried out a series of activities, while others are ongoing.

The initiatives carried out in 2016 include:

- the introduction of Wi-Fi at the Bologna Frullo, Bologna Via Cristina Campo and Ferrara via Diana sites (on the date of publication of this Report the Ravenna via Romea Nord, Modena via Razzaboni and Imola via Casalegno sites also had Wi-Fi coverage);
- the installation of Skype for Business on all company PCs to allow for quick communications and videoconferences between employees;
- the installation of 2 interactive blackboards with advanced functions to facilitate meetings and the sharing of documents between different sites;
- the availability of 3 portable telepresence systems in Trieste, Padua and Udine to make any meeting room ideal for managing videoconferences.

Ongoing initiatives include:

- the creation of an app 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...);
- virtual receptions for managing visitor access to Hera sites through remotely connected operators;
- completing the project to provide Wi-Fi coverage at all of the Group's main sites;
- the implementation of new technologies applied to company badges;
- the introduction of highly reliable systems for guaranteeing operational communications in the event of emergencies and the unavailability of the regular voice transmission networks.

## **Diversity and welfare**

### **HextRA is Hera Group's new welfare plan**

The new corporate welfare plan, HExtRA, was launched on 4 July 2016. It provides the workforce with a range of initiatives and services consistent with the results of the information gathering phase (held in 2015) and with the company's culture and values, with a view to improving employees' individual and family well-being in economic and social terms. A single integrated system for all Group companies yet which can be customised.

A flexible welfare quota was assigned to each open-ended contract worker which for 2016 was Euro 200 (this figure will increase to Euro 360 in 2017 and reach Euro 385 in 2018). The quota may be used for initiatives and services in 6 areas: health and healthcare assistance, insurance and social security, support to education, services to citizens, well-being and income support, Herasolidale.

In addition to the flexible welfare quota, Hera supports employees who have children of school age by offering them a further educational quota to be used exclusively for school expenses from crèche to university such as: enrolment and attendance at crèches, schools, before- and after-school activities, summer/winter camps and language courses. The purchase of school books, school trips and canteen services are included. There were 3,821 applications for school year 2016/2017 for an overall amount of around Euro 380,000. Among the 3,821



applications, 192 quotas were used by employees for crèche services. Nineteen applications for attending crèches with which the Group has agreements (in Bologna, Imola, Cesena and Ravenna) must be added, for a total of 211 children. Overall, the new model, which features easier access to the service by assigning welfare quotas directly to employees with enrolled children and gradually closing the agreements in force upon the contractual expiry dates, has already shown a significant increase in support to families and investment in the area by the Group.

In 2016, HExtRA had 7,987 members, equal to 97% of the potential population, with 1,902,456 used by employees.

### **Diversity and inclusion index: Hera in the top 100 world ranking**

Hera is among the top 100 companies in the world in the diversity and inclusion index of Thomson Reuters with a score of 71.5 out of 100. The ranking compiled by Thomson Reuters, one of the leading companies in the field of economic and financial information, analyses more than 5000 companies worldwide 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.

Only 5 Italian companies are present in the world ranking charted in June 2016. Hera is the only Italian multiutility among the top 100 worlds. Compared to international multiutilities, Hera is placed in second place, second only to Contact Energy Ltd and before E.ON. Particularly valued Hera's commitment to training and development.

### **Training and professional development**

#### **Hera Educational and the joint school-work experience courses**

In 2016, the Group strengthened its structured action with the **Hera Educational** system. It implemented a model for managing **joint school-work** experience courses by integrating corporate and school skills, and launched the initiative following the signing of a memorandum of understanding with the Regional Education Department for Emilia-Romagna. In 2016, the first 60 courses were implemented out of the total 180 courses for the three-year period 2016-2019. Following implementation of the system, the Group joined the "Promotion of joint school-work models" workshop of the "**European Pact for Youth**" programme, aimed at defining joint school-work models at national scale.

Furthermore, the "**Hera teaches you a trade...at school**" initiative continued, representing a development of the Scuola dei Mestieri, and focused on planning 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 the areas of Forlì, Modena and Ravenna).

#### **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 2016. Hera's corporate university was founded at the end of 2011 with the aim to enhance

liaison and dialogue with institutional academic stakeholders, business schools and with national and international corporate universities.

Specifically, the Markets & Technology workshop was organised in Bologna in 2016: a new circular approach between customer experience and growth, during which the results of the Orizzonte 2030 research produced by Harvard Business Review Italia and The Ruling Companies were anticipated. Furthermore, the 5th 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 3rd edition of the orientation initiative that supports the children of employees approaching the world of work was developed.

### **The System for the development of potential**

Activities continued during 2016 with regard to the process for the development of the Group's human resources (launched in 2015) to enhance corporate population on the basis of 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. In 2016, 583 evaluators were involved and training meetings were organised for 30 new evaluators. A total of 122 meetings for calibration of the performed assessments were also carried out. Twelve development actions for homogenous groups of workers, which involved 1,218 workers were set up.

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.

### **Sharing work experience with Role play**

The aim of the Role Play project is to increase the knowledge of remote centre operators and of the staff who manage networks and systems by allowing them to exchange viewpoints mutual daily work experience. The innovative component of the project consists of sharing work experiences among employees belonging to different units, who address the same and often complex, multi-faceted and cross-cutting work issues.

Sharing experiences enhances skills and allows a better understanding of the difficulties and needs of every profession by putting oneself in the place of a colleague and working together during a real day of work. Shadowing also allows topics and problems to be shared from the external customer's and internal supplier's viewpoint.

The project involved overall 129 people (55 from the remote centre and 74 network and plant operators) for a total of 147 days of training between October and December 2016.

### **Health and safety at work**

#### **Gender-based personal protection devices**

A project on personal protection devices, with specific focus on the comfort of workers, was set up in 2014 which aims to create prototypes of gender-based personal protection devices. The research, analysis and study phase carried out by Hera led to a first positive result: 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 and qualified roles (supervisors, workers' safety representatives), obtained substantially positive views from the interviewed workers. The personal protection devices project based on "gender differences" was further developed during the two-year period 2015-2016 and led to creating prototypes for three types of occupational clothing (fleece, high visibility vest, trousers). During 2016, thanks to the active contribution of a group of specifically identified workers representing various genders (man/woman, young/elderly person), on-field testing was conducted on the developed prototypes. Testing confirmed the success of the innovative project (active involvement of workers in identifying areas of improvement, conducting tests and sharing results) and highlighted the good results achieved in terms of greater comfort and usability of the clothing. The project will be proposed to the Ministry of Labour and Social Policies in order to obtain good practice in workplace health and safety by the.

#### **Remuneration and incentives**

##### **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 2016, 22% 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.

#### **The internal climate survey and other dialogue initiatives**

##### **Social innovation: The HEuReKA project and the HEuReKA+ evolution**

The HEuReKA initiative has been a runaway success: designed to field and enhance the innovative proposals of Group employees, in the space of a year (July 2015 to June 2016) it collected 68 ideas covering everything from work tools through to new business opportunities. Some proposals are already being developed by the relevant departments while feasibility studies have been launched for others.

On the date of approval of this Report, 2 proposals had already been implemented:

- the possibility of using Skype for meetings and videoconferences between colleagues
- the electronic receipt of payslips

one proposal is being implemented:

- web application similar to bla bla car to request or inform colleagues of the availability of lifts for transfers between Hera Group sites

seven proposals are being examined further or undergoing a feasibility study:

- smart working, the possibility of occasionally working from the worksite closest to home, even if it is not the worksite assigned to the employee
- the renewal of the company fleet with hybrid vehicles
- implementation of gamification logics aimed at customers to strengthen the Hera brand
- possibility of booking an appointment at customer branches
- an app to simplify the current employee attendance system with badges
- the availability of Hera branches to receive deliveries of packages for Group customers, with the possibility of collecting them during regular branch opening hours
- the introduction of one or more data stewards to oversee the model, the management and the optimisation of data relating to one or more work areas.

The HEuReKA project concluded with a prize-giving event for participants in the initiative. Given the interest it aroused, in December 2016 a genuine social innovation platform called HEuReKA+ was launched in which all employees can not only put forward their proposals but also jointly develop an idea with their colleagues, contribute to ideas or vote on the proposals of others. Finally, the HEuReKA+ platform permits direct and immediate interaction between employees to contribute to the development and innovation of the Group.

To fine-tune the focus of the proposals, the HEuReKA+ platform has been organised into areas or “challenges”. The first challenge was “the communication/promotion of the Hera brand towards stakeholders and employees”. On the date of approval of this Report, around 700 employees had used the platform for this challenge and 25 ideas had been proposed and discussed.

Two new challenges will be launched in 2017 including one on reducing the energy consumption of the Hera Group through energy efficiency initiatives.

## Shareholders and Financial Institutions

Hera undertakes to transfer the value created by operations to the investors by means of all the value drivers:

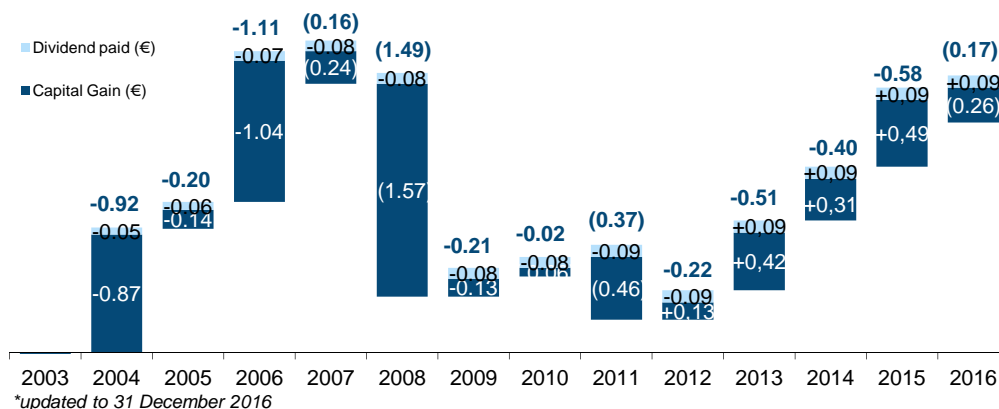
- guarantee of sure return for the invested capital
- accessibility to significant information and complete transparency in communication
- low investment risk profile
- stability in the governance of the company and protection of the shareholders
- diversification of the shareholding structure

### Hera's commitment toward the investors

Create value in order to ensure the return on the invested capital

Hera 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 the 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 thus came to +158.5% in 2016 as from the IPO: the total shareholder return has always remained positive, during a decade characterised by considerable volatility on the financial markets.

### Total shareholder return from the IPO



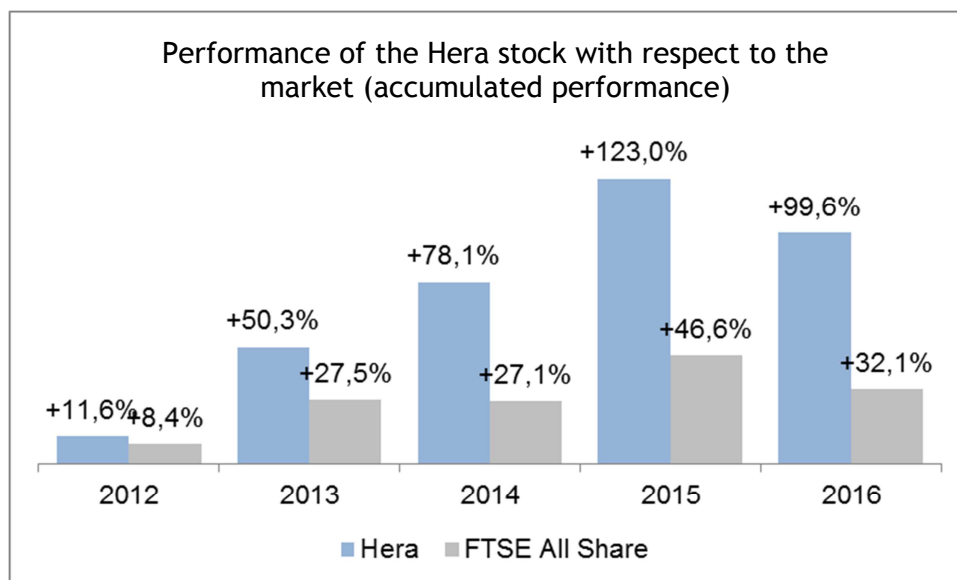
In 2016, Hera stock disclosed the usual strong resilience in particular during the first three quarters of the year, when the performance was constantly higher than that of the Italian market, despite the uncertainties deriving from the slowdown of the emerging economies and the referendum on the exit of Great Britain from the European Union (Brexit). During the fourth quarter, the performance of the stock realigned itself with the more general trend of the market, when the foreign institutional investors also exited the sectors considered more solid such as those

in which Hera operates, due to the approach of the Italian constitutional referendum and the risk of a new period of political instability.

#### Official share price and average traded quantities in 2016

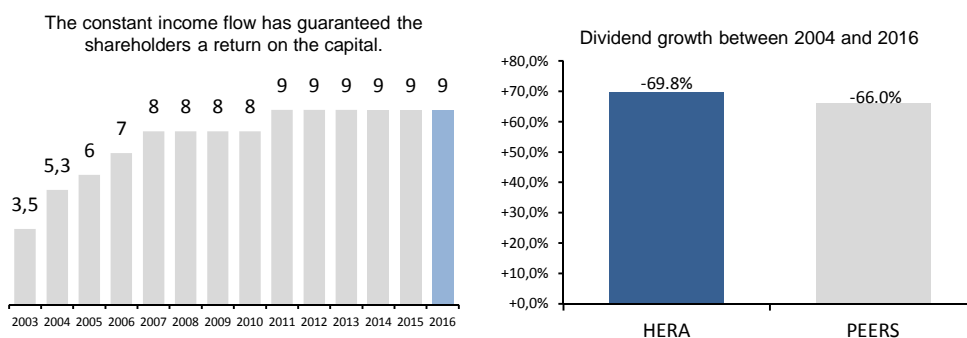
	QI	QII	QIII	QIV
Official price at close of period (Euro)	2.63	2.44	2.38	2.19
Average volume traded (thous.)	2,212	1,618	1,818	2,078
Average volume traded (in thousands of Euro)	5,654	4,090	4,429	4,375

As of the official listed price of Euro 2.19 reported at the end of 2016, Hera 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 6.6 compared with a 5.8 peer average, and also the multiple of the share value on the net profit (P/E), equal to 16.7, exceeded the 11.0 average. The greater valuation which the market acknowledged Hera with respect to the main listed local utility companies reflects both the future growth prospects of the business results and the low risk in all the strategic business areas.



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 1.26 billion in total since its establishment in 2002. Hera was thus included in the Etf Spdr S&P Euro Dividend Aristocrats, a basket of 40 European securities (only three are Italian, including Hera) which distinguished themselves due to the uninterrupted distribution of stable or rising dividends in the last 10 years.

## Dividend distributed (Euro cents per share)



In the five-year business plan, presented in the first few days of 2017, Hera increased the remuneration objectives for the shareholders envisaging a minimum dividend rising up to 10 cents per share at 2020, up +11% compared with the last dividend distributed. This policy permits the shareholders greater visibility on the minimum future return of their investment with respect to the remuneration used by other companies in the sector, which make their 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 cash generation prospects and capable of improving the equity solidity and financial stability further, already today among the best in the sector.

## Complete transparency with the shareholders and the financial market on the creation of value

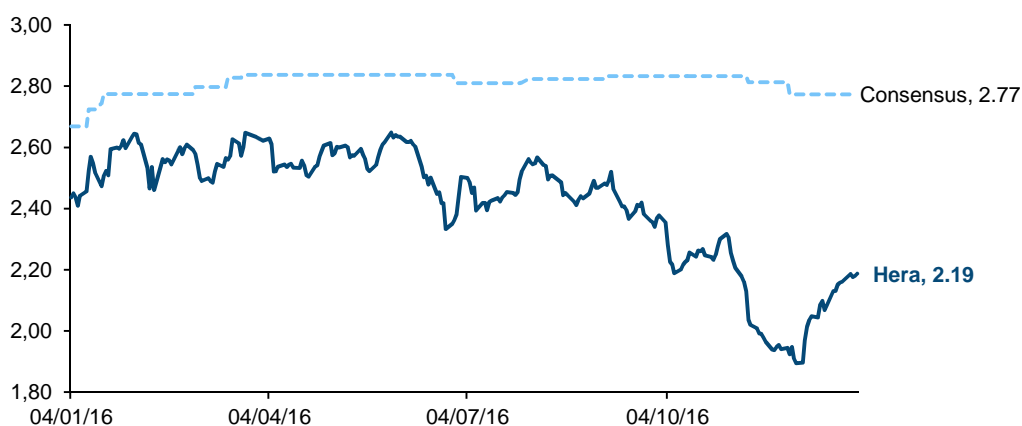
*Communicate in real time and easily for all, to reflect the value created on the stock*

Hera provides the market with significant economic-financial information promptly and transparently so as to facilitate correct assessment of the same and transfer the value generated by operations to the listed shares.

In order to ensure the shareholders symmetric and transparent disclosure, all the press releases which may influence the price of the stock are disclosed in real time. The communication takes place 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 further the expansion of the list of analysts who follow the stock (coverage), so as to ensure a plurality of professional and independent appraisals on the company's value. At year end, a net predominance of brokers (seven out of ten) had a favourable opinion on Hera stock, while sales recommendations were absent. Supported by sound economic results presented quarterly by the Group, the analysts expressed upwards assessments during the year, with the average target price which rose from Euro 2.67 to Euro 2.77 at the end of the period despite being affected, partly, by the upwards trend of the returns on Government securities (inversely correlated to the stock market values of the less risky securities).

## Hera share performance and average consensus compared



## Appraisal and target price of the analysts which follow Hera stock

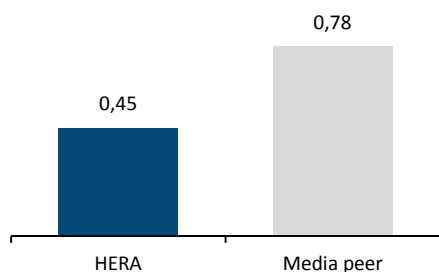
Company	2016	
Banca Akros	Buy	2.80
Banca IMI	Buy	3.02
Equita Sim	Hold	2.75
Fidentiis	Hold	2.35
Goldman Sachs	Buy	2.60
ICBPI	Buy	3.03
Intermonte	Outperform	2.80
Kepler Cheuvreux	Buy	2.78
MainFirst	Outperform	2.90
Mediobanca	Outperform	2.70
<b>Average target price</b>		<b>2.77</b>

## The commitment to reduce the investment risk

*Win over the confidence of an increasingly greater number of investors with constant attention to all the risk components*

Hera pays great attention also 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.

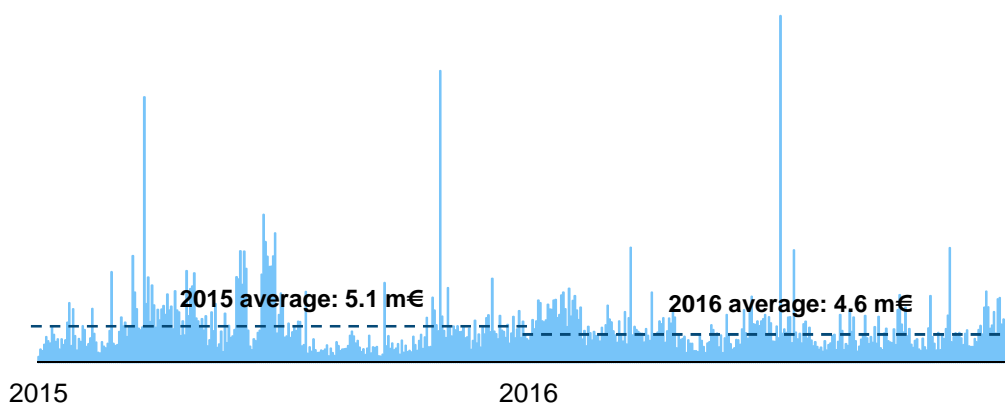


Once again in 2016, the stock disclosed a volatility index of the listed prices (Beta index) more conservative than the average of the shares in the sector. This characteristic is consistent with the strong resilience of the economic results, the low risk profile and the soundness of the governance.

The daily average volumes in 2016 came to 1.9 million shares traded (-12.5% compared with 2015), while the average equivalent value of the daily trading came to Euro 4.6 million (-8.5% compared with 2015). Both the values, albeit decreasing with respect to the previous year, were better with respect to that reported by the peers who by contrast disclosed a drop of -15.3% in volumes traded and -10.3% in equivalent value.

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 (0.31%) with respect to the average of the other securities in the sector (0.41%). 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 (0.31% with respect to 0.49%).

#### Value of the trading in 2016 and 2015 compared (in millions of Euro)

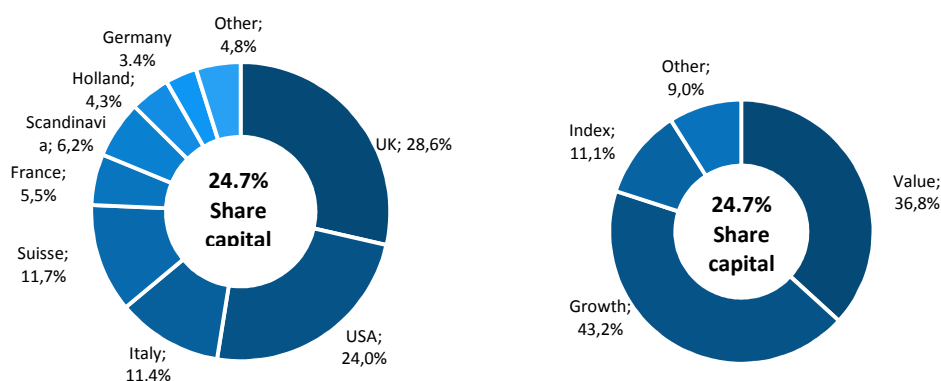


The liquidity of the stock market trading is also the result of intense dialogue with the financial market operators, with around 412 contacts and meetings in 2016, and the launch of new relations with professional investors which have an investment style consistent with the share profile of the Group.

The diversification of the institutional investors between the shareholders of the Group 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.

Institutional shareholding structure by geographic area at 31 Dec. 2016

Institutional shareholding structure by investment style at 31 Dec. 2016



In the diagram on the right, the item Other contains: equity hedges, hedge funds, momentum specialty, yields.  
 Source: Thomson Reuters

Hera stock belongs to six ethical indexes (three more than last year): Ftse Ecpi Italia Sri Benchmark, Ftse Ecpi Italia Sri Leaders, Kempen Sns Smaller Europe Sri Index, Axia Ethical, Standard Ethics Italian Index and Thomson Reuters Diversity and Inclusion Index. They include securities of excellent companies from the standpoint of the 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.

#### Ethical indexes in which the Hera stock is present



#### Corporate Governance and safeguards for shareholders

*In order to guarantee the investment in Hera, the governance of the company is adapted to the best international practices*

Since its establishment, the Group has 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 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.

On 28 April 2015, the shareholder' meeting was subject to a further evolution with the amendment of the articles of association: the obligation for the public

shareholders to hold a minimum of 51% of the share capital (Article 7) was eliminated and the increased or loyalty vote was established (Article 6). By means of this new instrument, disciplined by Italian Legislative Decree No. 91/2014, it is in fact possible to assign an increased/loyalty vote up to a maximum of two votes, to the shares held by the same shareholder for a period of at least 24 months. This amendment rewards the shareholders who demonstrate with the stability of their investment a greater sensitivity to the long-term growth of the Group and the active participation in the appointment of the shareholders' representatives. 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.

Again in 2015, 118 public shareholders entered into a new shareholders' agreement on 26 June, effective as from 1 July and valid for the subsequent three years. The agreement introduced a number of innovations also in light of the afore-mentioned article of association changes. Three time thresholds were in fact fixed which will progressively reduce the holding held by the shareholders complying with the agreement to 38.6%. This percentage is in any event a guarantee of control thanks to the new article of association provisions on the increased or loyalty vote which will be applied in the cases mentioned above and which will guarantee the public shareholders of having a majority greater than two thirds during shareholders meeting, legal limit for article of association amendments.

The public shareholders, once again with farsightedness, have laid down conditions which permit further growth of the Group by external lines, an expansion of the share capital to the shareholders of the companies acquired and an increase in the free float, fundamental for an improved liquidity of the listed prices.

As from 2017, an additional board director is envisaged (from three to four: amendment of Articles 16 and 17) appointed from the lists presented by the minority shareholders: this innovation proposes to attract greater participation of private capital in the choice of the Group's strategies. Furthermore, for the 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% (Article 26), as already envisaged for the election of the Board of Directors.

## **The composition of the shareholding structure**

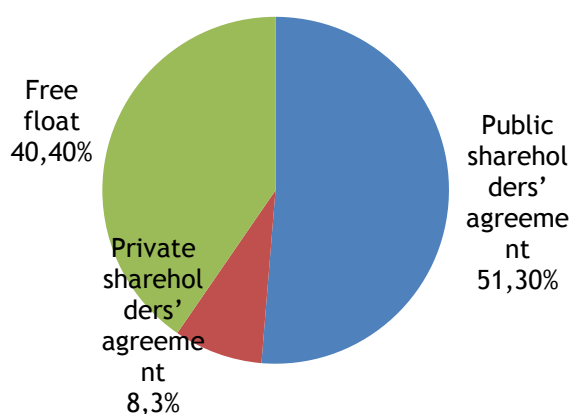
### *Widespread, international shareholding structure lacking shareholders with absolute controlling interests*

Hera's past features a peculiar aspect: the Group is 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 50% 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 1,409 million at the end of 2016. These transactions led to the dilution of the equity investments of the shareholders, and corresponding average growth in earnings per share of +8.6%. 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 2016 reached nearly Euro 3.3 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. In 2016, the number of professional investors rose 37% compared with 2015, contributing towards strengthening the stability of the stock.

### Shareholding structure as at 31 December 2016



Public shareholders' agreement	2016
Municipality of Bologna	9.7%
Con.Ami	7.3%
Municipality of Modena	6.5%
Ravenna Holding	5.3%
Municipality of Trieste	4.6%
Municipality of Padua	3.7%
Municipality of Udine	3.0%
Holding Ferrara e Servizi Srl	1.6%
Rimini Holding Spa	1.6%
Municipality of Cesena	1.3%
Other 108 municipalities	6.7%
<b>Total</b>	<b>51.3%</b>

As of the ex-dividend date, the free float was divided up between 19,576 shareholders. Also, considering the portion of free float held by the public shareholders, the public share capital came to 54.8%.

The new agreement, what is more, envisaged a commitment of the public shareholders to participate in the share capital in an organised and transparent manner: any anomalous trends in the listings of the stock in the event of sale of the securities into public hands can thus be reduced. By way of proof of the effectiveness of this provision, two Accelerated Book Building transactions were successfully concluded in 2015 and 2016, via which certain public shareholders sold a total of 35 million Hera shares, corresponding to a holding of 2.37%, to Italian and foreign institutional investors and leading to an increase in the free

float. Thanks to a rapid and transparent process and demand which in both cases significantly exceeded the amount offered, the placements took place with some of the most contained discounts when compared with similar transactions carried out in Italy in the last 5 years. Neither of the transactions have had any impact on the listings of the Hera stock, which promptly recovered the prices prior to the sales transactions over the short-term.

## The Green Bond

### *Hera's financial policy serving the environment and sustainability*

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 "Environment and future generations" in this Sustainability Report.

### Use of the funds received via the Green Bond (in millions of Euro)

%	Total funds raised	Number of projects	2006-2015 investments	Investments 2016	Unallocated funds
Increase in energy generation from non-fossil sources	57.1	10	55.4	2.0	-0.3
Increase in energy efficiency	219.1	7	205.1	18.4	-4.4
Increase in the use of waste-to-energy plants for the treatment of waste	173.2	4	173.2	-	-
Improvement of the water treatment plants	31.9	4	26.9	7.1	-2.2
Increase in separate waste collection and reduction in the use of landfills	18.8	1	9.8	2.1	6.9
<b>Total</b>	<b>500.0</b>	<b>26</b>	<b>470.5</b>	<b>29.5</b>	<b>-</b>

Downstream from the fund raising, 26 projects were financed/refinanced, belonging to the categories indicated in the table presented above. The overall increase in projects financed in 2016 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 investments are identified by very specific sustainability criteria: for example, the reduction in climate change, the efficient use of resources and renewable energy.

The increase in issues of green bonds continued in 2016, and on the basis of the last report of the Climate bonds initiative reached \$118 billion of issues, double with respect to 2015.

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.

## The environment and future generations

*The area Hera works in is not merely a geographic entity. Above all, it is a primary source of social and environmental wealth, to be respected and protected for the future. Accordingly, Hera is committed to responsibly managing natural resources, improving its results and adopting increasingly efficient technologies with low environmental impact.*

### Objectives and performance

What we said we would do	What we have done	Scope		
<ul style="list-style-type: none"> <li>Set up the construction site of a biodigestion plant to produce biomethane from organic waste, in Bologna</li> </ul>	<ul style="list-style-type: none"> <li>Start of the job-site slipped to 2017 due to slippage of the authorization process. (see page 258)</li> </ul>	H		
<ul style="list-style-type: none"> <li>ISO 50001 energy improvement plan: reduce energy consumption by 3% by 2017 (compared to 2013 consumption)</li> </ul>	<ul style="list-style-type: none"> <li>Consumption down 2.6% versus 2013, thanks to measures that have been completed. Further measures already planned for 2017 will lead to a 3.7% saving. (see page 179)</li> </ul>	H	A	M
<ul style="list-style-type: none"> <li>Complete the energy retrofitting of public lighting systems in 4 served municipalities for a total of 2,400 toe. Start the energy retrofitting of public lighting systems in Pesaro and continue them in Modena</li> </ul>	<ul style="list-style-type: none"> <li>Energy retrofitting measures completed in 4 municipalities for a total of 2,436 kWh. Energy retrofitting measures in progress in Modena (completed on 3 lots). Measures planned in Pesaro for 2017. (see page 179)</li> </ul>	H	A	
<ul style="list-style-type: none"> <li>Extend the "Valore all'energia" report to AcegasApsAmga and Marche Multiservizi</li> </ul>	<ul style="list-style-type: none"> <li>The report was extended to AcegasApsAmga e Marche Multiservizi and published in November 2016. (see page 258)</li> </ul>		A	M
<ul style="list-style-type: none"> <li>Sewerage and wastewater treatment system:</li> </ul>				
<ul style="list-style-type: none"> <li>Rimini, the Seawater Protection Plan: complete 3 more projects (3 already completed at the end of 2015);</li> </ul>	<ul style="list-style-type: none"> <li>2 further jobs were completed in 2016. The conclusion of the third measure has been postponed to 2017 (see page 261)</li> </ul>	H		
<ul style="list-style-type: none"> <li>Servola water treatment plant: conclude the work on the new biological treatment section in time for the start-up of the treatment plant planned for 2017;</li> </ul>	<ul style="list-style-type: none"> <li>The work is in progress and the start-up is confirmed for 2017 (see page 261)</li> </ul>		A	
<ul style="list-style-type: none"> <li>continue design on the upgrade of the Borgheria plant in Pesaro and start the authorization process;</li> </ul>	<ul style="list-style-type: none"> <li>The design is in progress. The authorization process will be started in 2017 (see page 191)</li> </ul>			M
<ul style="list-style-type: none"> <li>Upgrade two urban areas (Cesenatico and Cattolica, amounting to 267,000 population equivalents) in Emilia-Romagna;</li> </ul>	<ul style="list-style-type: none"> <li>During 2016, Cesenatico and Cattolica and 5 other urban areas (459,000 population equivalents) in Emilia-Romagna have been upgraded (see page 191)</li> </ul>	H		

What we said we would do	What we have done	Scope	
<ul style="list-style-type: none"> <li>complete the upgrade/development of 3 more treatment plants in the areas served by Marche Multiservizi for a total of 18,200 population equivalents;</li> </ul>	<ul style="list-style-type: none"> <li>Start upgrade/development in 2 other treatment plants (15,200 population equivalents). Work on another plant is in progress (see page 191)</li> </ul>		M
<ul style="list-style-type: none"> <li>continue the upgrade work at 3 other treatment plants in the areas served by AcegasApsAmga (Ca 'Nordio, Abano Terme) for a total of 230,000 population equivalents.</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade work at the Abano Terme plant has been completed. Work are in progress at the Ca Nordio and Sistiana plants and are scheduled for completion in 2017 (see page191).</li> </ul>		A
<ul style="list-style-type: none"> <li>Extend the waste prevention projects (Cambia il finale/CiboAmico/FarmacoAmico).</li> </ul>	<ul style="list-style-type: none"> <li>Farmacoamico has been extended to 15 more municipalities in 2016. Extensions of the projects in AcegasApsAmga is planned for 2017 (see page 275).</li> </ul>	H	A
<ul style="list-style-type: none"> <li>Implement an integrated plan of initiatives to prevent waste dumping and to improve the urban décor</li> </ul>	<ul style="list-style-type: none"> <li>Promotional campaigns were run against waste dumping in Bologna, Padua and Trieste (see page 238).</li> </ul>	H	A
<ul style="list-style-type: none"> <li>Increase separate waste collection: 57,2% in 2016.</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, separate waste collection was 56.6%, compared with the 2015 figure of 55.4% (see page217).</li> </ul>	H	A M
<ul style="list-style-type: none"> <li>Continue limitation of the use of landfills for the disposal of municipal waste (&lt;9%).</li> </ul>	<ul style="list-style-type: none"> <li>During 2016, the share of urban waste disposed of in landfills, declined further, from 8.6% to 7.6% (see page 211).</li> </ul>	H	A M
<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 process is underway. The launch is planned to occur in the first half of 2017 (see page 270).</li> </ul>		M
<ul style="list-style-type: none"> <li>Build two glass pre-treatment plants.</li> </ul>	<ul style="list-style-type: none"> <li>The authorization process is in progress to replace the glass processing line of the Rimini plant and a storage plant is being designed for Modena (see page 224).</li> </ul>	H	
<ul style="list-style-type: none"> <li>Design Smart City initiatives to offer to municipalities</li> </ul>	<ul style="list-style-type: none"> <li>5 initiatives are in progress. A prototype is being developed for another initiative (see page 25).</li> </ul>	H	
<ul style="list-style-type: none"> <li>Continue the HeraLab meetings in the served areas and implement the initiatives proposed and approved by Hera.</li> </ul>	<ul style="list-style-type: none"> <li>22 meetings in 6 local areas and 14 initiatives implemented in 2016 (see page 247).</li> </ul>	H	

What we will do	Scope*
<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>	H



What we will do	Scope*
• Start construction of a biodigestion plant to produce biomethane from organic waste, in Bologna.	H
• ISO 50001 energy improvement plan: reduce energy consumption by 3% in 2017 (compared to 2013) and by 5% by 2020 (compared to 2013)	H A M
• Public lighting: implement energy saving measures and replace lighting fixtures with LED lamps for an annual savings of approximately of 2,400 toe.	H A M
• Extend the satellite-based water network leak detection system of the water network (3000 km in 2017 vs. 600 in 2016)	H
• Rimini Seawater Protection Plan: complete 1 more project (5 already completed at the end of 2016) and start/continue 5 more projects in 2017 (H)	H
• Servola water treatment plant (Trieste): start the new facility in 2017	A
• Start the authorisation process for the adjustment of the Borgheria treatment plant in Pesaro (MMS)	M
• Continue to encourage the purchase of vehicles with low environmental impact (23% in 2020) also by adding the first bi-fuel/electrical vehicles to AcegasApsAmga's fleet	H A M
• Electricity consumption: 100% from renewable sources by 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	H A M
• Reduce by 19% by 2020 the carbon footprint of energy production compared to 2015 (kg CO <sub>2</sub> /MWh)	H A
• Increase the recycling rate to 57% by 2020 and the recycling rate of packaging to 74%	H A M
• Continue limiting the use of landfills: <ul style="list-style-type: none"> <li>• 7% of municipal waste in 2017 and 6% in 2020</li> <li>• Design a mechanical-biological treatment plant for Pesaro</li> <li>• Build a glass pre-treatment plant in Rimini</li> </ul>	H A M
• Complete the waste management service offered to industrial customers with solutions in the field of circular economy and increase the recovery rate of industrial waste	
• Increase separate waste collection: to 58% in 2017 and 66% in 2020 at Group level.	H A M
• Launch a campaign to improve the quality of collected plastic	H
• Extend the "Il rifiutologo" app to Marche Multiservizi adding an environmental reporting function	M
• Continue to implement waste prevention initiatives, and to improve urban décor: extend "Farmacoamico" (increase the coverage rate to 45% of citizens served in Emilia-Romagna in 2017), re-launch "Cambia il finale" (Change the ending) and extend it to Triveneto to increase the quantity of bulky waste bulky sent for reuse	H A M
• 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	H A
• Continue the activities related to the regional protocol on school-work experience: 180 internships by 2019	H

\* H: Hera; A: AcegasApsAmga; M: Marche Multiservizi.

## The production of electricity

*The share of electricity from renewable and similar sources increases to 72.6%*

The Group also continued to pursue its commitment to developing renewable and similar energy sources in 2016. In particular, the production of landfill biogas, and of energy produced by cogeneration plants operated as a service, have increased.

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. Unlike previous years, we did not take into account the production of electricity and thermal energy by the Faenza biomass plant operated by Enomondo, a joint venture not consolidated using the line-by-line method.

### Net electricity generated

MWh	2014	2015	2016
Waste-to-energy plants (51% renewable)	400,142	401,565	382,420
Combustion of landfill biogas	37,359	33,075	32,807
Combustion of landfill biogas in third-party plants	36,509	22,281	32,728
Combustion of digester biogas	21,161	20,932	21,735
Combustion of treatment plant biogas	6,940	6,366	5,355
Solar photovoltaic energy	11,529	12,179	1,827
Hydroelectricity	1,803	1,523	706
<i>Total renewable sources</i>	<i>515,444</i>	<i>497,920</i>	<i>477,578</i>
Cogeneration	248,578	364,584	348,261
Cogeneration operated as a service	142,265	152,449	169,589
Turboexpanders	10,090	9,315	8,703
<i>Total similar sources</i>	<i>400,934</i>	<i>526,348</i>	<i>526,552</i>
Waste-to-energy plants (49% non-renewable)	397,671	397,788	378,715
<i>Total traditional sources</i>	<i>397,671</i>	<i>397,788</i>	<i>378,715</i>
<b>Total</b>	<b>1,314,049</b>	<b>1,422,056</b>	<b>1,382,845</b>

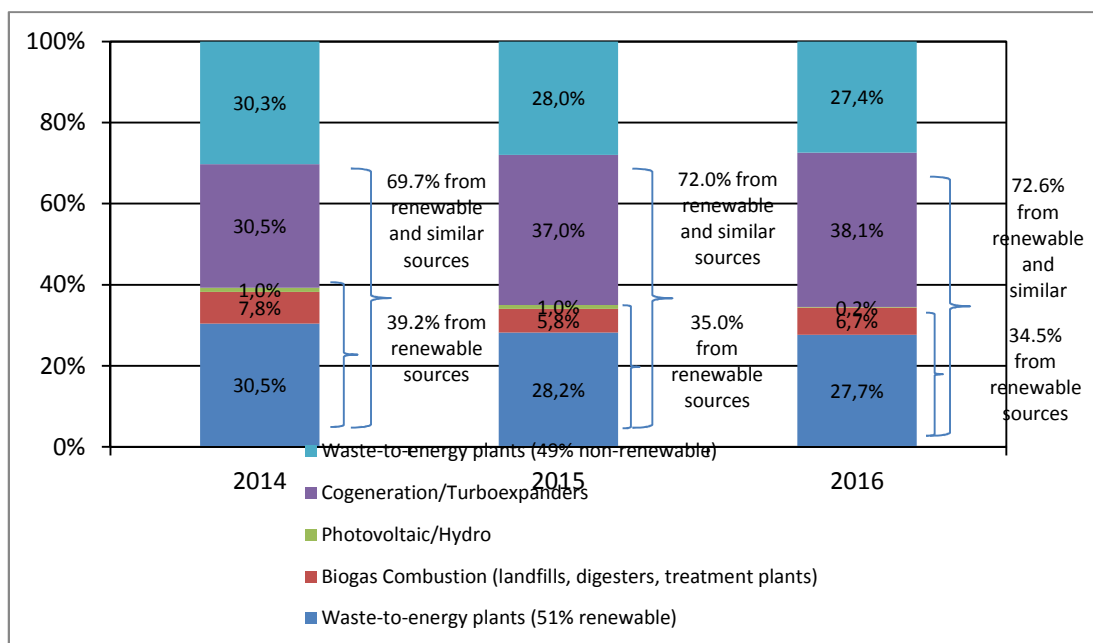
New calculation criteria were used for 2016

The net electricity produced by the Group's plants fell by 2.8% mainly due to: a decrease in the production of electricity from cogeneration (-16,323 MWh), (ii) a decrease in the production of electricity from solar photovoltaic plants (-10,351 MWh) due to the sale of 8 facilities, accounting for 8 MW. The decrease was partly offset by an increase of the amount of energy produced by cogeneration plants operated as a service (+17,140 MWh) and by the electricity produced by landfill biogas in third-party plants (+10,447 MWh).

Electricity production from renewable sources amounted to 478 GWh (-4.1% compared to 2015). The decreases occurred in the waste-to-energy plants due to a different allocation of the types of auxiliary consumption in order to standardise the comparison of all the Group's plants, in the photovoltaic systems, and in the Bologna treatment plant, and were offset by increases in the treatment plants at Tre Monti near Imola (MWh +12,104) and at Pago near Florence (+1,089 MWh) where major expansion work increased their capacity.

The production of **electricity from similar sources** was stable in 2016: the decrease in the production of the Imola plant (-19,409 MWh) was compensated by the production in cogeneration plants operated as a service, in particular in the Granarolo plants (5,141 MWh) and in the new Ducati plant in Bologna (9,638 MWh).

### Net electricity generated



The amount of electricity generated by renewable and similar sources came to 72.6% of the total in 2016, increasing compared with 2015 (72.0%) due to the above reasons; the remaining electricity generated has a high level of environmental sustainability since it is energy recovered using waste-to-energy transformation, for the share exceeding 51%.

In 2012, incentives to generate electricity through Green Certificates were awarded to plants fuelled by renewable sources, for which IAFR (plants fuelled by renewable energy) qualification is required, and to cogeneration plants which feed district heating networks. In both cases, the quantity of incentivised electricity is not exactly equal to the amount of electricity generated. In the first case, for plants brought on line after 2007, multiplication coefficients were introduced which take into account the plant's technology. For example, if landfill biogas is used, the recognition awarded is calculated by multiplying the energy generated by 0.8. For non-agricultural biomass with a short supply chain, instead, the energy is multiplied by 1.3.

For cogeneration plants, Italian Ministerial Decree of 4 August 2011 updates Legislative Decree 20/2007, redefining the cogeneration technologies, the calculation of cogeneration production and the performance level the cogeneration process needs to qualify as cogeneration. The subsequent decree of the Ministry of Economic Development of 5 September 2011 determined 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.

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 biomass by European and Italian regulations. Pending the definition of more precise methods to calculate the biodegradable share (the Ministerial Decree of 6 July 2012 defines the criteria to assess the biodegradable part for new plants on a flat rate basis), current regulations indicate 51% as the part of waste to be considered for waste-to-energy plants using municipal waste downstream from separate waste collection. Therefore, 51% of both electricity and thermal energy produced by waste-to-energy transformation was considered in the calculation of the share of energy produced using renewable sources, applying the flat rate criteria. This percentage was applied to all waste disposed of in waste-to-energy plants (urban and special waste) 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 Ravenna's waste-to-energy plant for special waste, whose production, with a biodegradability coefficient of nearly zero for treated special waste because of its origin in industrial processes, is considered 100% non-renewable.

The total installed electricity capacity of the Group's plants is 305 MW, while their thermal capacity is 718 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 2016 by the above-mentioned companies in which the Group holds investments and which are operated by Hera was 924 GWh. In 2016, besides the carbon dioxide emissions from the three plants that amounted to 401 g/kWh (Teverola), 395 g/kWh (Sparanise) and 459 g/kWh (Tamarete), the nitric oxide released was 127 g/MWh (Teverola), 98 g/MWh (Sparanise) and 174 g/MWh (Tamarete), respectively. Enomondo (50% owned) which operates a biomass plant in 2016 has produced 68 GWh of electricity 117 GWh of thermal energy.

### Thermal energy produced

MWh	2014	2015	2016
Waste-to-energy plants (51% renewable)	58,881	61,054	62,463
Geothermics	78,527	73,253	71,733
Combustion of treatment plant biogas	4,266	5,593	4,294
<i>Total renewable sources</i>	141,674	139,900	138,490
Cogeneration	139,581	172,201	174,272
Cogeneration operated as a service	142,463	138,508	153,222
<i>Total similar sources</i>	282,044	310,709	327,494
Thermoelectric power stations	201,485	252,584	231,607
Waste-to-energy plants (49% non-renewable)	56,572	58,660	60,013
<i>Total traditional sources</i>	258,057	311,244	291,620
<b>Total</b>	<b>681,775</b>	<b>761.853</b>	<b>757.604</b>

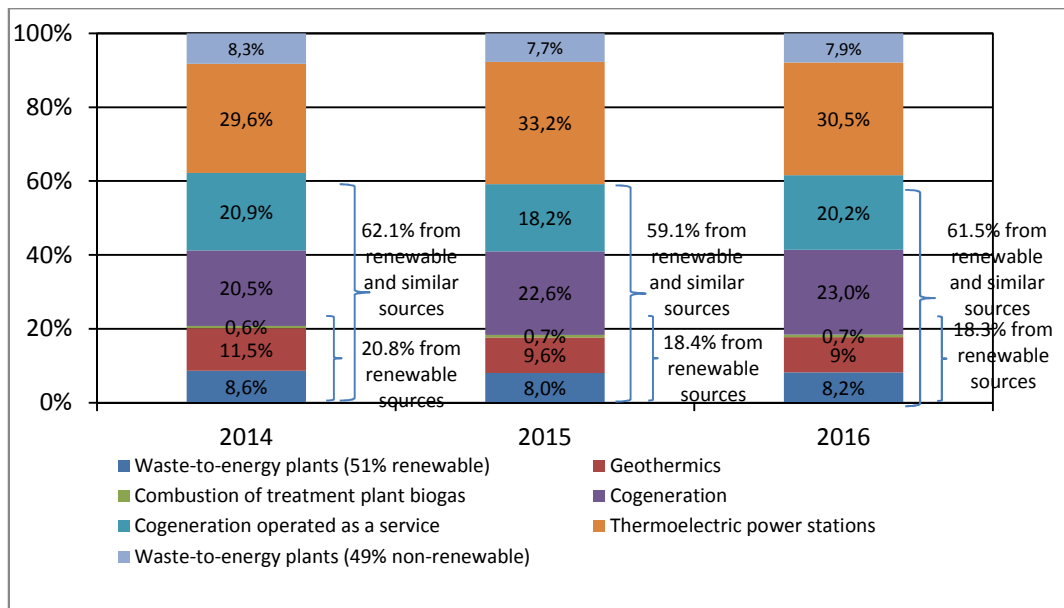
The calculation criteria for 2014 and 2015 were in line with those of this year.

There was a 0.6% decrease in the amount of thermal energy produced in the last year due to: (i) a reduction in heat generation from geothermal energy (-8.3%

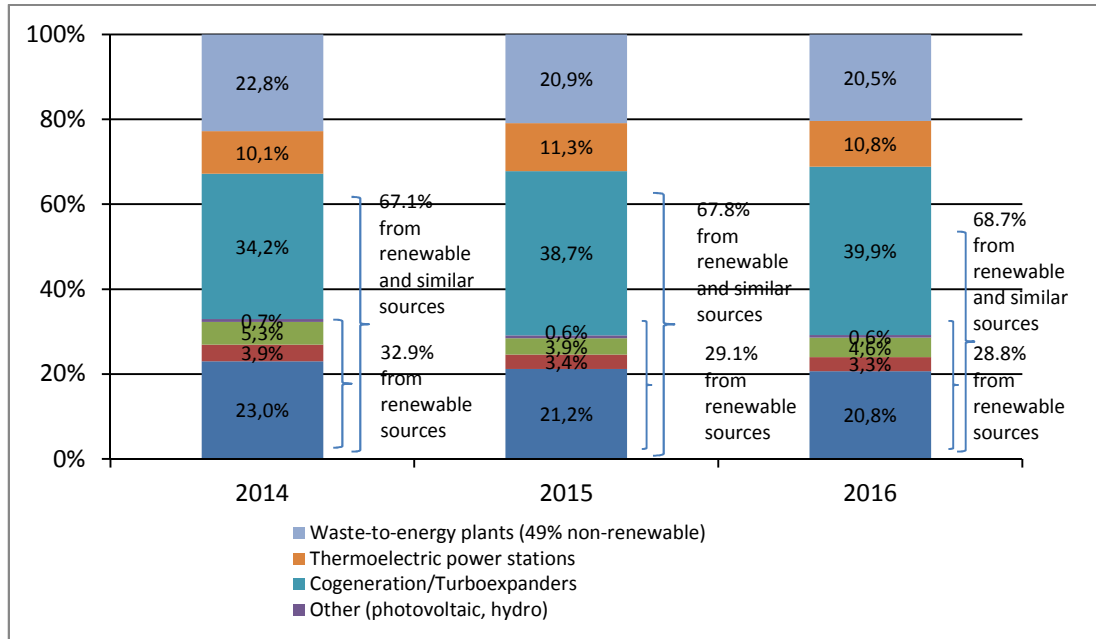
compared to 2015); (ii) a reduction in the production of thermal energy from cogeneration operated as a service (-2.1% compared to 2015) These effects were partially offset by an increase in the production of thermal energy by the cogeneration plants operated as a service as a result of Ducati's new Bologna plant starting operation (+10.6% compared to 2015) and of a further engine coming up to speed at the Granarolo plant.

The heat produced using renewable sources is in line with 2015 due to the above. The production of thermal energy from similar to renewable sources increased by over 5.4% compared to 2015, mainly due to the production increase at the Imola cogeneration plant operated as a service. As a result of the above, the amount of thermal energy produced from renewable and similar sources increased from 59.1% in 2015 to 61.5% in 2016.

### Thermal energy produced

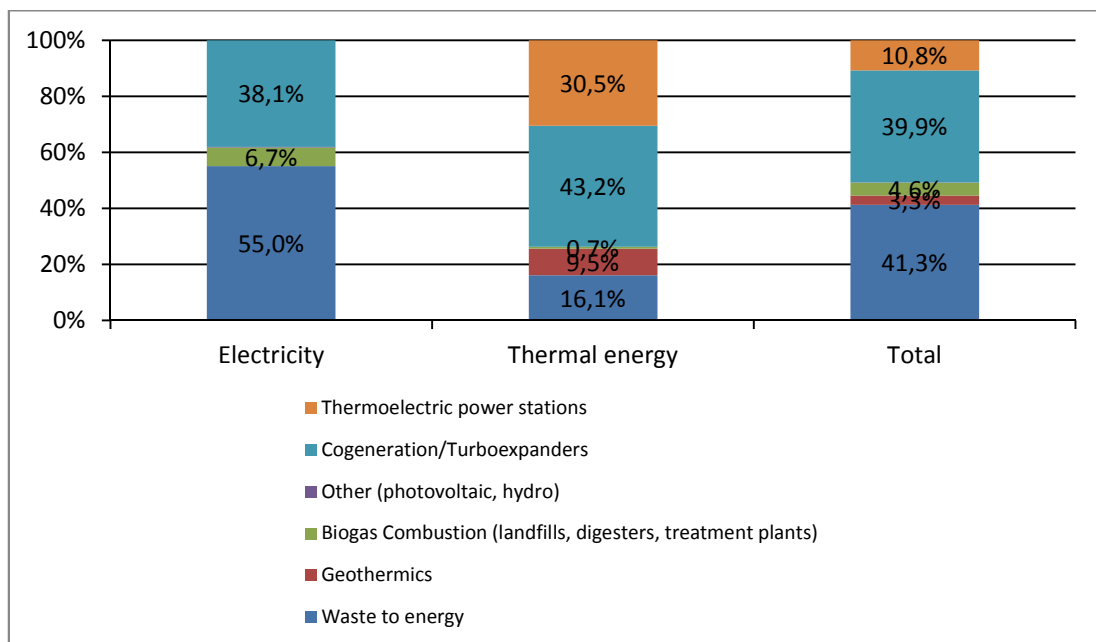


## Total energy produced



The total energy produced from renewable and similar sources came to 68.7%, slightly less than 2015 because of the increase in the production of energy from similar sources. An additional 21% of the total energy produced in any case has a high level of environmental sustainability, as it is energy recovered from waste-to-energy transformation for the share exceeding 51%.

## Total energy produced



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

- Start construction in 2018 of a plant to produce biomethane from organic waste, in Bologna;
- increase by 25% by 2020 the carbon footprint of electricity production from landfill biogas (new plants);
- the increase of thermal energy produced by waste combustion for the Ferrara district heating system, which determined lower methane construction at supplementary plants.

In addition to these aspects we will build two biogas energy recovery plants from biodigestion of treatment sludge. We also started a research project to produce biogas/bioethanol from pruning material as highlighted in the section of this Report on innovation.

### Hera and renewable sources

Hera 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 the 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.

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.

The Herambiente Group also produces heat and power by incinerating waste (considered a 51% biodegradable source). Its ten waste-to-energy plants generate a total installed capacity of over 120 MW. Three of these waste-to-energy plants, moreover, recover thermal energy to supply district heating networks: in particular, 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.

Hera Spa also operates four turboexpanders, located in Bologna, Forlì, Ravenna and Ferrara, which generate electricity by exploiting the gas pressure differentials in the distribution network. Hera Spa is also active in hydroelectric power generation, using its Cavaticcio system, in Bologna, with a capacity of just under 2 MW.

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.

Our 85 MW cogeneration plant at Imola stands out among the plants that generate low environmental impact energy (with nominal fuel utilization factors over 80%), as do various other smaller cogeneration and tri-generation electricity plants, for an additional total installed capacity of 27 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.

The average efficiency of the electricity and thermal energy production plants (meaning the ratio of incoming primary energy and net outgoing energy of the plant) is around 31% for the waste-to-energy plants that power district heating networks and 24% for new waste-to-energy plants, and between 64% and 84% for the cogeneration plants.

Hera Group's commitment to generate energy from renewable and environmentally friendly sources (similar-to-municipal waste and recovered) is shown in the following map. The share of total energy generated by these sources is 69%, slightly above the 2015 quota.

The amount of energy from renewable sources generated by the Group's plants could power 193,000 households.

### District heating

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 fuels the domestic heating system via non-polluting heat exchangers.

Customers have the advantage of increased safety and lower running and maintenance costs, while maintaining the freedom to independently adjust the temperature of their home.

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.

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.

### Environmental advantages of district heating

	2014	2015	2016
Primary energy saved (toe)	24,787	33,031	33,776
Nitric oxide avoided (t)	210.4	309.5	294.4
Carbon dioxide avoided (t)	112,409	156,407	129,153
Sulphur oxide avoided (t)	211.6	289.9	278.2

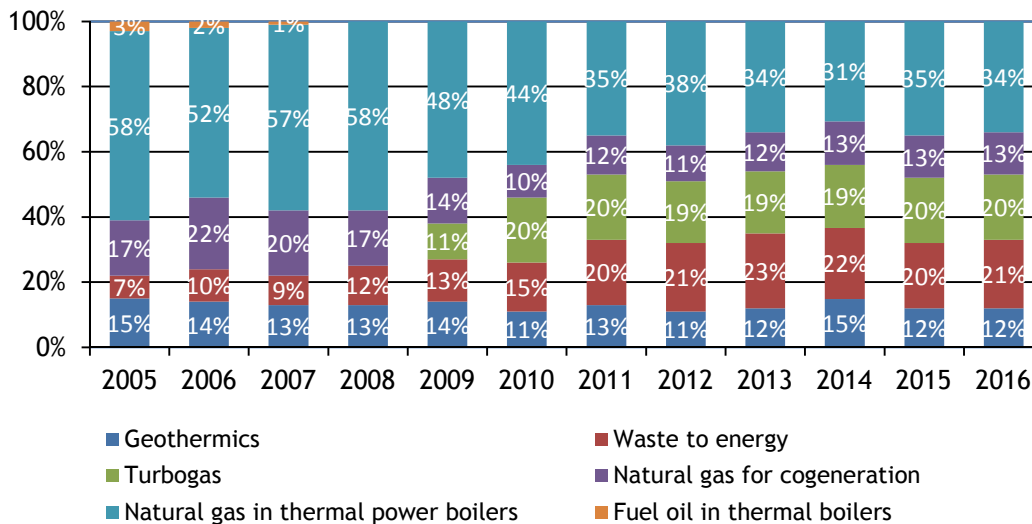
Calculated as the difference between a traditional system (existing boiler park comprising 65% methane-powered boilers and 35% diesel boilers with an average seasonal yield of 75% (source: Comitato Termotecnico Italiano, 2009), and the national electricity grid) and Hera's district heating systems for 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 2016, the plants operated by Hera achieved a **primary energy saving of 33,776 tonnes of oil equivalent**, up 2.3% compared to the savings in 2015 (+745 toe),



despite the amount of thermal energy sold being in line with 2015 (-0.4%), due to production optimization, better grid management and a greater use of renewable sources compared to traditional boilers (in particular in Ferrara as a result of an improvement in 2016 to increase usage of the heat produced by waste combustion).

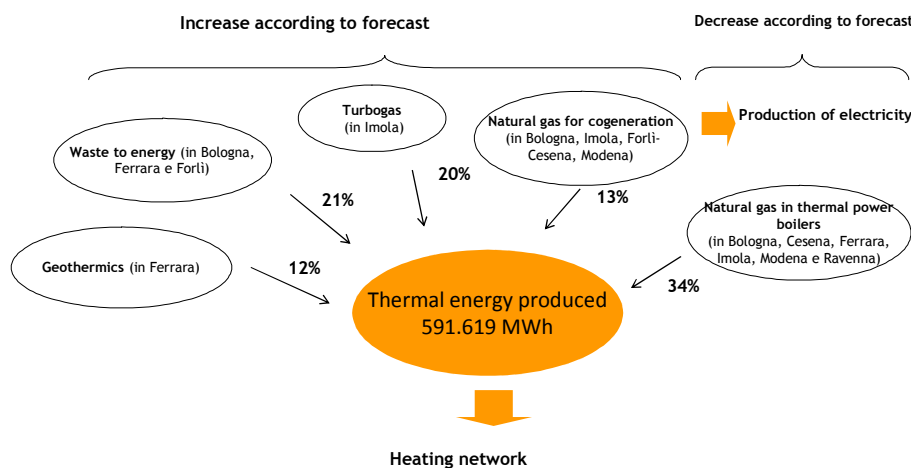
### Sources used for district heating (2005-2016)



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 34% in 2016. Geothermics was the main source (41%) for district heating of 24,000 housing unit equivalents in Ferrara.

### Sources used for district heating (2016)



Excluding AcegasApsAmga.

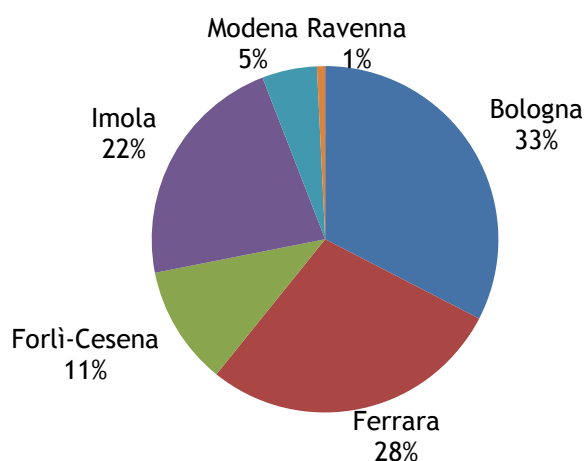
### District heating data

	2014	2015	2016
Thermal energy sold (MWh)	418,312	490,085	487,896
Volumes served (thousands of m <sup>3</sup> )	19,935	20,127	20,396
Housing unit equivalents served (no.)	83,061	83,861	84,987

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** decreased slightly in terms of volume compared to 2015 (-0.4%) due to weather, while the volume served increased by 1.3% compared to 2015. In 2017, the company will continue to strive for improvements, prioritising the development of district heating with increasing quantities of renewable and similar sources. The goal is to increase the volumes served by 2% and the share of energy produced from renewable and recoverable sources by 16%.

### Housing unit equivalents served per area (2015)



Excluding AcegasApsAmga.

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
Bologna Area	182,550	5,853	42%
Ferrara Area	173,356	12,824	84%
Forlì Area	69,815	1,668	45%
Imola-Faenza Area	127,046	12,460	97%
Modena Area	34,974	990	45%

### 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 13 cogeneration plants for an overall nominal electric capacity of 107.4 MW which in 2016 produced 189,053 MWh of thermal energy for district heating in all areas.

### Industrial cogeneration

Through its subsidiaries Hera Servizi Energia e Amga Calore Impianti, Hera actively operates in the energy efficiency sector, to provide a broad range of services. The company mainly targets apartment buildings, large industrial customers and public administration. 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.

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.

Hera Servizi Energia e Amga Calore Impianti offer a full range of all energy carriers, making it inexpensive and easy for the customers to manage. Hera Servizi Energia and Amga Calore Impianti 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 2016, 16 industrial cogeneration plants are in operation (15 operated by Hera Servizi Energia and one by Hera Comm). The reduction in the number of plants is due to the sale of three plants to the District Heating division, the termination of three contracts with external partners, and the non-renewal of contracts with three condominiums.

The environmental benefits achieved in 2016 by the plants operated by Hera Servizi Energia include approx. 13,613 tonnes lower CO<sub>2</sub> emissions and primary energy savings of approx. 5,824 toe.

### Energy efficiency

#### *Group companies with ISO 50001 certification rise to seven*

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. 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
Energy consumption for production (natural gas, geothermal, biogas, others)	146,574	142,068
Waste-to-energy treatment	337,571	340,597
<i>Total energy consumed in electricity or thermal energy production plants</i>	<i>484,145</i>	<i>482,665</i>
Electricity excluding public lighting	89,325	86,011
Electricity for public lighting	26,221	32,336
Natural gas and other energy vectors for heating of premises	2,836	2,860
Fuel for vehicles	9,875	9,971
<i>Total energy consumed for uses other than the production of electricity or thermal energy</i>	<i>128,256</i>	<i>131,178</i>
<b>Total</b>	<b>612,579</b>	<b>613,843</b>

In Emilia Romagna since 2017 electricity 100% from renewable sources

The data refer to energy consumption by Hera Spa, Uniflotte, Herambiente, Inrete Distribuzione Energia, FEA, Hera Comm, Hera Luce, Hera Trading, Marche Multiservizi and AcegasApsAmga

In 2016, the primary energy consumption levels were unchanged compared to the previous year (+0.2%); gas consumption decreased by 3.1% compared to 2015, related to the production of electricity and thermal energy and as a result of lengthy downtime of the Imola cogeneration plant. The consumption of electricity for internal use decreased by 3.9% compared to 2015 also as a result of energy efficiency improvement measures. These decreases were offset by the 23.3% increase of electricity for public lighting as a result of the increase of the number of light points managed, as described in the relevant section.

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
Treatment: primary energy (toe)/volumes treated (millions of m <sup>3</sup> )	111.9	113.1
Drinking water treatment: primary energy (toe)/water fed into the water network (thousands of m <sup>3</sup> )	78.7	76.8
Waste-to-energy plants: Primary energy (toe)/volumes treated (thousands of t)	25.5	24.3
Offices: primary energy (kWh)/office area (m <sup>2</sup> )	72.6	74.1
Heating at offices: primary energy (toe)/volume heated (days*m <sup>3</sup> /1,000)	1.40	1.47
Vehicles: primary energy (toe)/distance covered by the vehicles (millions of km)	149.3	149.3
Public lighting: primary energy (toe)/thousands of light points	82.0	80.5

The data refer to energy consumption by Hera Spa, FEA, Hera Luce, Herambiente Uniflotte,

The energy efficiency index of water treatment has improved by 2.5% over the previous year, mainly due to selling operation of a facility which led to lower consumption. Public lighting also improved, (-1.9% compared to 2015) due to energy efficiency measures on the lighting devices, and in 2016 the waste treatment plants also used less energy (-4.7% compared to 2015). Fuel consumption remained in line with 2015, while indicators were slightly worse both for treatment, due to a major revamping of the Bologna plant which will have a positive impact starting in 2017, and for the corporate offices.

### Energy saving initiatives

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, 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, include 177 measures to implement in the three-year span of the management system. These measures contribute to the goal of reducing energy consumption by 3.0% (compared to 2013 consumption) by 2017 that has been increased to 5% by 2020 due to the positive results thus far achieved.

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 2013-14 consumption and has set a reduction target of 3.5%.

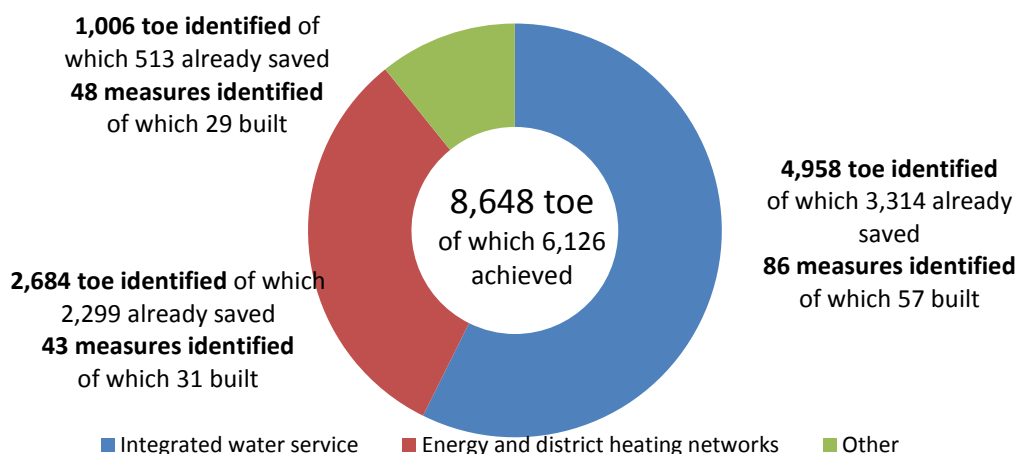
## The energy improvement plans of Hera AcegasApsAmga and Marche Multiservizi (years 2014-2017)

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 2016	Savings achieved at 31 December 2016 (toe)	Company
Integrated water service	86	4,958	57	3,314	H-A-M
District heating	31	2,066	21	1,681	H
Energy networks	12	618	10	618	H-A-M
Vehicles and waste management services	8	375	8	374	H-A-M
Offices	30	170	21	138	H-M
Public lighting	10	461	-	-	A-M
<b>Total</b>	<b>177</b>	<b>8,648</b>	<b>117</b>	<b>6,126</b>	
	<b>3.7% of 2013 consumption (125% of the target)</b>		<b>2.6% of 2013 consumption (88% of the target)</b>		

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

The 177 measures already identified and that as at 31 December 2016 are included in the improvement plans of Hera Spa, AcegasApsAmga and Marche Multiservizi will reduce energy consumption by over 8,600 toe, so as to achieve the 3% target set for 2017. The 117 measures already implemented by the end of 2016 have saved over 6,100 toe, 2.6% of 2013 consumption and 88% of the target set for 2017.

## 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 57% of energy saving.

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

Type of measure	No. of measures	Annual savings (toe)	Of which measures implemented as of 31 December 2016	Of which annual savings achieved (toe)	Savings achieved as at 31 December 2015 (toe)
Work on waste-to-energy plants and landfills	9	341	-	-	FC, IS, RA, RN
Measures on condominiums and other buildings	5	407	3	370	FC,MO,GO
<b>Total</b>	<b>14</b>	<b>748</b>	<b>3</b>	<b>370</b>	

In addition to the initiatives of the Energy Improvement Plan, 14 more energy efficiency measures have been carried out or are planned (3 of which have already been completed) by Herambiente and Hera Servizi Energia on waste disposal plants or on condominiums and at the premises of third parties. These measures will save 748 toe (of which 370 already achieved).

### The energy efficiency services offered by Hera Servizi Energia

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 2016, 338 condominiums have installed and regularly use our control system, thanks to the professionalism and experience of Hera Servizi Energia. The savings achieved by using this control system are about 17% with respect to the energy for heating, and about 13% with for total gas consumption (for both heating and 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, 111 condominiums are using the Servizio Energia service and the savings achieved by its integrated measures are about 27% with respect to total gas consumption

In the Triveneto region, at the end of the year, Amga Calore e Impianti, which operates in the same field as HSE, has a portfolio of 45 condominiums with the control system installed and operating. The savings achieved by using the with such a control system are about 16% with respect to total gas consumption.

## White certificate objectives

Toe	2014	2015	2016
Gas distribution	312,481	372,795	447,630
Electricity distribution	47,251	54,774	69,557
<b>Total</b>	<b>359,732</b>	<b>427,569</b>	<b>517,187</b>

The 28 December 2012 Ministerial Decree extended the national requirements set by the White Certificate mechanism until 2016 and redefined the criteria, conditions and methods for carrying out energy efficiency actions in the end uses eligible for this incentive. We are now awaiting for a new Decree to be issued, which is expected to set goals for future years and new rules to govern how it works. Inrete, AcegasApsAmga S.p.A. and Marche Multiservizi are obligated entities as both gas distributors and distributors of electricity. Consistently with the provisions of the 28 December 2012 Ministerial Decree, for 2016 our objectives for achieving White Certificates have further increased, compared to 2015.

Hera is continuing to promote energy efficiency measures both for its own plants, and for those of companies outside the company.

The excellence of Hera's activity in this context is witnessed in 2016 by earning Cesef's Project Energy Efficiency Award, together with the Strategic Energy Efficiency Award we obtained in 2015. Again, this year, at the event, GSE's president awarded Hera for its fruitful collaboration with Federchimica and one of its members, which led to reducing the carbon footprint of the latter's production plant.

To contribute to the aforementioned obligations, the activities to procure White Certificates through energy efficiency initiatives at Group or partner company plants continued throughout 2016.

In 2016, Hera S.p.A. presented the Energy Services Manager with 21 energy efficiency metered baseline projects, as well as 2 activities with analytical or standard savings assessment sheets.

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 third-parties in the industrial sector are also very interesting, particularly the efficiency improvements for food processing plants and for chemical and ceramic plants.

The Hera Group's commitment to energy efficiency (both internal and customer consumption) is reflected in the carbon footprint referenced in the dedicated paragraph.

## The public lighting system

The Hera Group manages **515 light points**, guaranteeing the proper operation of the public lighting service in **153 municipalities** in 8 Regions: Emilia-Romagna, Umbria, Lombardy, Marche, Lazio, Tuscany, Piedmont, Veneto and Friuli Venezia Giulia. It also manages traffic light installations in some areas for a total of over **10,300 traffic lights**. The increase of light points served (+79,239) is due in large part to the change in scope resulting from the integration of Sinergie and Insigna, who provided the service in 40 municipalities, and the consolidation of the data of Marche Multiservizi in 2016. As to Hera Luce, the number of light points managed in 2016 has decreased, and is now 279,000 (down 3.9% compared to 2015) due to



the negative balance between municipalities no longer served and those newly acquired.

#### Served light points and traffic lights

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

\*Excluding Marche Multisevizi.

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 78% of the light points served, while LED lamps are used at 7%. Consumption optimization systems (reduction of brightness, partial shutdown, etc.) are used at 60% of the light points operated by Hera Luce. At Group level, consumption optimization systems control 54% of light points.

In 2016, the public lighting refurbishment works in the municipalities we serve, replacing incandescent lamps with LED lamps, determined a saving of about 1,400 toe on a yearly basis. In 2014, the Citylight system started operation. The system logs fault reports: 65% of the light points served are currently visible on line; since the end of 2016 the system is also in use for the municipalities of the Triveneto region. In the same year in the municipalities served by AcegasApsAmga the savings obtained following the introduction of LED lamps came to over 387 toe.

### Main energy saving measures implemented by Hera Luce in 2016

Municipality	Year of completion	Environmental benefits (energy savings in toe)
Rho (MI)	2017	389
Martinsicuro (Teramo)	2017	297
Corbetta (MI)	2016	187
Ferentino (FR)	2016	170
Porcia (Pordenone)	2017	169
Cave (Rome)	2016	141
Volvera (Turin)	2016	139
Gossolengo (Piacenza)	2016	111
Prata di Pordenone (Pordenone)	2016	104
Gambettola (Forli-Cesena)	2016	75
Rivolta D'Adda (Cremona)	2017	71
Collebeato (Brescia)	2016	62
Other measures	2018	467
<b>Total</b>		<b>2,382</b> (equal to 15% of Hera Luce's total consumption)

Public lighting replacement activities are continuing in Modena (2015-2023), that aim to achieve a cost savings without reducing the time public lighting is provided, to improve environmental performance and reduce emissions. In addition to making the light points compliant, the project involves installing new LED-based fixtures and luminous flux control devices. In 2016, 7,030 light points have been replaced, with savings of 1,674 kWh, equivalent to over 300 toe. In 2016, we completed the public lighting renovation project in the old-town of Imola, replacing 582 historic-style street lights with LED lamps, achieving a savings of over 30 toe. In October, the municipality of Rho (Milan) has started a significant renovation of the public lighting (6,742 light points involved for an expected savings of 2,083 MWh/year, equal to 389 toe) which has led to an investment of over Euro 4 million. The end of the work is scheduled for 2017. In the Triveneto region, 17,000 luminaires are to be replaced with LED lamps, saving over 600 toe. Planned measures will result in annual savings of approximately 2,400 tep (1,700 tep in Hera Luce with 2017-2018 scheduled operations, 600 tep in AcegasApsAmga and around 100 in Marche Multiservizi with scheduled operations in 2017).

Hera Luce adopts a development model that integrates environmental issues with the typical competitive drivers of the sector providing its services to local authorities for the identification of sustainable solutions in both economic and environmental terms.

Hera Luce also participated in the technical round table meetings of the Ministry for the Environment and the Protection of the Territory and the Sea which led to update the Minimum Environmental Criteria (Criteri Ambientali Minimi) for public lighting, and also attended the technical meetings of the Emilia Romagna Regional Authority that led to update the Regional Law against light pollution (Regional Authority Decision 1688/2013). Hera Luce continues the development activities related to various partnerships launched in previous years connected with:

- update of the public lighting MEC and definition of the new Lighting Services MEC (member of the working group created by the Ministry for the Environment);
- development of a lighting device performance monitoring system in line with the MEC criteria, again together with the Ministry for the Environment and the Protection of the Sea;
- the development of models designed to provide local authorities with tools to analyse and assess activities aimed at increasing energy efficiency, on the activities to undertake for an energy retrofit 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 universities;
- the creation of projects designed to evolve public lighting towards the development of Smart Cities using public lighting infrastructure.

## Production and distribution of water

*Over 35,000 kilometres of water supply networks serving 3.6 million citizens*

Hera'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 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 a good quality when collected.

The treatments carried out guarantee that the distributed product has **suitable chemical physical and microbiological features for human consumption**, in constant observance of the limits laid down by current legislation.

### Water fed into the network (breakdown by source)

Thousands of m <sup>3</sup>	2014		2015		2016	
Groundwater	215,589	52.1%	227,782	53.7%	226,314	53.6%
Surface water	169,150	40.9%	168,258	39.6%	166,309	39.4%
Springs and minor sources	28,871	7.0%	28,390	6.7%	29,460	7.0%
<b>Total</b>	<b>413,610</b>	<b>100.0%</b>	<b>424,430</b>	<b>100%</b>	<b>422,083</b>	<b>100%</b>

Figures include both the civil and industrial water supply networks (the latter being part of the areas of Forlì-Cesena, Imola-Faenza, Modena and Ravenna and accounting for around 3% of the total).

The data provided shows a total volume of water fed into the network slight down compared to 2015 (-0.6%), which in turn was significantly above the previous year as a result of particularly dry weather.

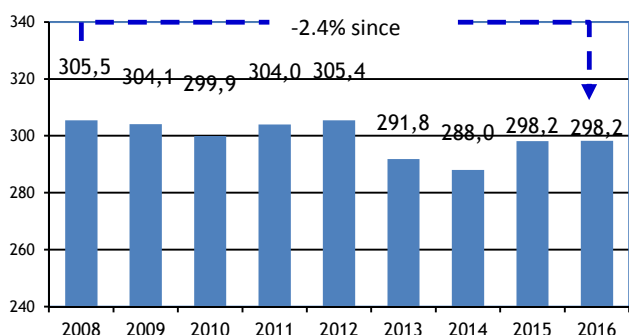
The mix of supply sources is substantially unchanged compared to 2015.

Considering just the civil water network, in 2016, 298 million m<sup>3</sup> of water was fed into the civil water networks operated by Hera Spa, with no significant change compared to 2015. The slight increase in the water fed into the network in the Bologna and Forlì-Cesena areas was offset by a consistent drop in Ferrara (-4.8%),

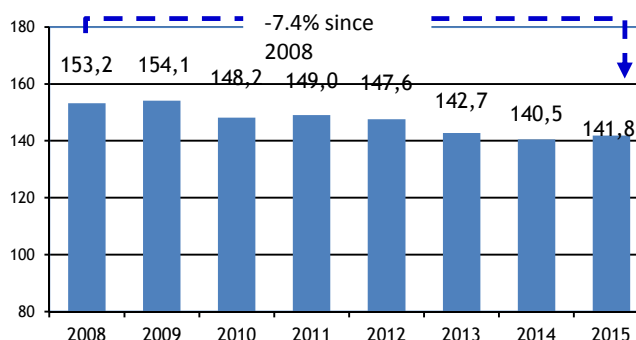
due to policies aimed at reducing leaks, initiated during the year in this area. This trend, however, is not found in water sold for household use which, in the Emilia-Romagna areas, increases: +0.9% compared to 2014.

Considering a longer timescale, the amount of water fed into the civil water network decreased by 2.4% in the 2008-2016 period. In the same period the water sold for domestic purposes decreased by much more, by 7.4%:

Water fed into the civil water network (millions of m<sup>3</sup>)



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



Excluding AcegasApsAmga and Marche Multiservizi.

Gruppo Hera's distribution network extends for **35,096 kilometres** and, where possible, is interconnected and linked in order to guarantee **supply continuity** also in cases of temporary service interruptions regarding one or more pipes.

### Water network components

%	2014	2015	2016
Synthetic material	51.7%	52.0%	52.3%
Asbestos-cement	20.9%	20.7%	20.6%
Steel	17.2%	17.1%	17.0%
Cast iron	8.2%	8.2%	8.3%
Other materials	2.0%	2.0%	1.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

The composition of the water network continues to show a slightly decreasing trend of asbestos cement, at 20.6% in 2016 at the Group level. In fact, the use of materials other than asbestos cement continues in new networks or in those subject to unscheduled maintenance. In the 2015-16 two-year period, Hera replaced 42 km of asbestos cement pipe network in Emilia Romagna, Triveneto and Marche.

### What is meant by water not billed

The percentage of non-invoiced water compared to water introduced onto the network is related to physical or real losses (due to breakage of pipes or hydraulic equipment, etc.) or procedural or apparent losses (meter errors, errors in estimated presumed consumption as at 31 December, unrecorded internal

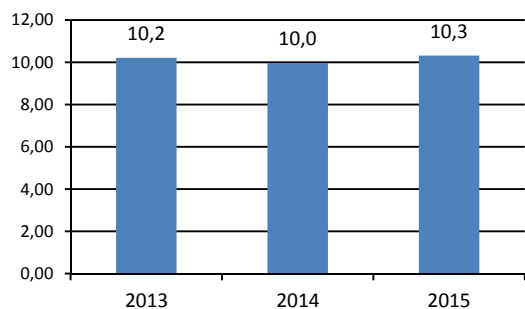
consumption, illicit consumption). The latter losses result in water which is effectively delivered to the final customer but is not recorded or billed.

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 reading 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 2016.

At Group level, **network losses for 2015 came to 31.6%**, slightly higher than in 2014. The Group is however at a level considerably lower than average of Italian province capital cities for 2015: 38.3% (source: Legambiente: Ecosistema Urbano 2016).

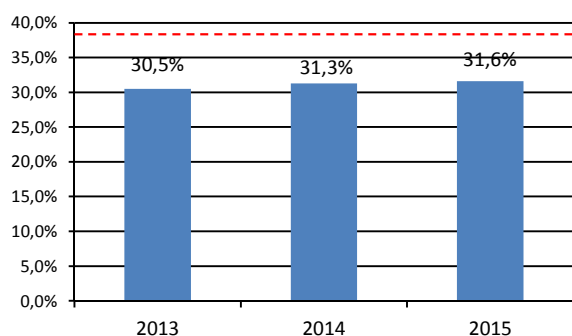
In 2016, the water fed into the network was over 2 million m<sup>3</sup> less than in 2015 (-0.6%) due to a cooler season and a constant focus on encouraging citizens to reduce consumption. At the same network operating conditions (pressures) a reduction of the water fed into the network always determines a proportional increase of overall losses. This is because the actual losses depend exclusively on the structural integrity conditions of the network and the operating pressures (conditions that do not change significantly from year to year), while they do not depend on the volumes flowing through the network. The corresponding linear loss index went from 10.0 to 10.3, slightly increasing compared to 2014. In the Triveneto region, the decrease of network losses (-6% compared to 2015) reflects the results of dividing the water network into districts in the Padua and Trieste areas. Starting in 2013, an innovative satellite technology was used to find leaks in 600 kilometres of the network in Emilia-Romagna. Use of this method will increase, in 2017.

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



	2013	2014	2015
Hera	8.1	8.3	9.0
Marche Multiservizi	6.3	6.6	6.8
AcegasApsAmga	29.9	27.3	25.7

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



	2013	2014	2015
Hera	27.4%	28.6%	29.7%
Marche Multiservizi	31.2%	32.7%	33.3%
AcegasApsAmga	39.8%	39.6%	37.5%

Average Italy data: 38.3%

Including Marche Multiservizi since 2010. The figure for 2016 is not reported since it is provisional.

The figure of **water not billed per kilometre of network** is also reported, since it better represents the effectiveness and efficiency of the distribution system more accurately, and is easier to use in comparisons with other companies.

**Water consumption**

In 2016, 3.1 million m<sup>3</sup> of water were consumed at the Group's plants and sites (excluding Marche Multiservizi), down 3% compared to 2015.

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

- waste disposal plants (2.7 million m<sup>3</sup>, of which in particular 2.6 million in waste-to-energy plants) decreased by 7 % compared to the previous year, due in particular to the consumption of the Ferrara waste-to-energy plant (consumption decreased as a result of specific checks on time on fire extinguishing system leaks); in Padua (by optimising the water cycle that has decreased leakage at the plant) and in Trieste (by recovering the water of part of the bleed of the evaporative cooling towers).
- cogeneration plants (318,000 m<sup>3</sup>, of which in particular 249,000 in the Imola plant) decreased compared to the previous year (-8%), in particular in the Imola cogeneration plant because of the decreased operation during the year, in the Bufalini and Giardino cogeneration plant due to fewer breakages in the primary circuit, and in the Acer Barca cogeneration plant, which was subject to revamping that limited its operation. The savings at the Acer Barca plant are expected to consolidate in future years due to the revamping that will switch the system from steam to simple cycle with a consequent saving of water

Around 100,000 m<sup>3</sup> were used in the offices.

In EMAS-certified plants, forecast water consumption came to 1.2 million m<sup>3</sup>. In some plants, this water is reused within the production cycle. In **2016, reused water accounted for 36% 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 cogeneration plant in Imola, water consumption for the evaporative cooling tower came to 21,000 m<sup>3</sup>, as compared with 217,000 m<sup>3</sup> in 2015, to comply with the Integrated Environmental Authorisation.

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**

*The sewerage and wastewater treatment services cover respectively 92% and 91% of the needs of the area served*

In 2016, Hera Group operated the sewerage and wastewater treatment service in 239 municipalities, 54 of which as Marche Multiservizi and 18 of which as AcegasApsAmga.

The **sewage system** for all areas covered 92% of requirements in the areas served at Group level (population equivalents). This value rises to 99% if we only consider areas with over 2 thousand population equivalents in Emilia-Romagna.

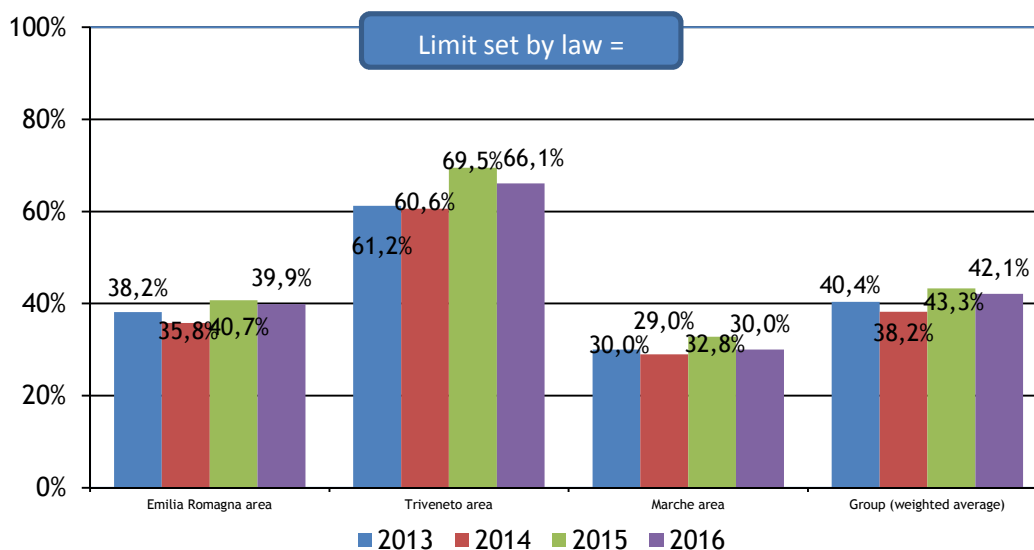
In 2016, the **treatment service** covered 91% of population equivalents in the areas served by the Group. This value rises to 99% if we only consider areas with over 2 thousand population equivalents in Emilia-Romagna.

These coverage values are decidedly higher than the national values: the latest data available are for 2007, when 85% of Italians was served by the sewerage network and 70% by a treatment plant. (Source: 2009 Utilitatis Blue Book for 2007).

In 2016, the Hera Group treated a total of over 393 million m<sup>3</sup> of wastewater compared to 410 million in 2015, due to lower inflows of rainwater to the plants in Emilia-Romagna and Marche, partially offset by a slight increase of the volumes treated in particular at Padua. In Emilia-Romagna, wastewater treatment was carried out in 886 treatment plants, 15 of which have a capacity of over 100,000 population equivalents each.

The sewer networks that feed those plants are generally mixed and the volumes treated therefore depend on rainfall. Excluding AcegasApsAmga and Marche Multiservizi, the sewerage network operated is approximately 14,673 kilometres long and is mixed for about 54% of the total (55% in 2014). The sewerage network operated by the Group is approximately 18,575 kilometres long, and about 58% of the total is a mixed type.

## Compliance of treated water with 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 BOD<sub>5</sub>, COD, TSS, ammoniacal nitrogen, phosphorus and total nitrogen and the related maximum concentrations permitted by Legislative Decree 152/2006.

The efficiency in removing pollutants in compliance with the legal limits, as expressed by the indicator in the graphic, is related to the treatment capacity of the plant and the technologies adopted. At Group level, this indicator is equal to 42% on average, taking into account BOD<sub>5</sub>, COD, TSS, ammoniacal nitrogen, phosphorus and total nitrogen, and 27% 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.

## Main works to expand treatment plants

Plant	Population equivalents	Progress of progress (at end 2016)	Type of measure	Environmental benefits expected/obtained
Bologna	800,000	Completed	Replacement of oxygen production plant	Reduction of energy consumption for oxygen production and resulting saving expected to reach 460 toe/year
Trieste	220,000	In progress (to be completed in 2018)	Measure to achieve compliance and expand plant	More effective treatment and greater guarantee of compliance with applicable regulations EC Infringement Resolution 2014/2059
Ca' Nordio (Padova) (PD)	197,000	In progress (to be completed in 2017)	Regulatory compliance measure	More effective treatment and greater guarantee of compliance with applicable regulations



Plant	Population equivalents	Progress of progress (at end 2016)	Type of measure	Environmental benefits expected/obtained
Ca' Nordio (Padova) (PD)	235.00	Planning stage (to be completed in 2019)	Plant enhancement measure	Improvement of treatment efficiency and upgrade of drainage
Riccione (Rimini)	140,000	In progress (to be completed in 2018)	Measure to comply with regulations	Improvement of treatment efficiency and upgrade of drainage
Cesenatico (Forli-Cesena)	120,000	Completed	Upgrade to respect limits concerning total nitrogen and optimisation of the sludge treatment line.	Improvement of treatment efficiency and upgrade of drainage
Cattolica (Rimini)	120,000	Completed	Upgrade to respect limits on total nitrogen and optimisation of pre-treatment sections.	More effective treatment and greater guarantee of respect for the laws in force
Borgheria (PESARO URBINO)	110,000	Planning stage (to be completed in 2021)	Measure to comply with regulations	More effective treatment and greater guarantee of compliance with applicable regulations EC Infringement Resolution 2014/2059
Cesena (Forli-Cesena)	100,000	In progress (to be completed in 2018)	Measure to comply with regulations	Improvement of treatment efficiency and upgrade of drainage
Abano Terme (PD)	35,000	Terminated in 2016)	Measure to comply with regulations	More effective treatment and greater guarantee of respect for the laws in force
Ozzano Emilia (BO)	10,000	Terminated in 2016)	Improvement of the activated sludge treatment line and creation of new line with ultrafiltration membrane	Improvement of treatment effectiveness and greater guarantee of respect for the laws in force

The table shows the main measures of improvement and expansion of water treatment plants completed during the year, that involve an investment of around Euro 115 million.

During 2016, work was completed at the plants in Bologna, Cesenatico (Forli-Cesena), Cattolica (Rimini), and Ozzano near Bologna. Regulatory upgrade work has been completed at the Ca' Nordio e Abano Terme plants.

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

%	2014*	2015	2016
Plants with over 10,000 population equivalents	99.9%	99.1%	98.7%
Plants with less than 10,000 population equivalents	99.5%	99.0%	99.5%
<b>Total</b>	<b>99.8%</b>	<b>99.0%</b>	<b>99.5%</b>

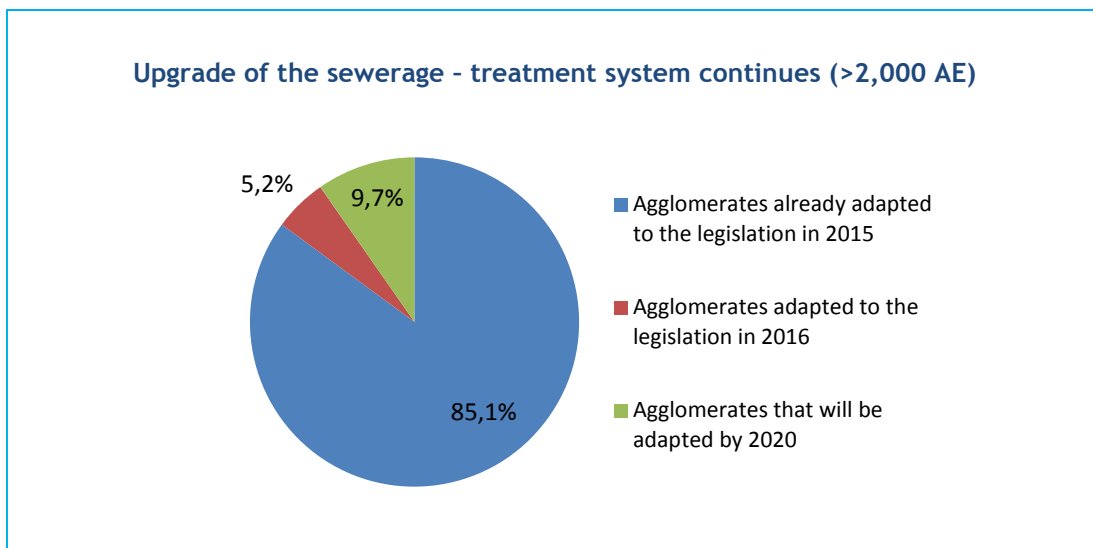
\* Excluding AcegasApsAmga and Marche Multiservizi.

Considering the 12,014 analyses carried out in 2016 on 234 treatment plants, in 99.5% of the cases the results of the analyses were compliant with the legal limits.

The final values show a highly satisfactory situation across all areas with very high percentages of compliant checks compared with all the checks carried out. We have taken into account the checks defined in the Memoranda of Understanding, signed pursuant to Legislative Decree 152/2006 and to provisions contained in the Emilia-Romagna's Regional resolutions no. 1299/01 and no. 2241/05. The only data relating to checks that have found the authorization limits exceeded refer to purely incidental situations and largely compatible with the variability of the incoming quantities, the operating conditions and the structural condition of the plants, such as in the Trieste area where the Servola treatment plant is undergoing major upgrades.

Wastewater treatment quality can also be identified by monitoring the upgrade trends of urban areas, meant as areas in which the concentration of people and production activities is such that the creation of an autonomous sewerage-treatment system is technically and economically acceptable. Legislative Decree 152/2006 requires that the following two conditions must be satisfied for a built-up area to be legally compliant: at least 95% of wastewater must be drained and the capacity of the treatment plants must exceed the population equivalents of the built-up area with secondary or third-party treatment (where necessary).

In 2016, upgrade work was completed at seven urban areas with over 2,000 population equivalents in Emilia-Romagna (Cesenatico, Cattolica, Imola, Savignano sul Rubicone, Tolè, Monghidoro and Lavezzola), for a total of about 458,000 population equivalents. These projects upgraded all urban areas of that size in Emilia-Romagna, thus achieving the quality objectives contained in the Water Protection Plan of the Region and are therefore and are therefore compliant with the provisions of Council 91/271/EEC. In the Triveneto and in Marche regions, are still ongoing upgrades pursuant to Directive 91/271/EEC for urban areas with over 2,000 population equivalents are in progress. Completion is planned for 2020.



At Group level at the end of 2016, 121 of 134 agglomerates with more than 2,000 equivalent inhabitants have been upgraded to Directive 91/271/EEC. Compliant urban areas amount to 85% of the total equivalent population. This percentage

rises to 100% in Emilia-Romagna while in the areas served by AcegasApsAmga and Marche Multiservizi it is respectively 33% and 42%.

In the areas served by AcegasApsAmga, work is in progress to upgrade the main treatment plants: in Padua, the Ca 'Nordio treatment plant expansion has been planned (to be completed in 2019); in Trieste, the construction of the biological treatment sector of the Servola treatment plant is in progress and is expected to be completed by 2017. Upgrade work on some treatment plants in the Marche region are also in progress, the most significant of which concerns improving the treatment plant at Borgheria near Pesaro which is due to be completed in 2021.

Further to the urban areas with over 2,000 population equivalents, in 2017 we expect to start to plan the upgrade of six urban areas that have related critical issues (e.g. widespread and complete reduction of nitrogen, undersized floodways) as defined by Emilia-Romagna Region's new resolution 201/2016. The Resolution requires that the projects be prepared by 2018.

Turning to urban areas served in Emilia-Romagna with less than 2,000 population equivalents 217 in total for a total of 149,522 population equivalents 58% is appropriate (126 urban areas for over 93,000 population equivalents), for the remaining 91 measures were added to the in the Atersir Plan with the timing set by the Regional Council 's resolution 201/2016 and upgrade is expected by the end of 2021.

Purification sludge is considered special waste and must be managed according to **Legislative Decree no. 152/2006**. In 2016, the plants operated by the Group produced 37 kg of sludge per population equivalent served. 3.2% of the total sludge was reused directly for agriculture. The direct recovery for agricultural use of treatment sludge affected only the Triveneto area. At Group level, the remaining sludge produced was processed by **dedicated incineration** (25,782 tonnes), **transfer to landfills** (approx. 19,668 tonnes) and **indirect agricultural reuse, following composting** (111,432 tonnes).

### **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 organise educational tours to observe specific animal and plant species typical of wetlands.

### **Atmospheric emissions**

*Technology and monitoring to guarantee transparency and emissions well below the legal limits*

#### **Atmospheric emissions generated by waste-to-energy plants**

All Hera Group 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, 70% 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 Authorisation, 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.

In 2015, under the revamping project for the flue gas treatment system of the Trieste waste-to-energy plant, a feasibility study was conducted, and it identified several workable design solutions. A revaluation is in progress of the priority to be given to this project in relation to other possible environmental improvement measures which can be achieved within the same plant site.

## Atmospheric emissions generated by waste-to-energy plants

t	2014	2015	2016
Particulates	6.9	7.3	6.4
Hydrochloric acid	16.8	17.0	15.6
Nitrogen oxides	728.5	744.4	703.7
Sulphur oxides	13.3	13.7	11.7
Carbon monoxide	71.2	75.6	72.7
Hydrofluoric acid	0.4	0.8	0.7
Total Organic Carbon	6.7	8.9	9.4
<i>Waste treated in plants (thousands of t)</i>	<i>1,467</i>	<i>1,425</i>	<i>1,439</i>
<i>Net electricity generated (MWh)</i>	<i>867,540</i>	<i>871,786</i>	<i>828,906</i>
<i>Thermal energy produced (MWh)</i>	<i>216,275</i>	<i>219,864</i>	<i>239,282</i>

The data are calculated using continuous measurement systems which are subject to the approval of the supervisory bodies at the time of authorisation for operation of the plant. The procedures used by individual plant systems to collect and calculate the volume of substances released are not completely standardised. Including the Enomondo incinerator.

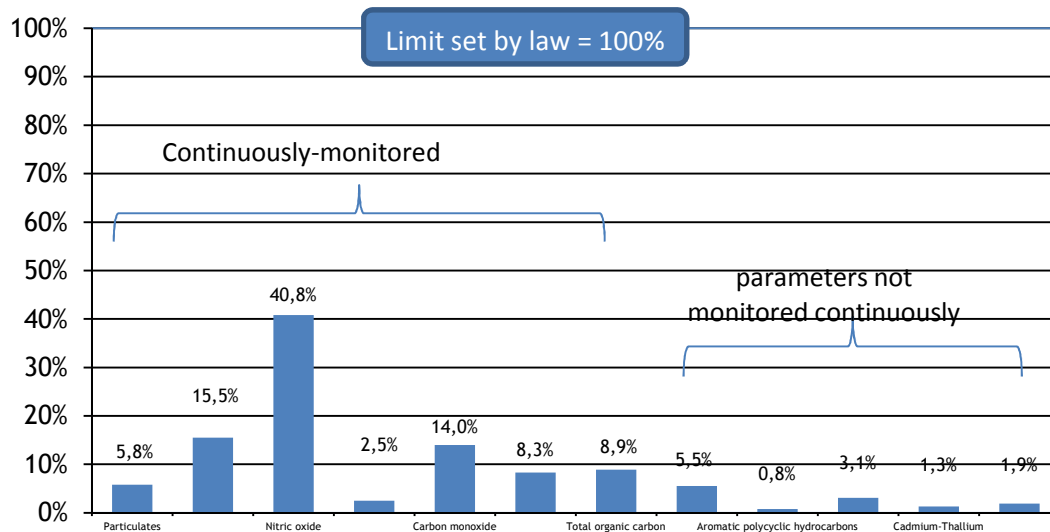
In the last two years, the analysis of mass flows shows a general improvement that is linked to the quality of the waste treated for continuously-monitored parameters, in particular the improvement concerns emissions of hydrofluoric acid (-23% compared to 2015), sulphur oxides (-15% compared to 2015), total emissions of particulates (-12%), hydrochloric acid (-8.3%), nitrogen oxides (-5,5%) and carbon monoxide (-3.8%) while total organic carbon increased. Note, furthermore, that for all continuously monitored pollutants, the concentrations at the chimney, in 2016 were once again much lower than the legal limits: from a maximum of 97% below the legal 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 2016, 200 kg of metals were emitted (285 in 2015), along with 0.66 kg of aromatic polycyclic hydrocarbons (0.52 in 2015) and 24.2 mg of dioxins (21.3 in 2015). All values are at least 95% below regulations.

The results of the emission measurements at the Hera Group waste-to-energy plants confirm that, being equipped with the best technologies available and run in the most efficient manner, these plants emit levels of particulate, dioxins and furans, aromatic polycyclic hydrocarbons and metals **far below the emission limits**. Compared with the other parameters, subject to continuous monitoring, at plants equipped with the double reaction system for the reduction of sulphur oxide (Bologna, Ferrara, Forlì, Modena, and Rimini) the **concentrations were not only well below the legal limits, but also below the limits set by local authorities**, which are much more stringent than national regulations.

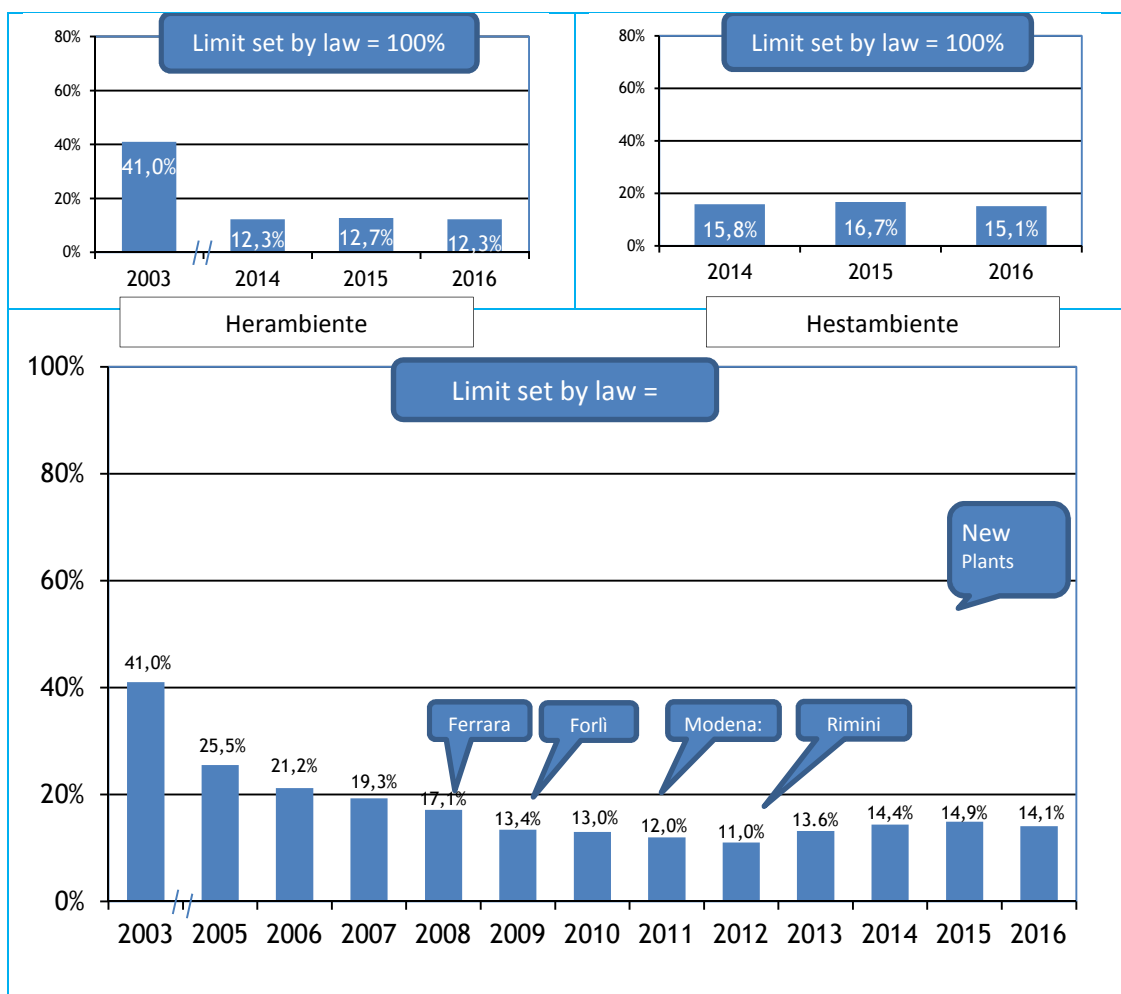
Legislative Decree 133/2005 requires continuous monitoring of flue emissions for seven parameters. In addition, in the Ferrara, Forlì, Modena and Rimini plants, mercury is also continuously monitored.

**Compliance of waste-to-energy plant atmospheric emissions with regulations pursuant to Legislative Decree 133/2005 - (optimal values < 100%), 2016**



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



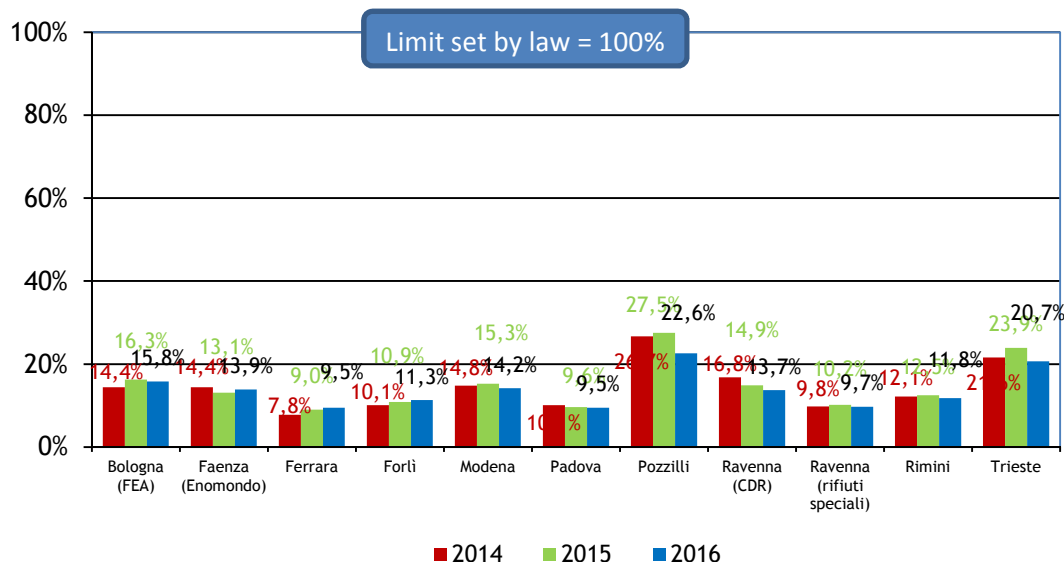
The **plant renovation** process has resulted in a significant improvement in the abatement percentages of pollutant emissions:

- 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 2016, the **average concentrations of the atmospheric emissions of the waste-to-energy plants** came to **14.1% of the legal limit**. This means that in 2016, emissions were 86% 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 legal limits: from -95% to -99%. Excluding the two AcegasApsAmga plants and Pozzilli and Enomondo plants, values in 2016

(12.9% of legal limits) are lower than in 2015 (13.4%) and 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 authorisation limits - continuously monitored parameters (optimal values <100%)

%	2014	2015	2016
Bologna (FEA) waste-to-energy plant	19.5%	27.3%	27.1%
Ferrara waste-to-energy plant	9.4%	10.2%	10.7%
Forlì waste-to-energy plant	18.4%	20.8%	21.3%
Modena waste-to-energy plant	18.9%	19.5%	17.4%
Ravenna waste-to-energy plant (special waste)	15.2%	12.2%	11.6%
Faenza (Enomondo) waste-to-energy plant	18.3%	15.9%	16.9%
<b>Average</b>	<b>16.6%</b>	<b>17.6%</b>	<b>17.5%</b>

The Integrated Environmental Authorisations 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 authorisation limits that are more stringent than Italian regulations for 2016 (for the eight parameters monitored in continuation on average the limits set by the authorisations correspond to 76% 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, 82% below the most restrictive limits. That the limits set by the individual authorisations 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 2016 the Hera Group took a total of **700 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, 650 samplings were made (down compared to 2015 for the new Modena authorisation that decreased the sampling frequency) compared to the 519 required. In 2016, as in previous years, Hera plants complied with the authorisation limits for amounts of waste treated, their type and, where present, their geographical origin.

#### Thermal capacity saturation percentage (of the plant)

%	2014	2015	2016
Bologna (FEA) waste-to-energy plant	100%	93%	93%
Ferrara waste-to-energy plant	91%	95%	97%
Forlì waste-to-energy plant	88%	87%	95%
Modena waste-to-energy plant	94%	95%	94%
Ravenna waste-to-energy plant	100%	100%	100%
Rimini waste-to-energy plant	97%	99%	100%
Pozzilli waste-to-energy plant	99%	100%	98%
Faenza (Enomondo) waste-to-energy plant	100%	93%	100%
<b>Weighted average on thermal power</b>	<b>96%</b>	<b>95%</b>	<b>97%</b>

Excluding AcegasApsAmga.

Given that in 2016 the waste-to-energy plants indicated in the table treated quantities of waste substantially in line with the authorised quantities, and given the calorific value of this waste, the saturation percentage of the thermal capacity was equal to 97%. This means that in 2016 the plants were used at 97% 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 2015, excluding Hestambiente and the Enomondo plant, was over 7 million m<sup>3</sup>. Compared with 2015 there was an increase in methane consumption by over 650,000 cubic metres despite the 5% decrease in waste treated. This increase is mainly due to an increase in the methane consumption of the plants at Rimini (which had more irregular operation), Bologna and Ravenna, in part compensated by the decrease of consumption in the Forlì and Ferrara plants.

### Electricity generated in relation to waste disposed of

kWh/t	before revamping	2015	2016	2016 Delta (before revamping)
Ferrara waste-to-energy plant	251	486	484	93%
Forlì waste-to-energy plant	295	553	528	79%
Modena waste-to-energy plant	282	642	542	92%
Rimini waste-to-energy plant	351	590	478	36%
<b>Weighted average on volumes of waste treated</b>	<b>290</b>	<b>578</b>	<b>511</b>	<b>76%</b>

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 the waste-to-energy plants revamping, power generation performance improved by 76%, while total dust emissions fell by 24% against a 53% increase in waste.

### Atmospheric emissions generated by district heating

Emissions of nitrogen oxides and carbon dioxide, from the 13 district heating plants, increased by 7.4% and 1.5% respectively compared to 2015 (calculated the same way), due to the addition of two new thermal power plants in Modena and lower production at two cogeneration plants in Imola and Bologna, temporarily replaced with thermoelectric power stations. In 2016, the district heating plants produced a total of 654 GWh of electricity and thermal energy in line with the production in 2015. The ratio between emissions and the energy produced provides a measure of specific emissions. In 2016, 175 grams of nitrogen oxides were released for each MWh of electricity generated (+7.2% compared with 2015) and 176 grams of carbon dioxide for each kWh (+1.3% compared with 2015, calculated the same way) due the reasons described above.

### Atmospheric emissions generated by district heating

t	2014	2015	2016
Nitrogen oxides	97.2	106.4	114.2
Carbon dioxide	69,503	78,350	114,790

The data refer to the thermoelectric power and cogeneration stations that power district heating. In 2016, the carbon dioxide emission calculation coefficients were updated. Data does not include Imola's power plant.

Considering the concentrations of nitrogen oxides, carbon monoxide and particulates, the concentrations of the atmospheric emissions of the cogeneration plants for district heating came to 38% of the limits set by the plant authorisations (59% of the limits for nitrogen oxides, 15% for carbon monoxide and 1% for particulates).

### Atmospheric emissions generated by district heating (2016)

t	Nitrogen oxides	Carbon dioxide
Bologna	64.2	63,796
Ferrara	7.5	9,187
Forlì-Cesena	27.5	26,306
Imola-Faenza	2.5	2,732
Modena	11.4	11,469
Ravenna	1.1	1,299
<b>Total</b>	<b>114.2</b>	<b>114,790</b>

The data refer to the thermoelectric power and cogeneration stations that power district heating. Data does not include Imola's power plant.

### Emissions of the Imola cogeneration plant

Again in 2015, the specific emissions of the Imola cogeneration plant remained at extremely low levels: the **nitrogen oxides**, the most present emission in the flue gases, remained around **50% of the authorized level**, while **carbon monoxide concentrations went down to 12% of the authorised level**.

Significantly, the environmental authorisation of the Imola plant sets limits for nitrogen oxides and carbon monoxide that are 75% to 80% below those of national legislation.

In 2016, to replenish the cooling tower, **210,184 m<sup>3</sup>** of water were used, less than the usage recorded for 2015 (-3%), remaining under the 230,000 m<sup>3</sup> limit authorized for 2015.

The two lines have run for respectively 2,313 and 5,776 hours, line 1 has been affected by extraordinary maintenance to perform a one of its gas turbines for the extraordinary overhaul after 25,000 hours, this downtime has had an impact on the electricity production, that decreased by 6%, compared to 2015.

### Atmospheric emissions from the Imola cogeneration plant

mg/Nm <sup>3</sup>	National limit	Authorised limit	2014	2015	2016
Nitric oxide	60	15	8.0	8.9	8.2
Carbon monoxide	50	10	1.1	1.6	1.2
Ammonia slip	not required	2.5	0.1	0.1	0.4
Total particulate matter	not required	5	<0.010	0.02	0.01
PM <sub>10</sub>	not required	1	0.04	<0.04	<0.04

The authorised 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 Authorisation 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, stands out not only for 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 fact, in 2016 it recorded energy savings of 19.4% while saving 120,550 megawatt-hours of primary energy, improving by 1.5% over the previous year.

### Corporate vehicle fleet

#### Fleet (No. of vehicles)

No.	2014	2015	2016
Diesel	2,744	2,784	2,821
Petrol	637	533	429
Natural gas	502	528	501
LPG	240	286	336
Electric powered	26	22	25
<b>Total</b>	<b>4,149</b>	<b>4,153</b>	<b>4,112</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 4,112 vehicles, of which 501 are methane powered, 336 are powered by LPG and 25 are electric, amounting to 21% of the total. In 2016, 345 **vehicles** were sold and/or scrapped, while 209 diesel vehicles, 6 petrol vehicles, 7 methane vehicles, 37 LPG vehicles and 1 electric vehicles were registered. Currently, excluding AcegasApsAmga and Marche Multiservizi, the Hera Group uses 4 methane powered automatic waste compactors out of an overall total of 167.

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 prioritises 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 4% over 2015.

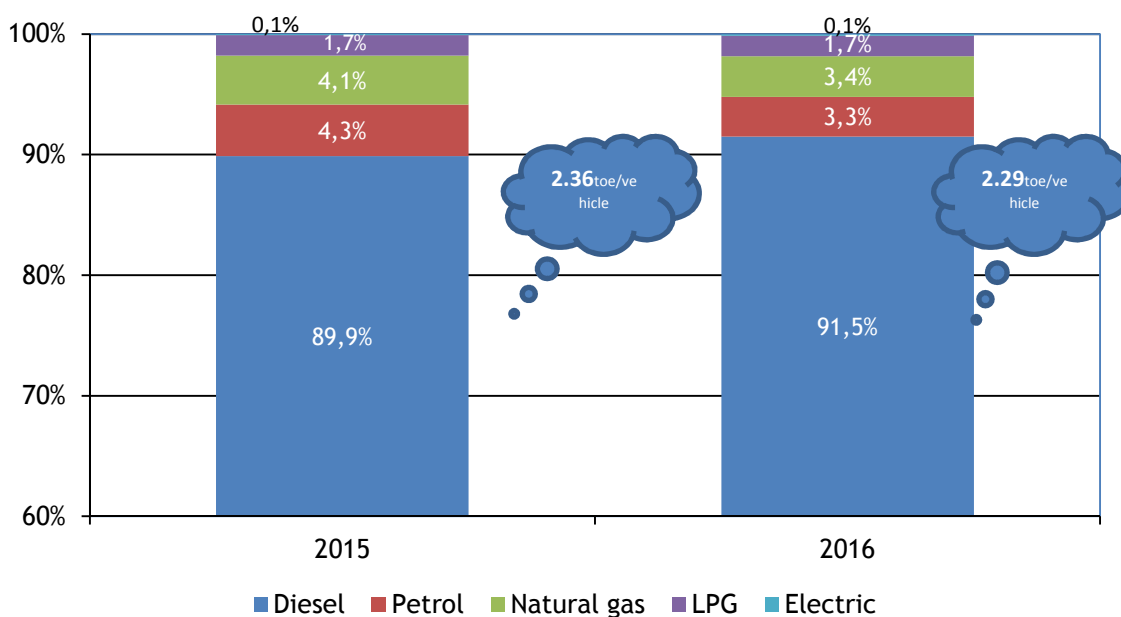
Also, in order to reduce consumption and improve safety on the waste collection vehicles, in 2013 Hera added the Drive System Tool (DST) device. The device is a measurement box that records the driving styles of drivers of side-loading waste compactors, and since 2015 has been standard equipment on all 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 (-10% compared to 2015), following similar decreases in the previous years. 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 minor stress on the vehicles.

The use of the DST devices for AcegasApsAmga will start from 2017.

### Fuel consumed by vehicles



A comparison between the various types of fuel was made considering the primary energy present in the single fuels.

At Group level there was a reduction of 5% in fuel consumption. This fall is distributed among the various fuels but the most notable reduction (-26.0% compared with 2015) is in petrol consumption due to the gradual replacement of the oldest vehicles.

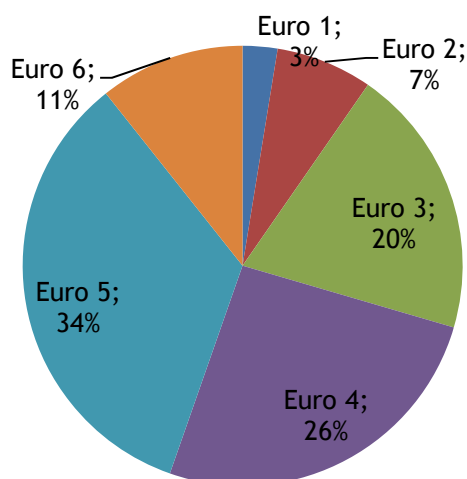
Comparing the total amount of fuel consumed by the Group's vehicles to the total number of vehicles shows that the average consumption per vehicle decreased in 2016 (-4% compared to 2015) reaching 2.29 toe/vehicle.

### Fuel consumed by vehicles (toe)

	2015	2016
Diesel	8,813	8624
Petrol	420	314
<i>of which gasoline for bi-fuel vehicles</i>	-	107
Natural gas	397	317
LPG	166	163
<b>Total</b>	<b>9,796</b>	<b>9,418</b>
<b>Consumption per vehicle (toe/vehicle)</b>	<b>2.36</b>	<b>2.29</b>

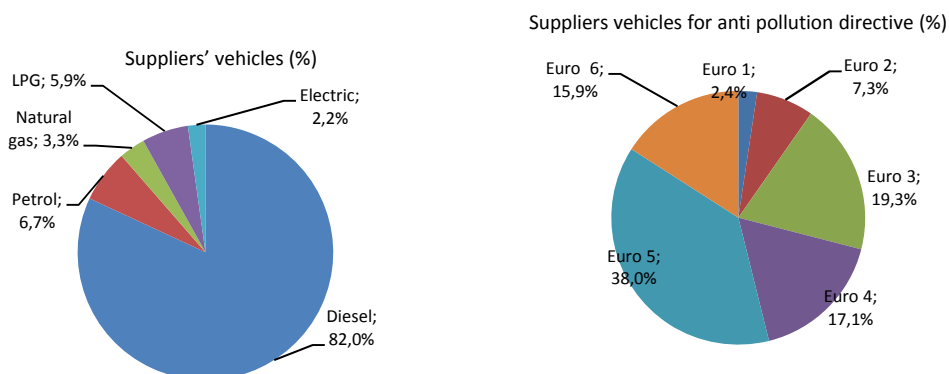
The data refer to Hera Spa, AcegasApsAmga, Inrete Distribuzione Energia and Marche Multiservizi.

## Breakdown of vehicles for anti-pollution directive (2016)



The average age of the fleet is now 7.6 years; on a like-for-like basis it is 7.3 years and continues to decrease, as opposed to the 2013 figure of 8.0 years, following the targeted investments to renew the company fleet.

The Group's commitment to sustainability and energy efficiency also has effects on the supply chain and in particular in 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 2016, in Emilia-Romagna, suppliers of waste management services have used over 1,300 vehicles for waste collection. Of these, 11% has low environmental impact (6% use LPG, 3% use methane and 2% are electric) and over half are classified euro 5/6.

### Electric transportation

Electric transportation continued to grow in 2016, in particular for customers that recharge their cars with a Hera Comm card. There are over 70 active contracts, which in the year accounted for about 3,000 recharges. New customers of the Trieste area also contributed to this result, encouraged by the network of public posts recently installed by AcegasApsAmga.

In order to continue and improve Hera Group's efforts in the sector, on 27 May 2016, at Arese, we signed, together with other leading operators, the Charter for Electric Transportation, launching an important dialogue with institutions, aimed at introducing measures to promote and encourage low environmental impact transportation.

We hope that the collaboration with the institutions can give rise to regulatory measures capable of supporting an increase of electric vehicles in use, enhancing the investments made and those planned by the Hera Group and other operators in this field.

### Mobility management

2016 saw the continuation of actions 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 sites in Viale Berti Pichat, Via Trattati Comunitari and Via del Frullo and to the Imola Station to the offices in Via Molino Rosso e Via Casalegno. The incentives designed to encourage those who work at the Bologna sites and the Via Casalegno site in Imola to cycle to work also continued in 2016. The opportunity to use the three electrically-assisted bikes and its photovoltaic station in viale Berti Pichat in Bologna generated a lot of interest.

In 2016, 200 staff members took advantage of special discounts on annual public transport passes of 50% for services managed by T-per and 45% for those run by Trenitalia.

In 2016, we also enriched the section of our corporate information portal on transportation management to raise awareness among employees of the good reasons to use public transport and to safely move around in the city environment. In May, Hera participated in the European Cycling Challenge - ECC promoted by SRM, the Agency for mobility and local public transportation of the Bologna municipality, to encourage the use of bicycles for home-work commutes.

### Greenhouse gas emissions

*A tangible commitment to reducing our carbon footprint and that of our customers*

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

The Group's commitment is based on transparency and accountability of its performance and on its efforts in respect of climate change and continues in the many projects it has initiated to promote the production of energy from renewable sources, to reduce energy consumption and to provide customers with opportunities to reduce their greenhouse gas emissions.

Since 2006, in fact, 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 change and sustainable use of water resources. Compliance with the CDP requires measuring and reporting all performance and initiatives put in place to reduce greenhouse gas emissions. In 2016, Hera was one of the 42 companies in Italy and has achieved level B on a scale from A to D.

### Hera Group's commitment to reduce greenhouse gas (GHG) emissions

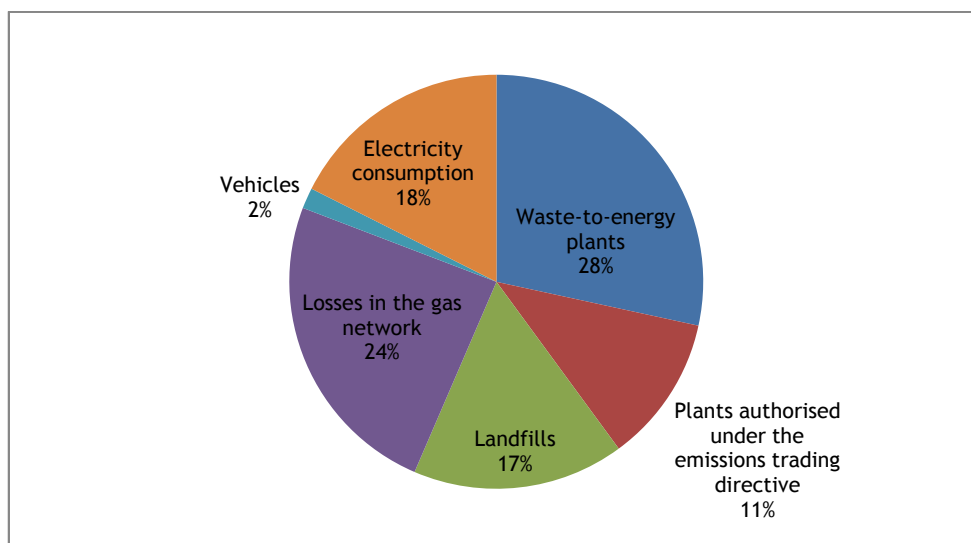
The Group's greenhouse gas emissions are mainly due to its plants (waste-to-energy and district heating plants), and to leaks from the gas network and from landfills.

### Total greenhouse gas emissions

	2015	2016
Direct emissions (scope 1) (t)	1,394,852	1,206,649
Indirect emissions from consumption of electricity (scope 2) (t)	250,547	257,135
<b>Total of scopes 1 and 2 (t)</b>	<b>1,645,399</b>	<b>1,463,783</b>
Carbon intensity index (t emitted scope 1 and 2/EBITDA Euro mln)	1,926	1,654

Excluding Marche Multiservizi. The APAT 2003 source coefficients were used for the estimation of vehicle emissions, and the average coefficients of the national thermoelectric park were used to estimate electricity consumption emissions. The GWP considered is 25 for methane and 298 for N2O, (4th Assessment Report IPCC).

### Composition of total greenhouse gas emissions



In 2016, the Hera Group released 1.5 million tonnes of carbon dioxide (-11% compared to 2015). Direct emissions (scope 1) amounted to 1.2 million tonnes, down compared to 2015 (-13.6%) mainly due to: (i) a decrease in greenhouse gas emissions from landfills as a result lower quantities of waste disposed of; (ii) a decrease of emissions due to gas network leaks (-15.6%) as a result of lower quantities of gas distributed; (iii) a decrease of the emissions of the waste-to-energy plants (-5.4%) due to the decrease of the organic fraction of the waste treated, as a result of the increase of separate waste collection.



The emissions indirectly caused by the consumption of electricity (scope 2) were over 257,000 tonnes, slightly up compared to 2015 (+2.6%), due the increase for the public lighting system in terms of number of light points managed.

The ratio between carbon dioxide emissions and the Group's gross operating margin shows a decrease compared to 2015 (-14.2%) mainly due to the reasons described above. The ratio to the revenues has is also down in 2016, decreasing from 378 to 338 t of CO<sub>2</sub> per million Euro.

To reduce the emissions indirectly caused by their own consumption of electricity the Hera Group is committed since 2017 to only use renewable energy to carry out the business of Hera Spa in Emilia-Romagna. This will reduce greenhouse gas emissions per year by approximately 144,000 tonnes, amounting to 10% of the Group's direct and indirect emissions. Moreover, in the context of the ISO 50001 management system, Hera Spa, AcegasApsAmga and Marche Multiservizi have identified over 177 measures to decrease energy consumption to be implemented by 2017 and that will lead to saving over 8,600 toe/year and over 20,000 tonnes of CO<sub>2</sub> per year.

### The carbon footprint of energy production

	2014*	2015*	2015	2016
Waste-to-energy plants (t)	333,007	327,745	438,874	415,350
Plants authorised under the Emissions Trading directive (t)	154,711	184,137	184,137	168,238
Landfills (t)	269,013	325,275	325,275	241,948
<b>Total (t)</b>	<b>756,731</b>	<b>837,157</b>	<b>948,286</b>	<b>825,536</b>
Electricity and thermal energy produced by plants (MWh)	1,245,210	1,328,913	1,533,357	1,491,496
<b>Carbon footprint for energy production (kg/MWh)</b>	<b>608</b>	<b>630</b>	<b>618</b>	<b>553</b>

Excluding Marche Multiservizi. The APAT 2003 source coefficients were used for the estimation of vehicle emissions, and the average coefficients of the national thermoelectric park were used to estimate electricity consumption emissions. The GWP considered is 25 for methane and 298 for N<sub>2</sub>O, (4th Assessment Report IPCC). \*Excluding AcegasApsAmga and Marche Multiservizi

Considering the emissions produced by the electricity and thermal energy plants shown in the table, the carbon footprint of our energy production in 2016 was 553 Kg/MWh, 10.5% lower than it was in 2015, due to the lower greenhouse gas emissions of landfills and of waste-to-energy plants as a result of what has been described above and to a resumption of the production of energy from landfill biogas after the strong decrease in 2015. The measures carried out and planned by the Hera Group will enable us to reduce the carbon footprint of our energy production over the coming years. By 2020, we plan to decrease emissions by 19% (501 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 further decreasing the use of landfills to treat municipal waste.

The EU's commitment to reduce greenhouse gas emissions continues under the EU-ETS (European Union Emission Trading System) that sets a cap on the total level of emissions permitted to all parties that participate in the scheme, but it also allows them to trade CO<sub>2</sub> emission quotas on the market in accordance with their needs and within the established limits. Nine Hera Group plants are authorised to emit greenhouse gases on the basis of Emissions Trading legislation, involving total

installed furnace power of 505 MW. The carbon dioxide emissions recorded in 2016 in these plants amounted to about 168,000 tonnes, down 9% compared to 184,000 in 2015, due to weather differences and longer scheduled downtime of the Imola plant. For these plants, the maximum emission cap established by the Eu-Ets system for 2016 is 42,894 tonnes, while the quotas allocated for free are equal to 31,848 tonnes.

Moreover, as stated above, Hera Spa, AcegasApsAmga and Marche Multiservizi are subject obliged to produce white certificates through energy-efficiency measures or by resorting to the market. The objective for 2016 was over 517,000 toe, amounting to 1.2 million tonnes of carbon dioxide avoided.

### Greenhouse gas emissions avoided (thousand of ton)

	2016
Energy production from renewable sources	243,5
White certificates	763,4
Internal energy efficiency measures	12,1
District heating	129,2
Separate waste collection	205,3
Electricity from renewable sources sold	1.234,0
<b>Totale</b>	<b>2.587,4</b>

Considering the emissions avoided by the production of energy from renewable sources, energy saving initiatives, district heating, separate collection and sale of electricity from renewable sources, total greenhouse gas emissions avoided in 2016 were equal to 2.6 million tonnes. Comparing this value to the number of people served by the Group, 590 kg of greenhouse gases per person were avoided with Hera's activities.

### The commitment to reduce the carbon footprint of our customers

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

In 2016, we launched two innovative commercial offers for our customers: Nuova Idea Hera and Hera Thermo. The first one raises awareness toward energy efficiency since it provides consumption analysis, a report that facilitates the comparison of consumption over time and with a household of the same province, and Hera Fast Check up, which can be used to understand the breakdown of electricity and gas consumption and obtain practical tips to save money and reduce waste. The second option lets customers check their consumption for heating, even remotely, and access an analysis report of their consumption to help save energy. These offers were chosen by about 90,000 customers of the service gas and electricity service.

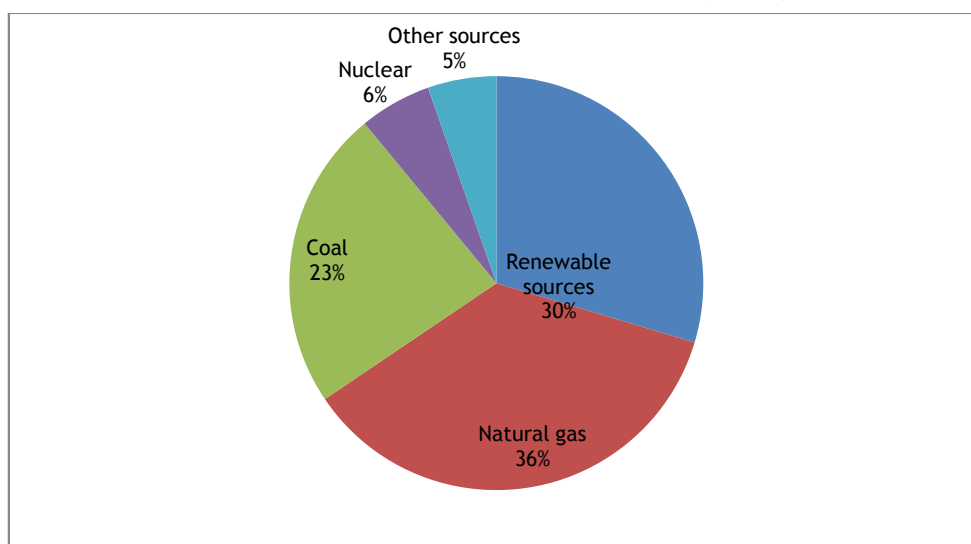
The Hera Group, via its subsidiaries Hera Servizi Energia and Amga Calore Impianti works actively in energy efficiency improvement services, mainly addressing condominiums (who are offered a system that provides individual metering of the heat and energy service), to large industrial customers (for which 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 (16 plants operated and over 13,000 tonnes of CO<sub>2</sub> avoided in 2016).

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 second edition of our "Value to energy" report dedicated to energy efficiency, Hera has supported the creation of 103 projects at companies in the area it serves, generating a saving of 52,509 toe, equal to over 124,000 tonnes of CO<sub>2</sub>.

In 2015, 30% of the electricity sold by Hera Comm on the free market came from renewable sources and for the remainder, mainly from methane and coal. In addition, approximately 85,000 customers (equal to 11% of the total) have signed a free market offer called "Pacchetto natura" which guarantees that the electricity consumed comes from renewable sources.

### Composition of the electricity sold by Hera Comm (2015)



### Waste collected

The Hera Group is a major player in the field of municipal waste management. Hera manages the municipal waste service in 6 provinces of Emilia-Romagna, for a total of 133 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 **188 municipalities** in 2016 for a total population of **3.3 million inhabitants**.

### Hera's integrated waste management system (WMS)

Hera's Waste Management System (WMS) is characterised by three main systems:

- local collection: the system is primarily targeted at residential users and small, non-residential users;

- residential collection for target users: for non-household users that produce specific waste that can be treated as municipal waste;
- Separate Waste Collection Centres (also known as Equipped Drop-Off Points: infrastructures where all types of separated municipal waste, including hazardous waste, can be dropped off.

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, the roadside collection and collection at shopping centers of WEEE (Waste Electrical and Electronic Equipment) and of used vegetable oil is gradually spreading.

To improve their effectiveness, the collection services are differentiated according to standardised 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 maximise the percentage of separate waste collection and its quality through a technically and economically sustainable service.

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

- roadside bins with a control system and user recognition ("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 community

number of municipalities served	2014*	2015	2016
Roadside collection	104	145	128
Roadside collection with special disposal control mechanisms	21	20	36
Door to door	18	24	24
<b>Total</b>	<b>143</b>	<b>189</b>	<b>188</b>

\*Excluding Marche Multisevizi.

In 2016, the roadside collection system with disposal control mechanisms was extended to the provinces of Bologna and Pesaro.

Of the 188 municipalities served by the Group, 128 (76% of the entire population served) were mainly served with the roadside system, 36 with the electronic waste tracking disposal system (13% of the population served), and 24 with the door-to-door system (11% of the population served).

#### Collection of municipal waste

In 2016, the value of production of waste collected per capita shows rose in the areas served compared to 2015 (+1.2%), confirming the previous year's growth

trend in Emilia-Romagna. There has been an increase of separate waste collection (+2.7%), and a decrease of non-separated waste (-2.5%).

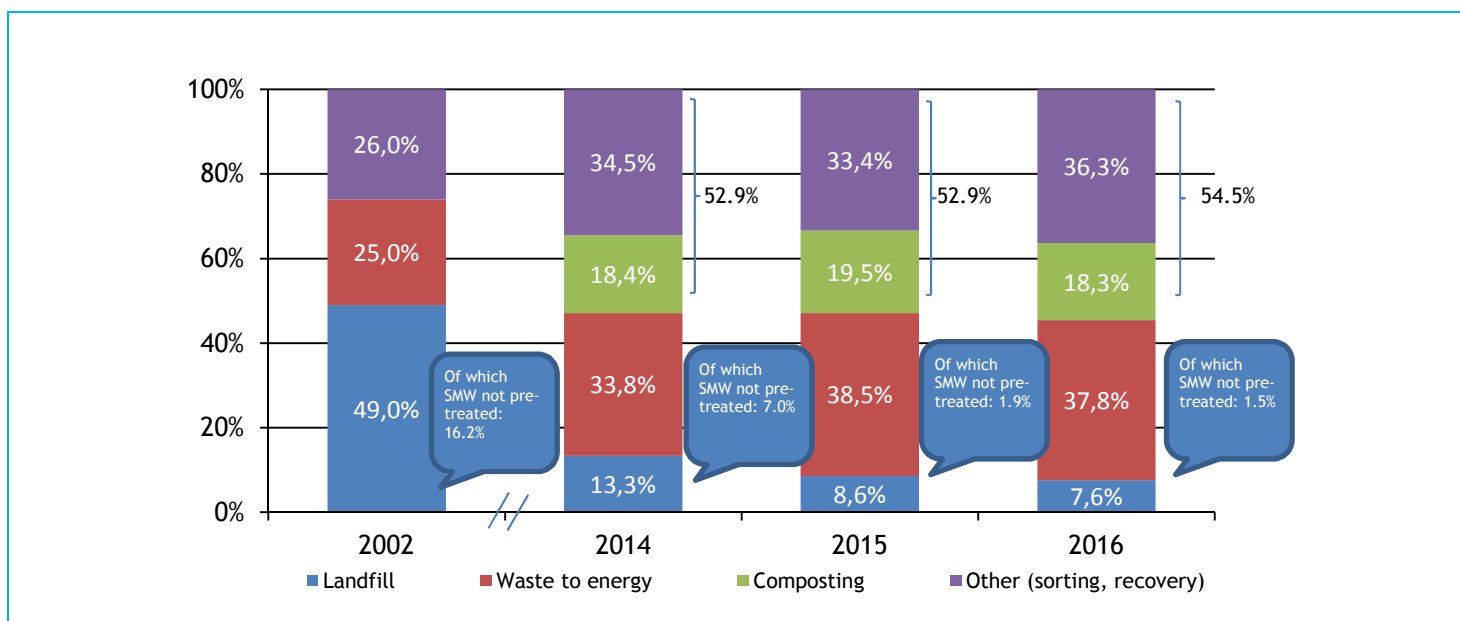
### Municipal waste collected, by area

thousands of t	2014	2015	2016
Hera	1,605.1	1,627.5	1,632.4
AcegasApsAmga	257.1	247.3	247.3
Marche Multiservizi	165.6	167.5	167.1
<b>Total</b>	<b>2,027.8</b>	<b>2,031.9</b>	<b>2,046.8</b>
Kg per inhabitant	605	601	612

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

The area served by Hera is characterised 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: 612 kilograms per inhabitant (635 kilograms per inhabitant in Emilia-Romagna, 595 in Pesaro and 527 in Triveneto), compared with a national average of 487 kilograms in 2015 (source: 2016 Ispra municipal waste Report).

### Urban waste collected, by destination



In contrast with the slight increase of municipal waste production described previously, in 2016 there was a further reduction in the amount of waste disposed of in landfills (down 1 percentage point compared with 2015). This is due to the Group's goals which, in line with national and European regulations, require reducing the use of landfills and increasing separate waste collection.

In 2016, the percentage of municipal waste disposed of in landfills after pre-treatment was 7.6%, compared with the 2015 Italian average of 30%, (source: Eurostat), therefore below the 2030 goal set by the Circular Economy Package defined by the European Commission in December 2015. The use of landfills declined further in Emilia-Romagna in 2016 and stood at 5.5% (was 6.5% in 2015). It also decreased in the Marche region in 2016: from 43.1 of 2015 to 40.7 in 2016.

The Triveneto region continues to have no landfills for the disposal of urban solid waste.

#### **Disposal of waste in Italy and Europe**

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

At European level, the downward trend of using landfills to dispose of municipal waste continues: in the EU-28 the figure was 26% (source: Eurostat). However, landfills are still the main way of treating waste in Italy: 30% of disposed municipal waste in 2015 was transferred to landfills compared to 22% sent for waste-to-energy treatment.

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

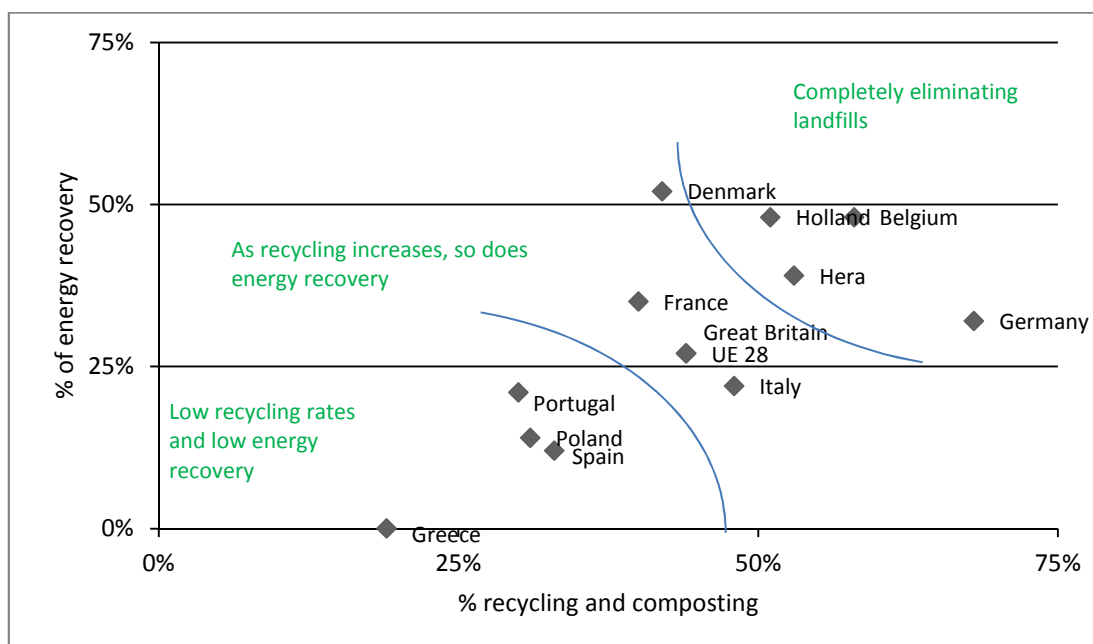
Landfills continue to be the primary treatment method in 12 European countries. In Italy 30% of municipal waste is disposed of in landfills. In Europe, the most virtuous countries are Germany, Sweden, Belgium, the Netherlands and Denmark. In these countries, little or no municipal waste is disposed of in landfills, while waste-to-energy treatment accounts for 32% to 52%. The remainder is recycled. 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 Hera's ranking (2014)

Country	Landfill	Waste to energy	Recovery/Recycling
Germany	0%	32%	68%
Sweden	1%	51%	48%
Belgium	1%	44%	55%
Denmark	1%	53%	46%
Holland	1%	47%	52%
Austria	3%	39%	58%
Hera 2016	8%	39%	53%
Estonia	9%	59%	33%
Finland	12%	48%	41%
Luxembourg	18%	34%	48%
UK	23%	32%	45%
Slovenia	24%	18%	58%
France	26%	35%	40%
European Union	26%	27%	46%
<b>Italy</b>	<b>30%</b>	<b>21%</b>	<b>49%</b>
Ireland	42%	18%	40%
Poland	44%	13%	42%
Portugal**	49%	21%	30%
Czech Republic	53%	18%	30%
Hungary	54%	14%	32%
Lithuania	55%	12%	34%
Spain	55%	12%	33%
Bulgaria	67%	3%	30%
Latvia	68%	0%	32%
Slovakia	73%	11%	16%
Cyprus	81%	0%	19%
Greece*	81%	0%	19%
Croatia	82%	0%	18%
Romania	82%	3%	15%
Malta	93%	0%	7%

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

## Disposal of municipal waste in Europe



Source: Eurostat

### 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.

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. These initiatives have enabled us to prevent the production of around 10,600 tonnes of waste, equivalent to the annual output of about 17,000 people.

Among the most significant initiatives there are “Cambia il finale” (Change the ending), “FarmacoAmico” (Medicine friend), Cibo amico, Hera<sub>2</sub>O and the Urban Sources which are covered by special insights in this report (case study). The most significant initiatives included:

- “Second Life”, the reuse area launched in September 2011 together with the Municipality of Bologna, in the immediate vicinity of a separate waste collection centre. In 2015, the facility was operated by the social cooperative “Fare Mondi”. During the year, Second Life has received almost 65,000 objects, putting almost all of them back into circulation. The most-exchanged items are clothes (43% of items incoming and 44% of outgoing items) and cultural materials - books, CDs, DVDs, vinyl records (18% of incoming items and 17% of outgoing items);
- “Edy” is the creative reuse site that was opened in 2012 in Modena to give new life to clothes, shoes and other objects that go on sale again at the charity market. Edy was developed by Hera thanks to the contribution of



the Emilia-Romagna Region and is managed by the San Francesco not-for-profit association;

- **Trashware**". Developed by student association S.P.R.I.Te. 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 parties that need reconditioned computers for basic computer activities. The "Trashware" project met its 6th-year goal and will continue its activity in 2017. During 2016, 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 3,000 people have contacted us to donate equipment. As of November 2016, 1,090 reconditioned PCs have been given to schools and associations since the project started in 2011; with over 220 of them delivered during 2016.
- **"Toner Eco-boxes"**, 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.

Lastly, note that Hera has delivered approximately 36,000 composters free of charge, on request, in the area it serves. In some municipalities, users that receive a composter get a discount on the bill. We expect this initiative to decrease the biodegradable waste Hera collects by about 9,000 tonnes (source: internal processing of data from ARPA's 2015 report)

- the actions designed to promote **"Domestic composting"**, through the free supply of composters by Hera with associated discounts on bills in some municipalities;

## Separate waste collection

### *More and more services launched to recover waste*

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, reconciling the needs of the Municipalities with management efficiency and effectiveness.

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.

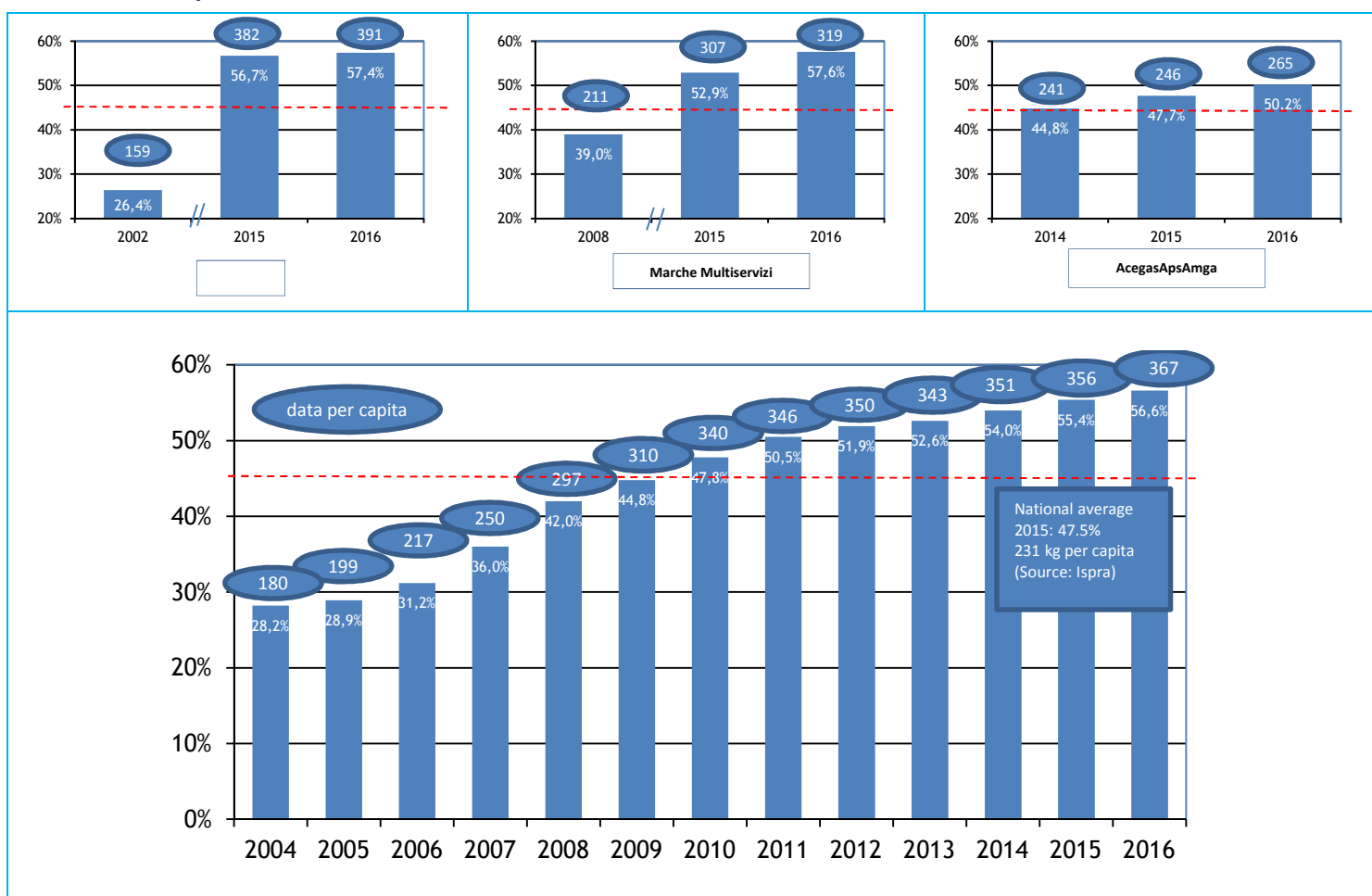
The Group's system includes collection via both roadside rubbish bins (bins, igloo bins and containers), and door-to-door collection (for both household users and "targeted" collection for non-residential users. There are 164 **separate waste collection centres** (or equipped drop-off points, including 139 in Emilia-Romagna,

8 in Triveneto and 17 in Marche) for citizens 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% compared to 2016, despite 3 fewer centres, and amounted to 270,331 tonnes (rising in particular in the Ferrara and Forlì-Cesena areas). Excluding Marche Multiservizi, there were 1.6 million accesses to the separate waste collection centres, 6% more than in 2015.

A further extension is planned in Emilia-Romagna of the Riciclandino project, currently running in 41 schools, to raise the awareness of separate waste collection among students.

### 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 the Emilia-Romagna Regional Authority 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.

At Group level, the percentage of separated waste, which represents the relationship between the quantity of municipal waste collected in separate form and total municipal waste, went from 55.4% in 2015 to 56.6% in 2015. Excluding AcegasApsAmga and Marche Multiservizi the value rises to 57.4%. National average is about 47.5% in 2014 (source: ISPRA).

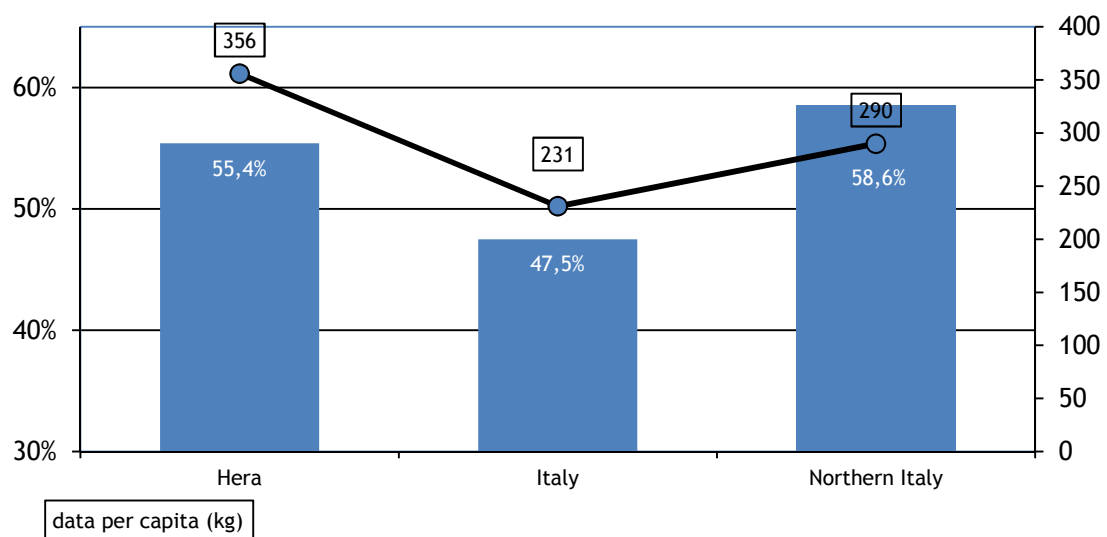
The 2017 target for separate waste collection is: 57.8% (58.7% for Hera Spa, 52.3% for AcegasApsAmga and 56.0% for Marche Multiservizi). In 2020, a level of separate waste collection of 66% is expected.

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. In 2015, this amount of waste was equal to around 135 thousand tonnes, excluding AcegasApsAmga and Marche Multiservizi, or 13% of the total amount of separate waste collected, increasing over 2015 (+4%). At group level, this amount was 11% of total separate waste collected, (was 10.6% in 2015).

In the 9 provincial capital cities where the service is provided by Hera, in 2015, the level of separate waste collection reached 51.8%, compared with a national average of 41.8% in Italy’s provincial capital cities and 50.5% in the cities of Northern Italy (sources: Legambiente, Ecosistema Urbano)

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. In 2016, the amount of separated waste collected per capita came to 367 kilograms per inhabitant, 3.1% up on the previous year. The comparison with the 2015 average national figure remains quite significant: (231 kg per capita) compared with that of Northern Italy (290 kg) as found by ISPRA, also due to the high production of waste that can be considered similar-to-municipal waste in the area served by Hera.

### Separate waste collection (2015 data)

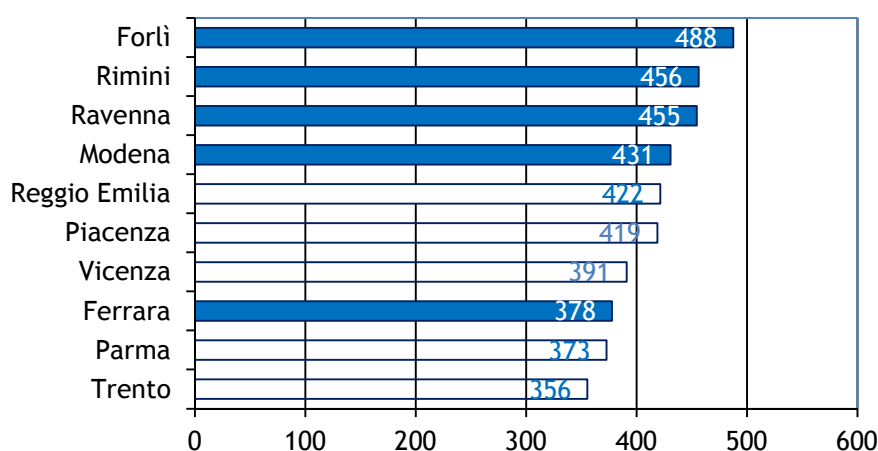


The cost of collecting and disposing of municipal waste is also influenced by the revenues coming from the sale of separately collected and recovered material or the contributions that Conai (the national packaging association) provides to the service manager. In 2015, these revenues and contributions came to 28% of the direct costs of separate waste collection (including the cost of treating and recovering waste) as report in the “Tracking waste” report.

### Separate waste collection in the main Italian cities (kg/per capita)

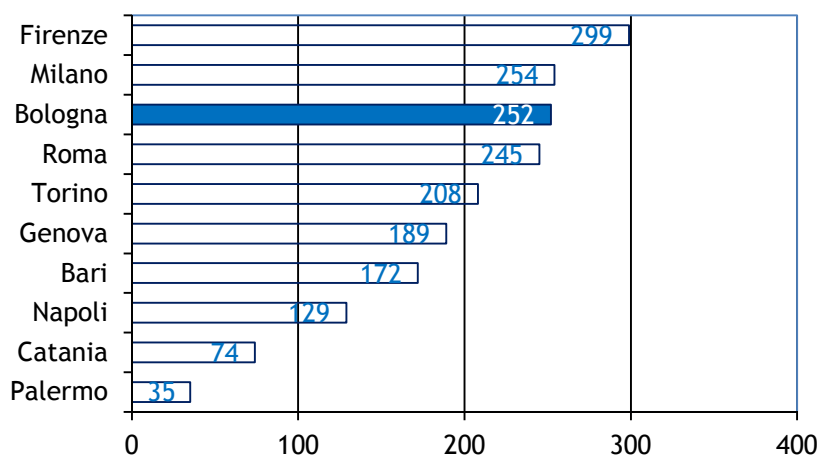
Considering Italy's provincial administrative capitals with populations over 100,000 inhabitants, 5 of the top 10 best-performing Italian cities by per-capita separate waste collection are served by the Hera Group.

Separate waste collection per capita, in kilograms, for municipalities with over 100,000 inhabitants (2015)



On the other hand, considering provincial administrative centres with populations of over 300,000 inhabitants, Bologna is third in Italy. (Source: processing of Legambiente, Ecosistema Urbano 2016 data).

Separate waste collection per capita, in kilograms, for municipalities with over 300,000 inhabitants (2015)



Source: processing of Legambiente, Ecosistema Urbano 2016 data).

2016 was characterised by a great deal of project activity that led to major changes in the services and, in particular, an improvement in the efficacy and quality of separate waste collection. The most significant projects included:

- the ongoing reorganization project in the Bologna municipality which implemented a mixed collection system in the city centre (door to door for non-separated waste, paper, plastic and glass, and mini-underground drop-off points for glass and organic waste).
- start of a project to reorganize waste collection in the Municipality of Imola (phased in), adding the collection of organic waste and splitting glass/plastic/cans collection into glass and plastic/cans. The reorganization required the rationalization of the basic drop-off points and the installation of containers with electronic user-recognition systems (except for igloo bins for glass) and electronic lids for non-separated collection. During November/December we implemented containers with electronic user-recognition systems in the 4 municipalities of the Santerno Valley
- the mixed collection system (door to door for non-separated and organic waste, and roadside basic drop-off points for paper, plastic, and glass) has been further extended to the Cesena and Gatteo municipalities. In the Faenza municipality, we activated the mixed collection system in an area adjacent to old-town.
- in the Rimini area, we completed the reorganizations of the tourist area to use door-to-door collection in the Bellaria and Riccione municipalities, and added organic fraction collection (also in areas previously served by door-to-door collection).
- in the Ferrara municipality, we added the collection of organic waste, implemented disposal control systems on roadside bins for non-separated waste in the Pontelagoscuro hamlet and started door-to-door collection out of town instead of local collection, as an interim step toward quantity-based charging.
- in the municipalities of the Modena province we continued to extend electronic waste disposal tracking on roadside bins of all the sectors in the Castelfranco municipality, to implement door-to-door collection for industrial areas, to start door-to-door collection out of town instead of local collection, as an interim step toward quantity-based charging.
- in the Padua area, we extended the door-to-door collection service to 11,000 more inhabitants, starting from June 2016.
- Trials are in progress in Pesaro on door-to-door collection of non-separated waste for over 30,000 inhabitants in 13 municipalities, and joint collection of plastic and cans has been implemented.

In view of the gradual switch to quantity-based charging in the area, reorganization of the service has started and will continue in the coming years to implement identification and measurement of disposals. The Budrio municipality led the way, officially switching to quantity-based charging on 1 January 2016, after a one-year trial. San Giovanni in Marignano has decided to switch in 2017.

By 2017, quantity-based charging will involve 9% of the citizens of the Emilia Romagna and then spread to the entire area we serve in Emilia-Romagna by 2021.

In 2016, separate waste amounted to 1,215.8 tonnes (+3% compared with 2015).

As regards the individual areas, growth of separate waste collection continues in the Bologna (+6.1%), Forlì-Cesena (+5.0%), and Rimini (+2.5%) areas and were also positive in the in Ferrara (+1.6%) and Imola-Faenza (+1.6%) areas, while it remained in line with 2015 for the Modena area (+0.4%). There was a slight decrease in the Ravenna area due to a decrease of total urban waste. Separate waste collection has increased in the Trieste (+7.2%) and Padua (+6.8%) areas, as we extended the door-to-door collection service. Separate waste collection has increased (+3.8%) also in the areas served by Marche Multiservizi, due in part to adding door-to-door collection and to implementing joint collection of plastic and cans.

In terms of percentage of separate waste collection, Rimini (62.3%) and Modena (61.4%) exceeded a 60% share, with Ravenna close behind; the other areas all are in the 54-57% range. Bologna confirms its significant growth trend, increasing by almost 3%, slightly lower increases are reported for Forlì-Cesena and Ferrara. The upward trend in the percentage of separate collection continued in the Triveneto area (57.2% in Padua with an increase of over two percentage points over 2015 and 39.0% in Trieste with an increase of two percentage points over 2015). In the Marche Region, it increased by approximately five percentage points (57.6% in 2016).

Below is an outline of the collection trends of the various waste materials in 2016, in comparison with 2015:

- strong growth of inert materials (+12.1%)
- significant growth for green waste (+7.4%), plastic (+5.3%), bulky waste (+5.2%), and WEEE (+5.0%);
- decrease of green waste and pruning material (-4.8%).

#### Separate waste collection by waste type

Thousands of t	2014	2015	2016
Paper and cardboard	252.1	251.7	259.5
Green waste	237.8	252.4	240.3
Glass	94.3	92.3	95.1
Organic waste	182.5	183.7	197.3
Plastic containers	77.5	81.4	85.4
Mixed materials	64.7	64.8	65.8
Wood	86.5	86.7	90.7
Bulky waste	43.3	48.0	50.5
Inert materials	55.5	52.7	59.1
Iron	28.8	27.0	27.9
WEEE	16.1	16.1	16.9
Other	21.6	26.8	26.9
<b>Total</b>	<b>1,160.7</b>	<b>1,183.7</b>	<b>1,215.8</b>

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

Hera's separate waste collection levels are due to the high coverage of the services it provides and by assimilation regulations 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.

## Separate waste collection per capita (2015)

	Paper	Glass	Plastic	Wood	Metals	Organic and green waste
Hera Group	78	29	26	27	8	133
Northern Italy	62	37	26	19	6	120
Italy	52	29	19	12	4	100
Best region	84*	50**	35***	29*	12****	164*

\*Emilia Romagna. \*\*Valle d'Aosta. \*\*\*Piedmont, \*\*\*\* Trentino Alto Adige.

Source: Ispra)

## 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. It also included the bulkiest WEEE, such as refrigerators and large household appliances. Hera currently offers the following options for the collection of bulky waste and WEEE, so it can subsequently be recovered or disposed of:

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

In 2016, this type of waste amounted to 2.6 % of the total waste and to 4.4% of separate waste we collected

In 2016, excluding Marche Multiservizi, there were 104,105 requests for collection of bulky waste, up compared to the previous year both as an increase in the use of dedicated collection services and as in increase of reports for type of waste, largely linked to a better usability of the contact channels and a greater awareness to urban décor matters. On average, the bulky waste collection requests are processed in 8 days.

## 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 drop-off points. At the end of 2016 there were around 350 roadside bins located in 60 municipalities in the area served by the multiutility company, serving an overall customer base of over 1 million citizens. The use of these roadside bins made it possible to collect over 340 tonnes of cooking oil in 2016, in addition to the 420 tonnes collected at the drop-off points. As such, all in all Hera recovered around 760 metric tons of vegetable oil in 2016. This quantity of recovered oil will enable us to generate electricity for around 4,000 inhabitants or produce biodiesel to use as fuel in heating systems, or as a 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 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** 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 Ecolum.

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.

At the end of 2016, Hera purchased the 24 machines of the ECOLIGHT Consortium already located throughout the area served by Hera, in addition to the 4 to be added soon. Overall, in 2016, the 36 machines installed received about 38,000 disposals, and sent about 50 tonnes of WEEE and 600 kg of batteries to be properly processed. The constant increase of waste received by the mobile prototype is particularly relevant, at over 3,500 disposals per year.

## **Waste treated**

*Hera manages a plant system that is unique in Italy in terms of comprehensiveness and level of integration*

The Hera Group, through its Herambiente subsidiary, manages 85 treatment plants for recovery and disposal of urban and of hazardous and non-hazardous special waste. 10 waste-to-energy plants, 11 composting plants/digesters and 6 selection plants. Marche Multiservizi manages two landfills and one biostabilization plant. Herambiente also holds a 50% stake in Enomondo which operates a biomass plant. From 1 July 2015, the two waste-to-energy plants in Padua and Trieste were acquired by Herambiente, a company controlled by Hestambiente. This plant system represents a unique integrated and complete model in Italy that allows the Group to effectively and appropriately respond to EU and Italian legislation regarding the management of both urban and special and industrial waste, providing a range of services that is increasingly geared towards the customer.

In 2015 saw the Herambiente area of operation in terms of plants increased due to a series of major acquisitions: the acquisition of the business unit of Geonova Spa that includes two landfills, one in the province of Verona and one in the province of Treviso, that handle the disposal of special hazardous and non-hazardous waste. The business unit that was acquired also included a storage facility for hazardous and non-hazardous waste in the province of Treviso;



### New waste recovery facilities with the acquisition of Waste Recycling

At the end of 2015, Herambiente acquired 100% shareholding of Waste Recycling Spa and of the subsidiaries Neweco Srl and Rew Trasporti Srl.

Waste Recycling 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 further three waste treatment plants.

In 2016, it handled over 137,000 tonnes of special waste, of which 16,000 were liquid, 78,000 non-hazardous and 44,000 hazardous, with a 16% recycling and recovery rate. Waste Recycling's sustainability profile also includes ISO 9001, ISO 14001 and OHSAS 18001 certifications.

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. 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.

### Main waste treatment plant improvement measures

In 2016, the Sant'Agata Bolognese biomethane plant project went ahead, while its authorization process has been protracted, making the construction start-up slip to 2017. We were authorized to connect to the SNAM network for the biomethane produced and we have been assigned the supplies and the jobs related to the main components (digesters, upgrading system and all the civil works).

In addition to this important project, measures were carried out for further Euro 20 million in the field of energy recovery from landfill biogas and in that of thermal recovery from waste-to-energy processes to feed the district heating network. Also noteworthy is the creation of a new landfill in Ravenna for non-hazardous waste, of capacity of slightly under a million tonnes as reported in the following table.

It should also be noted that, again in the context of improving energy efficiency, we have started the project for reviewing the design of the boiler of the Pozzilli waste-to-energy plant for which executive design was done and pre-fabrication in workshop started in 2016.

Below is a summary of some of the main environmental measures which were either completed at the end of 2016 or are still in progress. These 7 measures are worth over Euro 50 million.

## Main waste treatment plant extension/improvement measures

Plant	Progress as at 31 December 2016	Type of measure	Environmental benefits expected/obtained
<b>S. Agata Bolognese (BO) composting plant</b>	Construction in progress	Addition of an anaerobic section to produce biomethane	Biomethane production from separate waste collection (approx. 7.5 million m <sup>3</sup> /year and 20,000 t of compost expected)
<b>Ferrara waste-to-energy plant</b>	Completed	Improvement of the plant's energy efficiency	Increase in the production of thermal energy for district heating
<b>Tre Monti - Imola landfill</b>	Completed	Development of a new biogas recovery system and improvement of the plant's efficiency	Increase of energy recovery of biogas
<b>Mechanical-biological treatment plant - Pesaro</b>	Planning stage	Construction of a new mechanical-biological treatment plant in	Reduction of urban waste in landfills
<b>Il Pago landfill - Firenzuola</b>	Completed	Development of a new biogas recovery system and improvement of the plant's efficiency	Increase of energy recovery of biogas
<b>Ravenna landfill</b>	Completed	Construction of new landfill sector (sector 9)	Disposal capacity expansion
<b>Pozzilli waste-to-energy plant</b>	Completed	Change to the design of the boiler	Increase of plant efficiency of reduction of maintenance downtime

In relation to the construction of the 2 glass treatment lines described in the previous sustainability report, note that the different current business conditions have changed our objectives. We have decided to go ahead with replacing the existing line of the Rimini plant (pending authorization), while two storage facilities will be built at the Bologna (already authorised, built and running) and Modena sites (design in progress).

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.

The main applications for Environmental Authorisations during 2016 concerned:

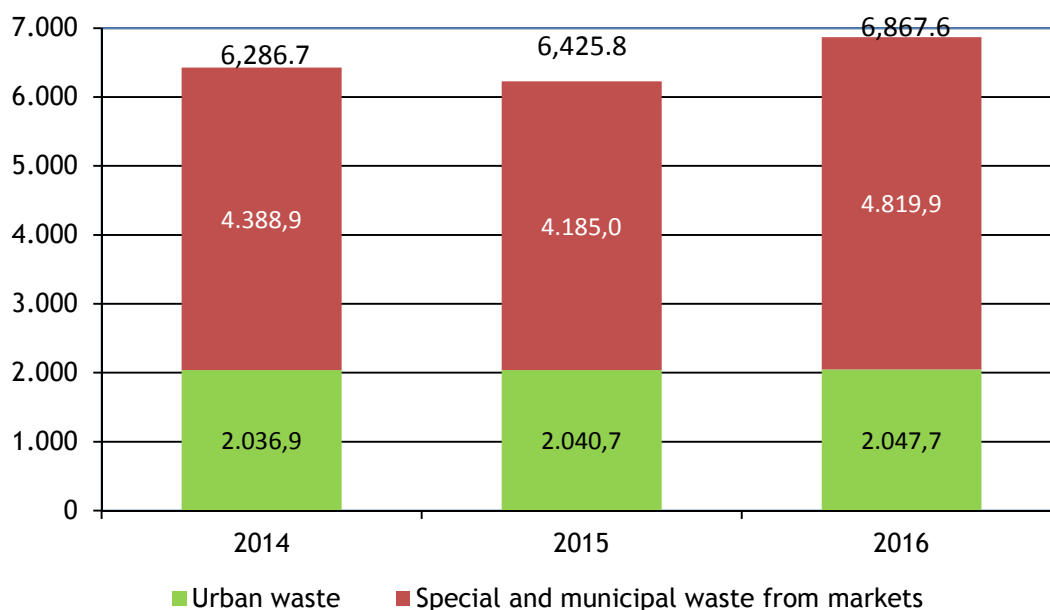
- The Tre Monti plant site, located in the Imola municipality, for which authorization was granted in December of last year to increase the height of the existing landfill to reach a capacity of 375,000 tonnes and to upgrade the mechanical-biological treatment plant (TMB) for non-separated municipal waste. This upgrade, which will be built during 2017, involves a number of measures aimed at optimizing the biostabilisation process and implementing an air treatment system. Consistently with the provisions of the Regional Waste Management Plan, approved on 3 May 2016, plant site engineering development has progressed and a new Environmental Impact Assessment has been requested for the construction of a new landfill lot (called lot 4) in the ravine contiguous to the existing landfill, with a usable volume sufficient for 1.125 million tonnes of waste. A review of this project, already planned in the previous EIA, became

necessary as a result of a mismatch with respect to the overall volumes required by the Regional Waste Management Plan (PRGR).

- The Sant'Agata Bolognese plant engineering site, where the Environmental Impact Assessment process is in progress to build an anaerobic digestion plant and to revamp the existing composting plant to maximize the recovery of materials (for the production of high-quality compost) and energy (biomethane) by treatment of the organic fraction of the separately collected waste. The project involves major investments to renovate/re-build the facilities existing plant facilities, primarily to reduce emission of the odours associated with these types of treatments (replacing the open leachate storage tubs with sets of tanks, enclosing the treatment and storage areas and suction and treatment of the exhaust air). Odour emission is, in fact, the main element of concern among the local community. The authorization application was filed in August 2015 and the process continued during 2016 by building the connection to SNAM's gas pipeline to feed out the biomethane, replacing the construction of a tank truck loading station to ship it out. This process and the subsequent start-up of the construction site are planned for 2017.
- The plant site of Firenzuola (Florence), where we are planning to enlarge the Il Pago landfill, consistently with the requirements of Tuscany's Regional Waste Management Plan. The project involves enlarging the existing landfill (called the fifth lot) by a capacity of 220,000 tonnes. The authorisation application (Environmental Impact Assessment), currently in progress, was filed in July 2016. It is planned to be completed in the first half of 2017.
- The Baricella (Bologna) plant site, where the landfill will be enlarged by adding a new landfill section, adjacent to the existing one, with a capacity of about 1,850,000 tonnes of non-hazardous special waste. The Environmental Impact Assessment procedure was initiated at the end of 2015 and is currently in progress. It is planned to be completed in the first half of 2017.

During 2016, no significant changes were made to the authorizations for Herambiente Group's waste-to-energy plants.

### Waste disposed of by type



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

thousands of t	2014	2015	2016
Separation plants	-	-	-
Selection plants	445.6	432.7	535.5
Waste-to-energy plants and biomass plants	1,402.4	1,390.3	1,336.3
Compost and stabilisation plants	478.3	455.3	388.2
Landfill	1,137.3	918.5	777.7
Stabilisation, and chemical and physical treatment	1,182.3	1,141.6	1,154.2
Third party plants/Other plants	1,779.9	1,887.2	2,675.8
<b>Total</b>	<b>6,425.8</b>	<b>6,225.7</b>	<b>6,867.6</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.

The decrease of waste treated in composting plants (down 14.7% compared to 2015 at 67,000 tonnes) is due to the decrease of the quantities treated in the Sant'Agata Bolognese plant, which is being transformed into a bio-methane production plant, in the Imola plant, which is also being worked on, and in the Ferrara plant.

The decrease of the waste treated in landfills (down 15.3%, at 140,000 tonnes) is due to smaller amounts disposed of in the Imola and Ravenna facilities, both affected by works.

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 lines according to the specific treatment required by the type collected 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 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 2016, Herambiente's selection and recovery plants handled 376,239 tonnes of waste, recovering over 78% of the total, while 2% of the waste is stored at the facilities, as of year-end of 2016.

The main types of waste treated are paper/cardboard, plastic, wood and mixed materials from municipal collection. 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 the selection of plastic and paper from municipal collection both in terms of flow (hourly quantity of treated waste) and in terms of the quality of the material obtained by the selection.

The total material recovery is over 71%, up about 5 percentage points compared to 2015. Energy recovery is intended A portion of the of non-reusable fractions, over 27% of the scrap produced is, in fact, sent to waste-to-energy plants, an amount that in terms of recovery of the facilities is over 7% of the quantity delivered to the plants.

#### Selection plants: percentage of waste sent for recovery of material and energy

%	2014	2015	2016
Bologna	72.0%	66.3%	71.4%
Coriano (RN)	75.5%	75.9%	81.1%
Ferrara	66.2%	75.5%	87.9%
Lugo (Ravenna)	64.2%	72.7%	79.3%
Modena	50.6%	58.1%	75.7%
Mordano (BO)	61.5%	67.5%	76.7%
<b>Total</b>	<b>64.5%</b>	<b>69.3%</b>	<b>78.6%</b>
<i>Of which recovery of materials</i>	60.1%	66.5%	71.3%
<i>Of which recovery of energy</i>	4.4%	2.8%	7.3%

#### Recovery plant qualification for the waste-to-energy plants of Bologna, Modena, Ferrara and Rimini

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 provided by Directive 2008/98/EC is, in fact, an index of performance. 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, pursuant to Italian Ministerial Decree of 7 August 2013, a “climatic factor” was added 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 production 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 authorisation that governs its activities (Integrated Environmental Authorisation) must be modified so that an incineration plant can be operated as a recovery plant. These changes to the authorisation are not substantial since they do not increase the plant's potential nor change to previously authorised emission levels.

**All recovery plants operated by the Herambiente Group operate as R1 recovery plants with the exception of the Ravenna special waste plant.**

The total installed capacity of the waste-to-energy plants managed by the Group (including that of Enomondo) is approximately 140 MWh (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 and the correction coefficient for the climatic factor was reduced from 1.38 to 1.25 with a new decision of the Ministry of Environment which transposed European Commission Directive 2015/127 (decree of 19 May 2016). The factor has therefore been implemented, so the coefficient has been reduced from 1.38 to 1.25. The plants of the Herambiente group continue to **maintain the R1 qualification they have acquired.**

This network of plants makes it possible to manage the flows of unseparated municipal waste beyond the so-called municipal-derived waste in the regional area, 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, in this way, pursuing the goals set by European and national regulations as regards the hierarchy of waste treatment.

For example, with regard to the unseparated municipal waste collected in the area of the Province of Rimini, if there were a shutdown at the Coriano (Rimini) plant or the quantities of waste produced exceeded its treatment capacity - as often occurs during peak tourism periods, for example - the waste would be sent to the closest available plants (e.g. Ravenna) for energy recovery and no longer disposed of at 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, with regard to the systemic benefits at national level, it is important to note that energy recovery of municipal waste, no longer subject to limitations in terms of its circulation in regional/provincial areas, also to enact article 35 of the "Sblocca Italia" regulation, enables Italy to comply with European legislation as regards the self-sufficiency of individual Member States. This principle has been repeatedly violated by Italy because of the mass transfer of waste to similar Northern European plants, a practice that has led to initiating many infringement proceedings against the country.

The waste export practice has also negatively impacted the balance of payments since the VAT was obviously paid in the countries receiving the waste rather than in Italy.

#### **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 authorisations 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 Authorisations (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 2016, on the basis of an agreement between the regions and in full respect of the above, approximately 12,000 tonnes of municipal waste from Apulia were disposed of in the Ferrara waste-to-energy plant. It should be noted that 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 regional catchment area only in respect of the planning being approved.

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

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

Indeed, in Italy, where over 160 million tonnes of waste are produced each year, **around 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 around 11 million tonnes of waste produced in total, **around 3 million are municipal waste**.



## Urban and special waste production by province (2014)

thousands of t	Municipal waste	Non-hazardous special waste	Hazardous special waste	Total special waste	Total waste
Modena	441	1,924	55	1,979	2,420
Bologna	563	1,144	168	1,312	1,875
Ferrara	238	651	45	696	934
Ravenna	300	1,154	152	1,305	1,605
Forli-Cesena	296	644	29	674	970
Rimini	263	286	74	360	623
<i>Total of provinces in Hera's relevant area</i>	2,121	5,803	524	6,326	8,447
Piacenza	187	350	110	459	646
Parma	238	719	35	754	992
Reggio Emilia	404	971	41	1,012	1,416
<b>Total Emilia-Romagna Region</b>	<b>2,930</b>	<b>7,843</b>	<b>709</b>	<b>8,552</b>	<b>11,482</b>

Source: Arpa processing of data from MUD, taken from RER Arpa - The management of waste in Emilia-Romagna - Report 2015-16.

Despite its predominance, special waste becomes 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 province in which it is generated** at a cost, for the general public, that is pre-set by the regulatory authorities. Conversely, special waste must be disposed of by 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 swelled the coffers of the so-called **environmental mafia**.

Legambiente's Ecomafia 2016 report shows a turnaround versus the previous years: in 2015, the verified environmental crimes have decreased (to 27,745), and crimes related to the waste cycle have also decreased. The majority of crimes recorded (over 48%) once again took place in the four regions with a traditional mafia presence, with Campania leading (4,277 violations) ahead of Sicily (4,001), Calabria (2,673) and Puglia (2,437).

### Waste classification

Under Italian law, waste is classified on the basis of the place it was generated (home or production environment) 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, 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.

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

Each municipality can apply its own criteria to define what waste can be considered similar-to-municipal, for waste coming from production, commercial and tertiary activities. 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-household 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

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 approximately 20 plants exclusively equipped for the disposal of special waste, with over 4 million tonnes handled in 2015 (including sub-products coming 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 (authorised 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 center (HerAmbiente Servizi Industriali), Ravenna - facility for special hazardous and non-hazardous waste (25,000 t/year of hazardous waste)
- Plants of Waste Recycling (S. Croce sull'Arno - Pisa) for storage, treatment, disposal and selection of hazardous and non-hazardous special waste, both solid and liquid (400,000 t/year)

There are disposal limits that are defined, plant by plant, by provincial authorisations or by integrated environmental authorisations.

### Waste produced by the company

In 2016, excluding AcegasApsAmga, the Group produced around 2.5 million tonnes of waste, of which 0,3 attributed to the new company Waste Recycling which became a member of the Group in 2016. The amount of waste produced by waste-to-energy plants (slag, particulate and solid waste from stabilisation) is increasing. Slag produced by landfills has increased and, scope being equal, also by selection plants and by chemical-physical-biological plants, due mainly to weather

### Main types of waste produced by Hera

thousands of t	2014	2015	2016
Sludge from water treatment, potable water treatment and distribution	114	116	110
Sand from treatment plants*	15	16	17
Ash from treatment sludge incineration	4	3	3
Other sludge produced in the field of the integrated water service	5	5	4
Other waste in the fields of the integrated water service and gas and electricity distribution	3	4	4
Waste-to-energy plant electrofilter particulates*	42	47	52
Waste-to-energy plant slag	197	230	259
Solid waste from stabilisation	65	44	51
Sludge produced by chemical-physical-biological plants	78	61	65
Sludge treatment water	625	616	781
Separated oils produced by chemical-physical-biological plants	1	1	1
Surnatant from chemical-physical-biological plants	109	106	95
Leachate from landfills	683	633	560
Scavenging water/sludge from waste-to-	42	48	40

thousands of t	2014	2015	2016
energy plant fumes*			
Non-reusable fractions from selection plants and to produce fuel from waste	287	284	360
Other waste from Herambiente storage and plants	28	38	101
<b>Total</b>	<b>2,299</b>	<b>2,252</b>	<b>2,504</b>

The data refer to Hera Spa, Herambiente, Hestambiente, FEA, and Marche Multiservizi.

\* Hazardous waste.

### 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 2016, the 9 waste-to-energy plants operated by the Group for the disposal of municipal waste produced 252,349 tonnes of slag, (down compared to 2015 due to the smaller amount of waste processed) equal to 19% of the waste treated at these plants. 83% of the slag produced was recovered while the remaining 17% 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, Isernia, Lecce, Pavia and Ravenna. All of the slag produced by the Hestambiente plants is recovered in third-party plants in the Provinces of Verona and Brescia.

The recovery of the slag is carried out in facilities of third parties, 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 sorting system to recover metal for reuse in the metallurgical industry: in 2016, 2,158 tonnes of metal were recovered.

### Biodiversity

As regards the protection and conservation of habitats and wild species, the EU issued two directives, Directive no. 409/79, adopted in April 1979, regarding the conservation of wild birds (the “Birds Directive”) and Council Directive no. 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.

Eight sites are located within or near protected areas (5 are landfills, 2 are drinking water treatment plants and 1 is a wastewater treatment plant) and cover a total of 260 hectares.

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”. Meanwhile, in the Province of Ravenna, the Marina di Ravenna treatment plant is located within the EU Conservation Area “Piallassa Piombone” and disposes of the wastewater treated within the “Piallassa Baiona” special protection area. To protect biodiversity,

Hera carries out acute toxicity test on the treatment plant: in the 2005-2016 period, these tests showed that the water disposed of had no toxicity.

Hera's waste disposal plants, which are being upgraded and newly built, are subject to the Environmental Impact Assessment procedure. For those located near protected areas (generally within 5 km distance), Herambiente performs an incidence assessment, which is a sort of evaluation of specific environmental impact for the peculiarities and natural abundance in the protected areas.

An incidence assessment was prepared in 2016 as part of the project to expand the "Il Pago" landfill for non-hazardous waste located near Firenzuola (Florence). This landfill is located very close to a Site of Regional Interest called "Conca di Firenzuola", which belongs to the Natura 2000 network of nature protection areas. The Assessment is designed to analyse the environmental impact of the Project's measures, assessed considering the effects on the natural components which contribute to the characterization of the protected site. A plan for the environmental renovation of the landfill is together with the authorization documentation. The plan aims to reduce the plant's environmental impact by implementing mitigation measures within the plant complex and throughout the surrounding area. In the specific case the project involves the insertion of rows with hedges shrubby maintenance, actions of grassing, insertion of strips of masking on the landfill body, improvement of bands existing woodlands and measures of reforestation. In order to protect species of Community interest in the area, it is essential to preserve the aquatic habitats, to recreate conditions potentially suitable to support the populations of amphibians and *Astropotamobius pallipes*. Specifically, the work will focus on natural rehabilitation of the discharge points into the river basin grating of the sub-liner collection pipes and of the connection ditch of with the *Diaterna torrent* and on increasing the wildlife suitability of the artificial pond inside the landfill site.

Among the compensation measures, we recommended the renaturalisation of at least one shore of the artificial pond located within the landfill area, to increase its suitability to amphibians during reproduction and increase of ecological continuity with the adjacent natural area, so as to facilitate access to species for reproduction. Furthermore, special attention will be given to the design and execution of works related to control of water flowing out of the landfill unit (rainwater runoff of interior from areas inside and outside the landfill site) discharged into the "receiving ditch", through a "natural" approach that will make it possible to combine efficiency and hydraulic safety aspects with those concerning the improvement of the habitat for the target species.

In 2016, we also prepared an incidence study for the definitive capping project and the environmental recovery of the landfill for non-hazardous waste located in the Civitella municipality (Forlì-Cesena). In fact, the plant is located only 200 m away from the Site of Community Interest "Fiordinano - Monte Velbe" which belongs to the Natura 2000 network of nature protection areas. The most important aspect taken into account in the renovation of the landfill is blending it in with the landscape of the surrounding environment. The primary objective immediately ensure that the area is environmental stable and improve the ecological conditions so as to make it blend in. The second objective is to make design choices that are consistent with the surrounding environment so as to "restore" a natural-like mantle of grass, trees and shrubs. The area where is the landfill located, once restored, with grass and plants will in turn into a significant ecological link, constituting a genuine structural and leading element of the ecological network.

## Relationship with the local community

### Communication

#### *Social and environmental communication*

In 2016 Hera Group's social and environmental communication was aimed largely at promoting good separate waste collection behaviour. The campaign to encourage separate collection of glass has involved all the citizens of the area served by Hera. To eliminate the reluctance linked to the conviction of having to prepare the material before putting it into separate waste bins, the creative idea of the advertising campaign **We want you as you are** focused its message on the fact that it is not necessary to thoroughly wash glass packaging before throwing it in the bin. The glass will be treated in any case and made suitable for recycling.

The campaign was designed to run on waste collection vehicles, on the radio, in the local press and on large billboards. The maximum concentration was in October and November, with two weeks in print and two flights lasting 15 days each on the radio.

Another important environmental communication campaign covered the abandonment of waste in streets, in particular of bulky waste, in the Bologna municipality. The information campaign **If you abandon waste you offend your city**, directed to those who make the effort of others less effective, shows a car parked where it should not be (on a pedestrian crossings) to bring to mind an offence and the resulting fine. Buses, posters, and multilingual brochures were used to get the message across to residents, students and traders. The campaign lasted 15 days on each media channel from March to April. The campaign against abandoning waste also ran in the Modena municipality, in September, mainly with via posters and flyers added to bills. Environmental communication activity was also carried out throughout the area served, to provide the local communities with the necessary information on changes to or reorganisations of the collection service, for touristic customers and providing guides for separate waste collection.

In 2016, the "Eliminate your bill" campaign continued. "Give a tree to your city", since 2012 has been encouraging to switch from paper-based to on-line billing. Hera had already achieved its goal of 100 thousand people switching to on-line billing 2014, about two years earlier than expected. Therefore, the project was relaunched in 2015 and 2016, to address customers who had not yet chosen electronic billing, pointing out the Hera's values: efficiency, innovation, affinity with the area and sustainability. In particular, in 2016, 50,000 more customers chose online billing, thus contributing to planting 1000 more trees for a total, since 2012, of 3000.

Lastly, the topic of corporate social responsibility, which is a priority for the Hera Group, was the subject of a corporate communication campaign. Its claim, **Being sustainable is genetic**, expresses Hera's values, its role of close relationship with the local area it serves and the people live in it and respect for the environment, communicating the topic of "sustainability". The campaign ran on national newspapers (in print and online) in September and October.

#### *Hera on the web*

Hera continues to be committed to providing effective digital reporting, in line with the transparency expectations of its stakeholders and respecting their own environmental vocation. Furthermore, the Group's website is also a constantly

updated service tool: the environment area of the customer section, increasingly detailed and up-to-date in providing information and news on separate collection methods, proves how useful it is by the increase in the number of its page views (+24% compared to 2015).

Considering the increasing number of website views from mobile devices (from 17% in 2013 to 42% in 2016), work is focused on developing a website with more multimedia: images, video and interactive sections are no longer just a complement to browsing, but have become a fundamental part of the online experience of the Group's website. With this in mind, in 2016 the world of Hera was told through a detailed video portfolio: from the presentation of the Group to interviews with employees, passing through the story of the company's commitment in the field of environmental sustainability. Great attention has been given to this latter aspect, producing a broad range of videos, including the reports of the associations participating in the "Cambia il finale" (Change the ending) project and the journey through the circular economy told by Barbara Guglienetti, a presenter and blogger, as she visited the Voltana composting plant and the Rimini treatment plant.

Some sections of the Group's website have been revised and improved both in terms of layout and of usability, providing a clearer and simpler organization of their content. The complete renovation of the Heracademy channel stands out among them, improving on and developing the existing material (restyling the graphic layout, the reorganizing the contents, enhancing the "initiatives" area). We have also set up a new website called "Energia Base" (Basic Energy) addressed to customers with a standard-offer contract.

#### Website access

No.	2014	2015	2016
Customers section	89,004	112,378	129,189
Section on Corporate Social Responsibility, sustainability reporting and CSR initiatives	7,820	9,329	10,443
Suppliers section	8,536	8,181	9,035
Investor Relations Section	2,886	3,002	2,541
Other sections	47,672	51,660	55,896
<b>Total average monthly visits</b>	<b>155,918</b>	<b>184,550</b>	<b>207,104</b>
<b>Total page views (monthly)</b>	<b>518,043</b>	<b>602,743</b>	<b>661,184</b>
<b>Total unique visitors (monthly)</b>	<b>101,318</b>	<b>116,776</b>	<b>130,014</b>

Excluding AcegasApsAmga and Marche Multiservizi

In 2016, the website of Marche Multiservizi had over 97,000 total accesses (8,122 on average every month), while its monthly average of page views was 23,525. In 2016, the monthly average of page views of the website of AcegasApsAmga was approximately 49,000.

To illustrate and draw attention to the most interesting projects, we dedicated a lot of space to multimedia stories - seven of them in 2016 - that, using videos, statistics, images, links and an underlying storytelling attempt to make the Group's new initiatives more accessible. Acquologo, Rifiutologo, sustainable services, energy efficiency and new reporting ("Value to Energy", "Tracking Waste", "In Good Waters", "1000 Faces of Service") are some of the topics outlined in detail.

Bearing witness to the Group's commitment to online communication is Hera's second place in the 2016 ranking of the Italian edition of **Webranking**, the Oscars of corporate websites awarded by Lundquist and Comprend, that every year analyses the websites of Italy's largest listed companies and their online communication strategies. Lundquist also reported the past performance of the best companies on the web in Italy, collating the Webranking results of from 2001 to today: a hall of fame of 15 years of rankings, in which Hera came in third.

#### *What is Hera's presence on the web?*

The 2016 data on online word of mouth was substantially stable compared to the previous year. Hera's presence on the web focuses on blogs, forums, social networks and YouTube, virtual meeting points where the Group listens to the needs of its users and monitors exchanges that are relevant to the company. An analysis of over 6,500 posts that mention Hera showed an increase of the Group's visibility on social networks (Facebook and Twitter) and on YouTube, and a decrease on blogs and forums.

In 2016, the most recurrent topics were again those related to waste collection and to the relations of the multi-utility company with municipalities and shareholders. Corporate matters achieved good positive visibility. Environmental topics were also viewed positively, for the Group's initiatives and projects, while critical expressions surfaced concerning topics related to landfills/waste-to-energy plants and temporary disruption of waste management in Ravenna.

Turning to social network presence, Hera's LinkedIn page increased its followers by 26% compared to 2015, passing 19,000 by providing new reports and explanations in 2016. The data also show that over half of the followers have high level roles in their company (senior offices, managers or executives). During the year, we published 46 news items, and the most clicked is on the founding of the Inrete company while the one that was most viewed was on the agreement with the trade unions for the solidarity initiative to help the areas affected by the earthquake.

#### **Environmental education**

For several 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 its business experience available. During the 2015-2016 school year, the "**La Grande Macchina del Mondo** (The Great Engine of the World)" project achieved excellent results again, that proves how that project, and Hera itself, have become consolidated reference points in the world of education. Teachers are increasingly interested in teaching material that Hera provides, and make it a significant portion of their educational programming. This occurs in all age groups, from kindergartens to higher education for which we provide the "**Un Pozzo di Scienza**" (Science well) initiative. Participation remains high in the contests wherein classes of all age groups could compete to earn gift vouchers for their schools to spend in educational material.



## Environmental education projects

No.	2014	2015	2016
Schools involved	992	1,181	1,833
Participating students	65,675	78,127	96,034
Teachers involved	5,087	6,098	7,942

In 2016, the total number of students participating in the initiatives rose sharply (+23% compared to 2015). The largest increase is in the areas served by AcegasApsAmga, where there are over 15,000 students (+48% compared to 2015). In Emilia-Romagna, the number of students involved increased by 23% compared to 2015, with over 80,000 students involved. In the areas served by Marche Multiservizi in 2016 there were 700 students involved.

Our constantly improving results are the result of further renewal of the didactic offer in line with digital education and classes 2.0 that has provided, inter alia, state-of-the-art computer equipment such as tablets, interactive multimedia whiteboards and virtual visits to the plants. In some cases, the demands from schools were much higher than Hera was capable of fulfilling. Nevertheless, by reviewing and updating our web channel, we have been able to offer teachers and families many educational tools to help them independently organize training projects and recreational activities.

All the educational initiatives took advantage of the collaboration of Cooperatives, Environmental Education Centres and Foundations which work on scientific culture and education and were sponsored by the Regional Education Authority.

**Marche Multiservizi** has continued its intense collaborative relation with schools to help new generations learn to respect the environment and use resources responsibly. Two main projects were implemented in 2016: "#IOTIFOPULITO - Score a basket with Marche Multiservizi", a multidisciplinary project that combines sport, education and environment and "Creative recycling workshops", an initiative jointly organised with the of Pesaro municipality, to educate children and parents on the recovery and reuse culture.

### 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)

%	2014	2015	2016
Favourable or highly favourable articles	85.9%	92.6%	90.3%
Neutral articles	10.3%	4.4%	5.8%
Critical or extremely critical articles	3.8%	3.0%	3.8%
<b>Total articles (No.)</b>	<b>438</b>	<b>273</b>	<b>388</b>

#### Hera-related news items (local press review)

%	2014	2015	2016
Favourable or highly favourable articles	67.0%	73.7%	73.6%
Neutral articles	22.1%	16.7%	14.2%
Critical or extremely critical articles	10.9%	9.6%	12.3%
<b>Total articles (No.)</b>	<b>6,797</b>	<b>7,534</b>	<b>6,825</b>

Thanks to the work done, in 2016 Hera's visibility in the press increased over the previous year: the number of articles that appeared in national publications rose to almost 400 (+42%), in over 7,200 articles published globally. The large number of articles shows that the Group is now firmly involved in the national and local dynamics, for specific or background issues and increasingly draws the attention of the trade press. From a qualitative standpoint, the positivity concerning Hera remains high: 90% on national publications and 74% on local publications. Among the topics that contributed to this positive feedback we mention: the business plan, the economic results, the acquisitions, the corporate policies for employee welfare, the sustainability reporting and related projects, the broad offer of educational activities for schools, the new waste collection services started in a number of areas, new features of the apps, and sponsorships also outside the area served.

In general, the trend of critical articles has been stable for years at a very low level, around 4% for the national press and at 12% for local press: a result that is particularly significant given the nature of the Group's activities and the sensitivity of public opinion. Some negativity in local media concerned some controversies involving the Group. These include the protests against the enlargement of the Imola landfill, the inconveniences arising from changing the contractor that handles environmental services in the province of Ravenna, the debate taking place in the in the Modena area on the possibility of a merger of Aimag and Hera. Other negative articles covered the fine inflicted by the Italian Antitrust Authority and Anac's preliminary investigation into waste management tenders as mentioned in the "Relations with regulatory and supervisory authorities" of this report and some reports of service problems concerning waste.

#### Sponsorships and donations

The environment and future generations are the main topics in the intense search for excellence examples carried out thanks to Hera Group's partnerships. In fact, caring for the area also means supporting excellence that is capable of stimulating social and cultural growth, to achieve an overall improvement in the quality of

people's lives. Embracing this message and through careful recognition of the most important elements in the cultural landscape, Hera Group continues to identify and reward significant partnerships that are capable of catching the interest of the territory and stimulating its growth, fostering positive relationships and promoting the proactive role of the Group in the areas it serves.

## Sponsorships

(thousands of Euro)	2014	2015	2016
Recreational activities	398	74	202
Culture	978	1,111	1,152
Sports	1,025	552	484
Social	104	378	44
Environmental	92	99	421
Other	42	144	209
<b>Total</b>	<b>2,639</b>	<b>2,358</b>	<b>2,513</b>
<i>of which to the areas served by Hera</i>	<i>2,623</i>	<i>2,289</i>	<i>2,354</i>
<i>of which in areas not served by Hera</i>	<i>16</i>	<i>69</i>	<i>159</i>

In 2016 Hera Spa contributed to organizing over 200 activities in various fields that have contributed to enrich the content and the initiatives of the local communities. 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.

**Art.** We supported exhibitions, shows and major projects during 2016. Among the most significant partnerships also in terms of attendance, there was the "**Piero della Francesca Indagine su un mito**" exhibition held at the Musei San Domenico of Forlì in the first half of the year and that attracted over 115,000 visitors from all of Italy. Another significant collaboration was with the Fondazione RavennAntica, that manages the archaeological sites of the area. For this collaboration, Hera contributed to enhance and make accessible to the public the great archaeological heritage represented by the Antico porto di Classe, founded by the Emperor Augustus in the 5th century.

Public and clients were also welcomed at over 10 exhibits held at the tenth edition of "**Bilbolbul**", the international comic strip festival of which Hera is the main founding partner. It is an important anniversary, also celebrated with a video that, through images and documents of the 10 editions, highlights the value of a successful partnership that attests that the festival is now among the most important in our country.

2016 was also another important anniversary: the **25th edition of 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. In particular Hera sponsored, the exhibition of Duane Michals and the 15th edition of the Marco Pesaresi award, dedicated to the famous photographer from Rimini, who died prematurely, that every year is awarded to the work of a young reporter. The multi-utility company has also promoted the participation of its customers, who have been offered a discount on the ticket. 2016 celebrated the birth of a new important collaboration, with the renowned International Museum of Ceramics of Faenza. Thanks to the cooperation with Hera, the Museum opened its doors and developed

activities for all ages aimed at promoting awareness of this rich historical and artistic heritage in our area.

Noteworthy is the sixth edition of the “**Bologna - A Civilised and Beautiful City**”, the initiative committed to recognizing and rewarding projects that are activated to preserve the common heritage of Bologna and its province. In the 2016 edition, the jury assigned the awards to social-related projects, aimed at integration and multiculturalism, the safety of women and the rediscovery of the area. Access to culture and support for the area are evident concepts also thanks to the Group's commitment to SalaBorsa, the library in Bologna which thanks to Hera's support can now extend its opening hours in the winter, and also stay open to all on Sundays.

**Theatre.** Interest in the International Festival Internazionale del Teatro in Piazza (International Festival of Outdoor Theatre) held every July in Santarcangelo di Romagna has been re-kindled. Boosted by Hera's support, the Festival has been able to gain a leading role, at international level, ranking among the most significant experiences of experimental theatre. All of this has recently led to a prestigious award: the Santarcangelo Festival was the only organization in Italy and one of the top 12 in Europe, to win the EFFE Awards, an award promoted by the European Commission and by the EFA (European Festivals Association) and assigned to the best among over 1,000 European festivals of every kind and artistic type. Among the theatrical seasons, special mention goes to the collaboration with the Teatro Comunale di Bologna, another excellence of the area that in 2016 obtained maximum recognition. Indeed, the Teatro Comunale won 3 Abbiati awards, the Oscar of music review, which went - among others - to the director of Guy Josten for “Elektra”, a work that the Hera Group had supported in the previous season. On the heels of the prestigious recognition that confirms the validity of the choices made, in the 2016 season the Group exclusively promoted two other very famous titles: The Marriage of Figaro and Rigoletto. Collaboration with the Teatro Comunale has helped it further amplify the concept of usability, and provided the opportunity for many customers to attend the rehearsals of the two works.

Hera has also helped the most important events of Romagna's art season by supporting reviews which, in the city as in its province, can thus schedule high quality shows and artists. For instance, it is worth mentioning the partnership with the Teatro Rossini in Lugo, with the Rete dei Teatri della Valmarecchia in the Rimini area, with the season of the Teatro Mentore di Santa Sofia in the upper Cesena area, while in Emilia Hera supported the season of theatres of the Fondazione ERT (the Storchi and Passioni theatres in Modena and the Fabbri theatre in Vignola) and the Teatro Comunale of Ferrara. The commitment in the Ferrara area has also brought us to again be the sole sponsor for Festebà, the theatre festival for young people in Ferrara that in 2016 reached its tenth edition. The event stages the best performances for the very young and the highlight is EstateBambini, a great party which ends the Summer for families in the Ferrara area. In the Modena area, among the leading and high-profile initiatives also at national level, there was the Group's presence at Festivalfilosofia, in particular to support two important events: the lecture by Michela Marzano in Piazza Grande and the “The best albums of our life” exhibition, a digression on sports champions seen through legendary trading cards at the Mata events space.

**Music.** Every year Hera identifies the concert seasons of great excellence, of interest to a broad range of audiences. Among these, the Bologna Festival with the "I grandi interpreti (The great performers)" exhibition, the Musica Insieme foundation and the Ravenna Festival, the prestigious exhibition that in 2016 also due to Herambiente's strong support, staged its 27th edition. Herambiente considered it important to support the Ravenna Festival and be part of the success of one of the most prestigious and acclaimed festivals of performing arts at a European level: from symphonic to chamber music, from opera to theatre, from dance to ethnic music for a varied and diverse audience. At the 27th edition, the Hera Group promoted and supported the "Cellolandia" project": a massive and peaceful invasion of one hundred cellists coming from all over Europe that stormed Ravenna. The Cellolandia project, designed and organized by Giovanni Sollima and Enrico Melozzi, animated the city for an entire week until late night with concerts and performances in every corner of the city, both by young musicians and by some of the most famous cellists on the international scene. The Group has shown renewed interest also for the Bologna Jazz Festival, which celebrated its eleventh edition with a full calendar of very popular concerts with the best musicians in the world of jazz. In addition to a constant presence throughout the event, the Group sponsored a masterclass with Barry Harris, a jazz legend, that attracted musicians all over Europe. These events are joined by the Porretta Soul Festival and Crossroads, with a good 50 jazz concerts that in just three months have reached around 20 cities in the area served by Hera. Our partnership was also confirmed also with the Ferrara Buskers Festival, an international festival of street musicians; with the Verucchio Music Festival that for its 32nd edition confirmed the participation of maestro Ludovico Einaudi and celebrates the event with first-rate musicians on the international scene, and with Acieloaperto one of the leading summer events in the world of live music. The fourth edition drew 10,000 people to 6 events located in Rocca Malatestiana, the new Teatro Verdi of Cesena and Villa Torlonia at San Mauro Pascoli.

**Cinema.** Among the successful partnerships, Hera confirms its support for the promotion of film culture, which involves and excites audiences. Among the most prestigious partnerships, we consolidated our support for the Bologna Cineteca, that by producing the "Il cinema ritrovato" (Cinema rediscovered) and "Cinema sotto le stelle" (Cinema under the stars) reviews, not only offered great masterpieces, but also gave thousands of people free access every evening to the projections in Piazza Maggiore during the summer. We also renewed our successful partnership with Biografilm Festival, which in the 2016 edition introduced the Biografilm Hera Theatre, where numerous screenings were held during the famous festival. Interest for theatre and cinema is confirmed also by means of its support for initiatives that take place in other areas, such as Cesena with "Piazze di cinema", and in 10 municipalities near Imola, with "Rassegne itineranti".

**Sports and Social activities.** In the field of sports, Hera confirmed its collaboration with the third 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. Sports as wellbeing and a driver for solidarity are messages launched years ago also by other events, such as 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. The initiative, which was met with great success, was an opportunity to bear

witness to the Group's presence also through the participation of a Hera team, that joined the other 20,000 participants in a march of solidarity and awareness. We renewed our collaboration with the Diabetes Marathon, to support the activities of the diabetic's association of Forlì and the Laboratori del benessere, group paths aimed on providing information on healthy lifestyles. Collaboration with GS Emilia continued in 2016 for a great classic Italian cycling race: the "Coppi-Bartali". In the Imola area, Hera supported the efforts of the under 15 and under 19 teams of the Andrea Costa Imola Basketball association, taking the athletes of the first team to schools in the area via the "Basket nelle scuole" (Basketball in schools) project, aimed at teaching good water consumption habits among new generations. Youth teams are also central to the Group's renewed commitment for one of the most promising teams of the local rugby scene: Rugby Bologna 1928.

**Waste Management.** The partnerships set up throughout the area served were further enhanced by attentive provision of the services. In these initiatives, Hera's commitment also included environmental sustainability through separate waste collection projects, which are useful to convey concepts of sustainability and environmental awareness, even when "partying". 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, the Company has provided distribution of mains water by installing mobile Urban Sources.

#### Donations

(thousands of Euro)	2014	2015	2016
Recreational activities	23	20	4
Culture	20	100	100
Sports	10	9	7
Social	52	100	147
Environmental	5	58	5
Other	20	23	-
<b>Total</b>	<b>131</b>	<b>310</b>	<b>272</b>
<i>of which to the areas served by Hera</i>	<i>120</i>	<i>299</i>	<i>259</i>
<i>of which in areas not served by Hera</i>	<i>11</i>	<i>11</i>	<i>14</i>

Donations represent a further opportunity for supporting the area, by means of which Hera actively supports the weakest social categories.

A sensibility that is shared by our employees, that thanks to the HeraSolidale initiative launched in 2014 support eleven associations (one for each area) by monthly donations debited directly to their paychecks. Again in 2016, Hera contributed to the initiative by doubling the overall amount donated by workers in 2015.

Once again in 2016, the multi-utility also renewed its membership in organizations and associations involved in both the prevention of diseases (via scientific research) and assistance for sick people.

An example among many is our support for the AIL association which provides scholarships to young researchers to cure myelomas, and to the ASPHI Onlus Foundation, which in Bologna furthers the integration of the disabled in schools,

work and society via new technologies, along with other entities in Emilia-Romagna which continue to create effective and virtuous 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 (which today are more than 70) brings together the forces of the area to improve the quality of life of weaker categories by means of the support of non-profit organizations which operate in sectors such as healthcare, disabilities, care for the elderly, training for youngsters. This activity was given visibility also by means of the support provided to the La Macina association, an 1800's farmhouse located just outside of Ravenna. The location has become an important meeting and support point for mothers in difficulty, who meet there daily with disabled children or because they can't reconcile family needs with their work. By sharing their space and time, they find a valuable aid both for practical activities (such as lunch or support for homework) and for preparation of events or training courses.

The multi-utility company directed part of its charitable donations to the culture sector, as well. For example, the Associazione Muse, involved in promoting teaching activities, and the Museo Casa Natale Enzo Ferrari in Modena, which houses an important part of the sporting and technological heritage of "Made in Italy".

Company policy, unchanged for 2016, and in compliance with its own Code of Ethics, does not allow contributions of any kind to any party or politician.

#### **Associations of which Hera is a member**

The Hera Group is present at the highest levels of the organizations which represent the system of local public services, in particular in Utilitalia, created in June 2015 to unite and strengthen representation in the energy, water and waste sectors. 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.

#### **More dialogue and feedback with HeraLAB**

LAB is the acronym of Local Advisory Board. Our LABs are the means that Hera provides to the areas in which it operates as structured channels for listening to, and discussing with local communities. The participants of the HeraLABs get together 4 to 6 times a year to discuss the local needs and propose initiatives aimed at enhancing the sustainability of the services offered by the company. 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. Sixty-nine stakeholder representatives participate in the 6 active

Labs. In 2016, 15 ordinary meetings were held, besides 3 in-depth discussion meetings. Also, as part of the "Suppliers: setting up a focus group on tenders and contracts" initiative by the Ravenna HeraLAB, 4 meetings of the "Suppliers roundtable" were held. The progress of the work of the LABs is available on a dedicated website: [www.heralab.gruppohera.it](http://www.heralab.gruppohera.it)

In 2016, 12 initiatives were launched, while 14 have been completed:

- **LITTERING, a concrete commitment to a clean city.** With the goal of raising awareness among the population of Ravenna on the topic of waste abandonment, under this initiative the pupils of the Montanari Middle School drafted a journal against littering (HeraLAB Ravenna).
- **District heating: *the Customer at the centre*** Check to identify any in energy efficiency differences in district heated structures. For about a year were compared different types of buildings, monitoring them by installing 5 secondary meters, located in different positions with respect to the primary devices (HeraLAB Imola-Faenza).
- **With everybody's help.** A proposal of the LAB's members to ATERSIR to promote the increase of the social fund on water service for families of Rimini. ATERSIR ordered an increase of the fund versus the previous provisions, aligning the amount in terms of Euro/resident for users in need to that of the other ATOs (HeraLAB Rimini).
- **SeperiAMO (We love to separate): a competition for ideas.** Raising the awareness of students of secondary schools on the importance of quality separate waste collection, especially for organic waste, by preparing a video clip. The best works, judged by a commission, will be awarded with a gift certificate donated by Hera (HeraLAB Rimini).
- **Spreading the word on the Wasteologist.** To advertise the "Rifiutologo" app and also to increase the percentage of separate waste collection, 12 Municipal Administrations of the Rimini area put a banner of the app on the home page of their websites; at the same time Hera put stickers on the non-separated waste bins to encourage users to download the (HeraLAB Rimini).
- **Getting to know the Seawater Protection Plan.** An information initiative on the Seawater Protection Plan to update the inhabitants of Rimini on the progress of the initiative, at meetings held by the company and by the municipal administration (HeraLAB Rimini).
- **Discovering district heating.** Students of the "Istituto Tecnico Commerciale Bechelet" of Ferrara were engaged to present and explain the economic, social and environmental aspects of district heating. Starting from the group work done by the students, a video was shot on the operation and on the benefits of this kind of heating system (HeraLAB Ferrara).
- **Angel.** After switching to quantity-based charging in the Pontelagoscuro hamlet of Ferrara, this initiative was designed to have volunteers act as environmental tutors to supervise, inform and raise public awareness on the proper management of municipal waste, with particular attention to separate waste collection (HeraLAB Ferrara).
- **We promote the Riciclandino.** Extension of the project to kindergartens, primary and secondary schools of Ferrara. Riciclandino promotes separate waste collection at waste collection centres through an incentive scheme: students receive a membership card with the bar code of their



participating school and for each drop-off they receive a discount on their TARI bill and an equal incentive for the school (HeraLAB of Ferrara).

- **Call for ideas and RiReRi start up and The company step by step** are the proposals that the Hera Innovation Day responded to, as the event in which 13 start-ups of the area, jointly selected with Aster, Innovami and SIPRO made their projects known and were assessed by Hera in order to identify opportunities for collaboration (Ferrara and Bologna HeraLABs).
- **In step with the times.** This study illustrates the new regulations on individual heat metering in apartment buildings, provides suggestions to reduce consumption and lists the services supplied Hera Servizi Energia provides in the field (HeraLAB Bologna). This study illustrates the new regulations on individual heat metering in apartment buildings, provides suggestions to reduce consumption and lists the services supplied Hera Servizi Energia provides in the field (HeraLAB Bologna).
- **Bologna Green Welcome.** Two multilingual information brochures were prepared to describe the specific methods to use for separate waste collection in each district and to show how to properly separate waste and dispose of household waste in the city of Bologna. The booklets will be delivered to new residents by the registry offices (HeraLAB Bologna).
- **FarmacoAmico.** Extension of the project to the of the municipalities of the Reno, Lavino and Samoggia valleys. FarmacoAmico is Hera's project to recover pharmaceuticals that are no longer used by private citizens, by involving pharmacies and creating a solidarity network in the area that involves municipalities, citizens, Hera and the beneficiary organizations (HeraLAB Bologna).

Below are some examples of the most recent initiatives approved in 2016:

- **More drinking fountains (and less waste) in the city.** Define an agreement to propose to the Bologna municipality which requires the installation of modern drinking fountains that dispense public water (similar to those used in Paris) in areas with high pedestrian traffic and high visibility (HeraLAB Bologna).
- **Working together for urban décor.** Definition of a standardized method to handle requests for support, or supply of materials, to Hera from volunteer associations of the area or from groups of citizens who work to take care of public assets. (HeraLAB Bologna).
- **Encouraging the proper use of waste collection centres.** Implementation of promotional initiatives for use of waste collection centres within the ceramic district (8 municipalities of the province). Proposal to the municipalities to offer a new, consistent discount system. Addition of TARI discounts for disposals at waste collection centres in *The Rifiutologo* app (HeraLAB Modena).
- **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 which donate their surpluses. Creation of a network of donors and recipients: pilot project at *Mercato Albinelli* (HeraLAB Modena).
- **Energy mapping.** Design of a campaign in which the schools of the Modena municipality compete to promote behaviours that generate energy saving in school buildings. Proposal to map the energy efficiency of the buildings

of the participating schools, as a way to assess the results of the competition (HeraLAB Modena).

### Pending legal proceedings

In addition to the lawsuits involving customers, suppliers and public administration which are discussed in the corresponding sections of this report, at the end of 2016 there were an additional 802 litigations were pending mainly concerning - for 588 cases - disconnections of gas supplies to late-paying final customers that, having signed contracts with salespeople for the redelivery points on the distribution network managed by Inrete, were subject to administrative termination as governed by the Consolidated Law on Gas Delinquencies and by additional AEEGSI legislation. Of these, 466 were completed in the year 2015.

Including AcegasApsAmga and Marche Multiservizi the number of disputes with the exception of those activated with customers and suppliers, are pending 959 disputes during the year of which 711 concluded.

With regard to the explosion caused by a gas leak from an underground third series pipe laid in the roadway, which occurred on 23 December 2006, in **San Benedetto del Querceto**, a village in the Apennines near Bologna, which resulted in a building collapse and the death of five people, on 14 February 2013 the Bologna Court issued the sentence for the four employees (three of which no longer a Group employee in 2013). During 2013, those sentenced challenged said sentence before the Bologna Court of Appeal. At the hearing before the Court of Appeal of Bologna of 14 July 2015, granting the respondent's request, the Court ordered a new expert's report on the time the explosion occurred and the details thereof. On 26 April 2016 the Court of Appeal acquitted all of Hera's employees and former employees involved "for not having committed the crime". This acquittal has become final.

With reference to the storm rain 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 Casa Circondariale di Rimini and the 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 have been served a notice of a preliminary hearing scheduled for April 2017 in which they are accused of disaster and manslaughter.

By means of petition brought before the Emilia-Romagna Regional Administrative Court against ATO-BO, Atersir and vis-à-vis 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 legitimation 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. At the date of publication of this report, the date of the trial hearing is yet to be scheduled.

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, private citizens, environmentalist associations and public Bodies. Furthermore, summons for the civil liability of Hera Spa and Herambiente Spa has been served. On 22 October 2012, Hera Spa and Herambiente Spa were excluded from the proceedings and consequently from 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 Appeal is scheduled for May 2017.

With regard to waste-to-energy plants, the following litigation proceedings brought by associations, citizens and/or other parties/bodies are reported.

By means of an appeal lodged in 2008, brought by the WWF together with other environmental associations before the Emilia-Romagna Regional Administrative Court, the Administrative court was requested to uphold the request for the complete cancellation of the IEA issued by the **Ferrara Provincial Authority** to Hera Spa in 2007 and then replaced by the IEA of 2008. The appeal was rejected by the Regional Administrative Court by ruling 21/2010. Subsequently, in 2010, the WWF challenged the first degree ruling before the Council of State and Hera Spa duly appeared in the appeal trial. By court order, the Regional Administrative Court of the Emilia-Romagna Region declared the appeal expired.

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 n. 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.tHerma. 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 S.r.l. 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 which has scheduling the hearing thereon in October 2017.

## **Public Administration**

*Hera guarantees the highest levels of integrity and honesty in its relationships with 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.

The new Directorate retains 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.

As a result, each mayor has 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 makes 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 2016, the Area Managers carried out over 1,850 meetings with the municipal administrations and handled over 3,500 requests of many kinds. In numerical terms, reports focused mainly on the problems with the integrated water service (40%), and with waste management services (24%). Less common are

issues concerning technical matters with clients (12%), and general business topics (12%).

During 2016, a more proactive approach was taken in respect of mayors, to increase of their level of knowledge of the services offered by the Group, of the quality thereof and the enhancement of the most significant investment projects that impact the area. Note, also, the close collaboration with the Directorate of Corporate Social Responsibility concerning the promotion and coordination of the HeraLABs, organizations that are well received and in the forefront in the area.

#### **Relations with regulatory and supervisory authorities**

During 2016, we received 14 warnings, 9 less than in 2015. These warnings mainly concern 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. Only in one case the decision was challenged before the competent authorities. At Group level there were 16 warnings in 2016.

In 2016, **129 administrative sanctions** were inflicted, 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 two cases the disciplinary measures were challenged before the competent authorities. Including AcegasApsAmga and Marche Multiservizi 148 administrative sanctions were inflicted in 2016. Overall, the amount of this type of fines came to around Euro 972 thousand.

With regard to the fine inflicted by the Italian Antitrust Authority to Hera and 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 aforementioned 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 on 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 affected advanced 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 has taken steps to challenge the sanction measure at the Regional Administrative Court of Lazio.

In the same year AcegasApsAmga was sent 1 warning which concerns breaches of the requirements laid down by Legislative Decree 152/2006, the Consolidated Environmental Law, for exceeding the legal parameters or those laid down in the authorizations to operate treatment plants. AcegasApsAmga complied with the warning, as required by the authorities and presented written defence briefs. The case is in progress.

On 15 November 2016, the Anti-corruption Authority notified to Hera Spa and to Herambiente Spa a notice on the findings of inspection activities carried out pursuant to art. 6(9)(a) and (h) of Legislative Decree No. 163/2006, at the company's premises "to acquire factual elements on the contractual activity carried out in the last three years within the framework of management of the integrated waste service and the assessment of recourse to extensions and renewals". On 13 December 2016 Hera Spa and Herambiente Spa submitted their rebuttals to the comments received.

#### ***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, to replace the previous provincial Water and Waste Regulatory Authorities with a region-wide body. 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 service.

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) of regulatory and supervisory functions which occurred at the end of 2011, with Legislative Decree 201/11.

In addition, for both services, ATERSIR must approve the frameworks of Services Charters and identify the catchment area awarded in respect regional and national regulations.

#### ***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 and the Italian Antitrust Authority.

Relations with the former are specifically structured with regard to the obligations to consult with regulated operators, prescribed by the law that instituted it.

With reference to the preliminary investigation that was closed (VIS 39/2011) due to failure to comply with the obligations to replace the cast iron pipelines with hemp and lead joints, after completing, in 2014, 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).

In addition, work is continuing on the implementation of the commitments undertaken under the procedure which ended with resolution 557/2014/S/eel, concerning the alleged violation of the obligations required by the Consolidated Law on Active Connections. In particular, after concluding the effort consisting in updating the dedicated computer system, work is in progress to review all (about 3,300) 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 payment of automatic compensation. This work will end by year-end of 2017.

With regard to the procedure regarding unrequested electricity or gas contracts and publication of a list of the so-called “unrequested sellers”, launched further to the publication of resolutions 153/2012/R/com and 244/2013/R/com, no final report has yet been published.

During 2016, AEEGSI inspected the Group pursuant to resolution 96/2016/E/gas concerning telephone controls and audits in relation to the gas distribution companies concerning emergency services. Neither inspection to date has had any consequence.

In 2016 the AEEGSI did not raise any fines against Hera.

#### *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 June 22, 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.

Also in relation to the regulatory reform implemented by AEEGSI under said decision 296/2015/R/com that ratifies the new Consolidated Functional Unbundling Law, and to ensure compliance with applicable legislation, on 22 June 2016 Hera Spa's Board of Directors approved to transfer, applicable from 1 July 2016, the company's gas and electricity distribution branch serving Emilia-Romagna to Inrete Distribuzione Energia Spa, of which Hera Spa owns 100%.

In compliance with the regulations, Inrete Distribuzione Energia Spa set up the Independent Operator for natural gas and electricity distribution activities. This party is tasked with the practical implementation of the functional separation of the activities, to be carried out and ensured by setting up and keeping up to date a Fulfilment Programme, containing the measures for maintaining compliance. Pursuant to the current legislation, Inrete Distribuzione Energia Spa has also appointed a Compliance Officer.

In accordance with the content of the Compliance Program, and in line with the past, during 2016 steps were taken:

- to complete the implementation of the “Unbundling project concerning IT systems” to adapt the management processes and separate the databases that contain commercially sensitive information;
- to the separation of the brand and of the communication policies between sales and distribution;
- to define and start operate a refresher training programme for our staff, to provide an update on the regulatory framework in force and a knowledge of the main organizational and management aspects related to the operation of the new distribution company, Inrete Spa

### Litigation

A number of litigation proceedings were brought against the Public Administration Authorities.

By means of an appeal presented to 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 IEA procedures would not apply), the Ferrara Provincial Authority, under resolution 251 dated 20 September 2011, ruled that the project be subject to IEA. At the date of drafting of this report, the date of the trial hearing is yet to be scheduled.

By means of appeal to the Emilia-Romagna Regional Administrative Court, filed in 2014, Herambiente Spa challenged **Rimini Provincial Authority's** provision 1168 dated 4 December 2013 concerning the portion on prescriptions which define the territorial origin of the non-separated municipal waste which can be conferred to the incinerator located in Coriano. According to this provision, which Herambiente deems illegitimate with regard to various aspects, only waste originating exclusively from the area of the Rimini Province could be treated at the plant. The date of the pertinent hearing is yet to be scheduled. With a measure taken during 2016, the ARPAE amended the IEA in a way favourable to Herambiente. Therefore, there being less interest in the cancellation of the contested measure, the case will be abandoned.

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 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 recognize.

At the date of drafting of this report, the date of the trial hearing is yet to be scheduled.

By means of an appeal brought in 2015 before the Regional Administrative Court of Molise against the **Molise Region** and **ARPA Molise**, Herambiente sought cancellation of Regional Council Molise's resolution 231 dated 19 May 2015, deemed to severely affect the Herambiente's legal position, which had requested authorization for some non-substantive changes to the Pozzilli waste-to-energy plant. Conversely, the Regional Council adopted the contested resolution requiring the re-evaluation of the process so that the Environmental Protection Service may carry out a thorough analysis investigation, in view of the Integrated Environmental Authorisation (IEA) procedure. Herambiente believes that the measure taken by the Regional Council is unlawful because the variants required are not substantial, as advocated by the Administration, so it asked the administrative to cancel the contested measure.

By means of an appeal, and addition of further grounds, filed in 2015 before the Regional Administrative Court of the Molise region against **Molise Region**, **ARPA Molise**, the **Province of Isernia**, the **Pozzilli municipality** and other bodies, Herambiente Spa sought cancellation of the Integrated Environmental Authorisation concerning the Pozzilli waste-to energy plant. In particular, the request to cancel the IEA is limited to those parts where:

- it sets a decrease of emission thresholds versus the authorization previously in force and versus the values set by the technical standards in relation to best available technologies;
- sets the maximum quantity of waste that may be conferred to the plant in tonnes/year instead of in terms of thermal load saturation;
- does not merge the waste admitted to treatment in the system with those under the CER Code 19.12.12;
- does not allow the installation of a shredder for waste fuel.

The Regional Administrative Court of Molise has joined the appeals and the additional reasons and scheduled the hearing for 10 May 2017.

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 June 10, 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.

## Case Studies for the Environment and Future Generations

### Energy efficiency

#### **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 from the anaerobic biodegrading of the organic fraction of separated waste, done at the composting plant in Sant'Agata Bolognese. 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 separate 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 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 thousand tonnes per year of organic waste and 35 thousand tonnes of green waste from separate 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 start-up of the job-site has slipped to 2017 due to slippage of the authorization process.

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

Hera started targeted research to analyse the technologies to produce advanced biofuels obtained by processing grass cuttings 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.

### **Since 2017 Hera uses 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, all of our business in Emilia-Romagna will be 100% supplied by "clean" electricity.

And starting in 2017, only energy from renewable sources will be used for activities managed by Hera Spa in Emilia-Romagna. A first step toward the "carbon footprint zero" that 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 set of activities that Hera Spa manages in Emilia-Romagna (waste management, energy and water) determines an annual consumption of about 325 GWh, equivalent to that of 120,000 families or 60,000 diesel fuelled cars, about 90% related to the water cycle business. This consumption determines the emission of 144,000 tonnes of CO<sub>2</sub>.

### **The new cogeneration plant in the Barca district in Bologna**

The operation consists in a renewal of the current Cogen cogeneration plant, serving the district heating network Cogen-Barca in the area west of Bologna.

The work on the plant requires the replacement and upgrade of the existing combined cycle unit with two Centrax gas turbines that generate 3.912 MWe and 7.44 MWt each, the enhancement of the thermal integration power plant by reusing the existing three 2.3 MW boilers, installing an additional 4 MW boiler and adding a fifth boiler to provide an additional 4 MW.

The project involves the demolition of prefabricated reinforced concrete portion of the existing building that will be rebuilt to comply with the current seismic regulations and enlarge it as required by the size of the new plant. The building will be reused after having demolished the top floor in order to integrate it more closely with the intended use of the neighbouring residential area.

The progress of procurement of goods and services required for the completion of the work is essentially in line with the timing of the project. At the end of November 2016 the plant started up, and started to thermal energy and electricity, in a provisional mode. The plan calls for the completion of the work and becoming fully operational in the spring of 2017.

### **A green energy house for the university campus of Forlì**

The "Green energy house", the trigeneration facility (electricity, district heating and district cooling) for the university campus of Forlì and local users, was inaugurated on 23 November. To reduce its visual impact and facilitate its seamless integration in the environment, it was conceived as a green building with a characteristic roof formed from staves of recycled wood. The project sought to prioritise environmental sustainability and was implemented with the focus on

containing energy consumption, reducing primary fuel consumption and reducing atmospheric emissions.

## Production and distribution of water

### Innovative projects in the integrated water service

The Thermal Hydrolysis project is aimed at identifying new technologies to reduce of the amount of biological sludge to be disposed of at the end of the treatment process of urban waste-water, maximising the biogas that can be produced. The technologies currently identified are based on the steam explosion process (thermal treatment with high pressure steam, that makes the material readily degradable by bacteria that produces the biogas and simultaneously allows the release of intracellular water making the dehydration more efficient. The treatment may be carried out, depending on the characteristics of the treatment plants, before or after the sludge digestion step. In both cases there are two benefits: the increase in the production of biogas and the decrease of the sludge to be sent to final disposal plants.

The recovery of biogas from the anaerobic digestion process increases the efficiency of the sludge treatment line in municipal waste-water treatment plants. The goal is to maximize the production of biogas in order to generate electricity and produce heat by cogeneration and reduce the amount of sludge for disposal. In this respect, we plan to install a dynamic densifier that will make it possible to obtain a drier mud (compared to the present situation) to send to the digestion step, thus reducing the volumes to be treated. This aspect will save heat during digestion, lengthen digestion times increasing the production of biogas and decrease the production of sludge to be sent for disposal. A cogenerator will be installed on the biogas line to produce renewable electricity and heat; these energy resources will be directly used in the plant.

### 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 citizens 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 town, and including alerts for water network interruptions for ordinary maintenance work and reporting breakage or leakage of water on public land. Six months after the app was released, it had been **downloaded 5,305 times**.

Citizens with Hera bills can use the Acquologo to report their actual water consumption by easily reporting their meter reading. At 31 December 2016, **1,245 readings** had been provided using this system. The app also provides users with advance warning, through notifications or text messages, on interruptions of the water service for scheduled maintenance work (such as renewal or replacement of pipes): **180 interruption notifications were sent** by the Acquologo from July to December 2016.

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. In the first six months,

almost 50 reports were made using the app (photographic reports and calls to the toll-free number).

### **Hera, Iren, and Smat together to improve the Integrated Water Service**

On 8 April 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 connected with the integrated water service.

With the following framework agreement in November 2014 the activities were regulated and the first projects for the 2015-2016 two-year period were identified, within the following thematic areas:

- potable water treatment and 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.

In 2016, except for some residual activities, the above projects were completed and reported by the parties during a meeting of the steering committee held in Piacenza in October.

On that occasion, the topics of interest for the projects of the 2017-2018 two-year period were also defined. Among them there are those relating to breakages of the aqueduct networks; to the analysis and decision support systems; the integrated environment modelling used to assess the impact of intense weather events, to support the management of urban drainage networks and the recovery of material from the municipal waste-water treatment cycle.

Besides the specific issues of each project, sharing the diverse experiences and approaches helps critically analyse the methods used, so as to set up 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-water treatment**

#### **Upgrade work at Trieste's Servola water treatment plant**

The upgrade of the waste-water treatment plant at Servola (Trieste) to comply with the requirements of Legislative Decree 152/06 is on schedule for the upgrades agreed between the Friuli Venezia Giulia regional authorities and the Ministries for the Environment and Economic Development under a framework agreement used by the Government to avoid the application of sanctions due to failure to implement Directive 91/271/EEC. During 2016, work began on the construction of the buildings (treatment building), of the water connections and the relocation of underground utilities present in the area (a torrent, a level spillway and a 10,000 V cable). There has been a general deviation between the technical times required for the works and the administrative time taken by public authorities to provide authorizations to continuation the works required by in the plans. This has required rescheduling some of the work, to maintain the

productivity of the job-site in line with the planned amounts, while some work was placed on stand-by pending release of the authorizations (primarily the railway crossings needed to connect the existing plant with the plant being built, despite the positive feedback expressed by the bodies in charge). The company also managed to release the procedure to obtain the reimbursement of the expenses it had incurred concerning the Planning Agreement so that at the end of the year most of the procedures required to award the works and those for their technical check and reporting have passed the exam of the 1st level control of the Friuli Venezia Giulia region. As a result, payments also started, that at this point should be regular, providing greater financial certainty to the whole Servola operation. It should also be noted that in 2016 we completed the connection between a pre-treatment plant of the gulf of Trieste with the Servola plant whereby AcegasApsAmga has eliminated an underwater discharge in the of Barcola district which was not yet properly treated on ground. The plant is expected to start up in 2017.

### The Rimini Seawater Protection Plan

The Optimised Seawater Protection Plan aims to **eliminate swimming bans in public waters and reduce the pollution impact** measured in COD by **90%** by 2020, by 11 measures worth an overall investment of over Euro 160 million.

At the same time, the Plan optimization process which we had started in 2014 is making progress; using numerical modeling the process will identify additional measures to improve to the sewerage - treatment system overall, especially in terms of its cost/benefit ratio. In this regard, and in particular for the area south of the city, a study is in progress to identify any additional works or different methods that can lead to synergies such that would reduce flooding risk in most of the areas of the inhabited area in which this problem is frequent. The progress of the work is consistent with the plan's objectives. We would like to point out that we have been completed five projects (S.Giustina treatment plant, Dorsale Nord, hospital balancing tank, sewer decontamination at Isola and the Ausa backfilling) while the construction of the 2nd portion of the works on the Rimini Marecchiese treatment plant is nearing completion. Five projects are in progress in 2016. The situation of the 11 measures is as follows:

Measure	Progress as at 31 December 2016	Expected/actual year of completion	Motivation/benefits
1. Doubling of the Santa Giustina waste-water treatment plant	Completed	2015	Treatment process improvement
2. Conversion of the Rimini Marecchiese plant into a collection tank	Construction in progress (first portion completed)	2017	Treatment process improvement
3. Construction of the Dorsale Nord for drainage of the Bellaria waste-water treatment plant into the S. Giustina WWTP	Completed	2015	Treatment process improvement

Measure	Progress as at 31 December 2016	Expected/actual year of completion	Motivation/benefits
4. Completion of the separation of sewer networks in the northern area of Rimini	Construction in progress (first portion completed)	2020	Conversion of 5 sewer drains into the sea into rainwater drains (including 2 in 2016)
5. Construction of the Dorsale Sud	Construction in progress (first portion completed)	2019	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	To be designed	2019	Conversion of 1 sewer drains into the sea into a rainwater drain
7. Construction of subsea pipeline and pumping station for the Ausa basin and reservoirs	Construction in progress	2019	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 Colonnella I reservoir and of connecting conduit and of the Rodella reservoir and of connecting conduit	Design in progress (Colonnella reservoir)	2021	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

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 the quantity goals we have set are in sight, so we can expect to stay on schedule.

### **A new technology for more efficient water treatment in Bologna**

In 2016 we needed to revamp the oxygen production plant of the Idar treatment plant of Bologna. The plant had reached its end-of-life, most of its equipment was out of production and its efficiency had been decreasing.

The measure required implementing an innovative technology called VPSA (Vacuum Pressure Swing Adsorption), which is an evolution of the previously installed system. In fact, treatment with pure oxygen (at concentrations above 90%) rather than with air offers many advantages in terms of operating flexibility, odour emissions and size of the biological treatment tanks.

The oxygen production is obtained from atmospheric air, which is subjected to a cyclic pressure change and sent to the adsorbing beds that capture the nitrogen and release a high oxygen content flow (92-93%), as required by the biological oxidation section.

The operating principle is similar to that of the previous installation, but it is highly improved. The new plant offers considerable advantages, mainly in terms of energy efficiency: our most recent estimates on the performance achieved by the new VPSA system, show savings of approximately 60% compared to the previous consumption, amounting to about 1,300 toe/year.

The new oxygen production plant, scheduled for final delivery in spring of 2017, will thus provide an objective and lasting decrease of the total energy demand and help us maintain the current treatment yields of the plant, for which we have always tried to apply advanced technologies.

### **Electronic noses to check the treatment plants**

The purpose of the project we carried out in Cesenatico was to identify and locate the source of the odour that inhabitants smelled in some areas of the city and that were almost entirely attributed to the sewage plant.

We detected the odours by using an objective measurement of the concentration and of the odour emission rated of points and surfaces.

We used electronic noses to recognize and categorize smells coming from various parts of the treatment plant and compare them with those found in four different areas of the city where they were placed in August 2016.

At the same time, we carried out a study that led to drafting a dispersion model of the odours generated by the plant, that helped us precisely quantify, by means of an objective measurement, the odour emitting impact of the plant itself on the surrounding area.

The results of the scientific analysis, carried out jointly by the Water Department, the Hera's laboratories and a specialized supplier, showed that the source of the odour that the inhabitants of Cesenatico smelled is attributable to the plant and to the sewage pumping network only substantially marginally (around 1%).

6-7% of the odour has been attributed to other unknown sources (i.e. air which contains molecules that can be classified as odours but that are not attributable to the city's sewer and water treatment system), while the remaining 92% was classified as "neutral air" and therefore did not bear any odour.

We plan to carry out a similar project during 2017 at the Rimini Santa Giustina treatment plant.

### **The constructed wetlands plant in Santa Maria in Fabriago, Ravenna**

Important improvements to the constructed wetlands plant in the hamlet of Santa Maria in Fabriago in the municipality of Lugo (Ravenna) have been completed. The treatment plant is one of the biggest plants of this type in Emilia Romagna and was developed thanks to a Euro 600,000 investment by the Hera Group. Able to serve 700 inhabitant equivalents, it occupies 5,000 m<sup>2</sup> of rural land on which 6 treatment tanks were built. The treatment process is entrusted to Phragmites, grasses that grow spontaneously in ditches and humid areas of the countryside. The constructed wetlands plant has important environmental value because of its excellent integration in the surrounding rural environment and, more importantly,



because it restores clean water to the environment that respects all regulatory standards with minimal energy consumption and reduced maintenance costs. As well as the constructed wetlands plant in this hamlet in Lugo, Hera manages 16 other constructed wetlands plants, some of which are located at treatment plants and carry out activities on specific wastewater treatment processes.

### **Work to connect Pievesestina with the central treatment plant of Cesena underway**

The contract to develop the new sewage collector, almost 8 km in length, that will connect the residential area of Pievesestina with the central treatment plant of Cesena has been awarded. At the same time two new backbones will be developed: an aqueduct of around 4 km and a gas pipeline of around 3 km. The cost of the work comes to over Euro 8 million: the work on the sewage pipeline and part of the water pipeline is financed by Romagna Acque, while part of the work on the gas pipeline is financed by property owners in the areas.

### **Atmospheric emissions**

#### **Studies on the environmental impacts of waste-to-energy plants**

Since the 1980s, 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. 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 99.8% decrease 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 2011 (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 Authorisations regarding the waste-to-energy plants in Ferrara, Modena, Forlì and Rimini, the 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 Authorisation of the **Rimini incinerator**, the level of 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 a station for monitoring air quality that is 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 2016, when ARPAE Forlì made available the data of the air quality monitoring of the previous year.

For over a decade, environmental monitoring tests have been carried out at the **Modena plant** on various 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 concluded in October 2012, confirmed the preliminary evaluations made at the time of the issuing of the Integrated Environmental Authorisation and showed that the contribution of the plant, in terms of air quality, cannot be distinguished from the environment. 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 **waste-to-energy plant in Padua**, 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 an 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. In addition, the differential of the concentration estimates (estimated at values to three decimal places) is not compatible with measurable health effects, namely the contribution to background pollution of PM10 particulate emissions from waste-to-energy plants levels appears irrelevant.

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 and expires at the end of 2016. In accordance with the its requirements, HestAmbiente and Arpav have carried out some environmental studies in addition to those required by the legislation in force and by the authorisations.

In more 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>, PM10 and PM2.5 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 analysis on it for the metals Pb, As, Cd, Ni, and Hg, for polycyclic aromatic 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 agreement that will soon expire.

### **Transparency of waste-to-energy plant emissions**

Since 2008, it has been possible to consult the previous day's average emission values and "half-hourly averages" (every half hour the online data are updated with the average value recorded over the past 30 minutes) of the Group's waste-to-energy plants on the Group's website. The data are automatically sent from the detection systems, operational on a 24/7 basis in all plants (the Group's waste-to-energy plants are 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 formalisation of the "Environmental Declaration";
- publishing annual data compared to legally established limits and Integrated Environmental Authorisation limits in the Group's Sustainability Report.

Since 2015 the website also provides the data of Padua and Trieste, in the Group's same format (half hour average updated in real time).

### **Value to Energy: Energy saving solutions in all fields**

In 2016, we published the second edition of the "Value to Energy" report, dedicated to energy efficiency, fulfilling our goal to extend and consolidate its contents to AcegasApsAmga and Marche Multiservizi. Therefore, the second 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 the in which the Group does business, and our current objectives and projects to reduce energy consumption.

This edition of the report also contains updated information on the main energy efficiency projects carried out in collaboration with other companies and summary information on the activity carried out for white certificates. Ensuring continuity with 2015 and in line with Hera Group's other thematic reports, the back cover of this report shows a representative map of the areas served by the Group, with the main consumption centres, by business sector and some of the major energy efficiency measures undertaken or planned, highlighting the savings achieved. The map also shows a brief outline of our ISO50001-compliant plans for improving energy efficiency for which the three companies of the Group are certified, and a summary of our commitment toward energy savings from 2007 to date. This commitment includes 278 projects for a savings of 676,000 toe equivalent to the yearly energy consumption of approximately 475,000 families and 1.3 million tonnes of CO<sub>2</sub> emissions avoided.

The six paragraphs of the report contain all the information relating to energy management within the Group and the main projects implemented in that context. In 2016 we dedicated a special section to the public lighting provided by Hera Spa and AcegasApsAmga and to the initiatives for the promotion of energy efficiency for condominiums, large industrial customers and Public Administrations organized by Hera Servizi Energia.

### **Hera 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 containing information about climate change management policies, aims to raise awareness on the issues of greenhouse gas decrease by analysing the risks and opportunities related to it. Such 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 2016, Hera's questionnaire scored B, positioning itself in line with the main Italian companies and with the main competitors in the industry on an A to D scale.

### **Increasing usage of telepresence**

Use of the telepresence service continues to increase within the group, extending the coverage to AcegasApsAmga's area (18 meeting rooms), in 2016. Telepresence has made it possible to **optimize the management of meetings**, saving travel

time, and has been a key tool to rapidly integrate personnel located at multiple sites. For the entire Group the increase, compared to 2015, was significant: by improving the optimization and positioning of the 62 rooms, their use significantly increased, reaching a total use of approximately 20,000 hours. Scope being equal, utilization increased by 195%, from 3,145 hours in 2015 to 9,292 hours in 2016.

## Waste collected

### Hera's ranking compared to European objectives on circular economy

In December 2015, the European Commission adopted a new and ambitious set of measures to stimulate the development of a circular economy, where resources are used more sustainably. The proposal covers the entire life cycle of products; from production to consumption and all the way to waste management and to the market for secondary raw materials. As regards waste management, in particular, it defines specific goals related to 2030:

- to reach a recycling rate of 65%;
- to recycle 75% of packaging (with specific targets for various materials);
- to disposed of not more than 10% of municipal waste in landfills.

Intermediate targets are planned for 2020 and 2025. In this scenario, Italy is far from the objectives on the use of landfills and recycling overall while it ranks well in relation to the recycling of packaging.

In the area served by the Group, the targets for landfill use have already been achieved (7.6% compared to the 2030 objective of 10%) while it is close for overall recycling (48% compared to the 2020 objective of 50%) and for packaging (64% compared to the 2025 objective of 65%). The Group's objectives for 2020 are to reach 57% for the overall recycling rate and 74% for packaging.

## Circular Economy: the positioning of the territory served by Hera

In 2015, the European Commission adopted a package of transition measures towards a circular economy which requires 3 targets related to municipal waste: less than 10% of municipal waste in landfills by the year 2030, at least 65% of packaging recycled by 2025 and overall recycling rate of 50% by 2020.

### Urban waste in landfills

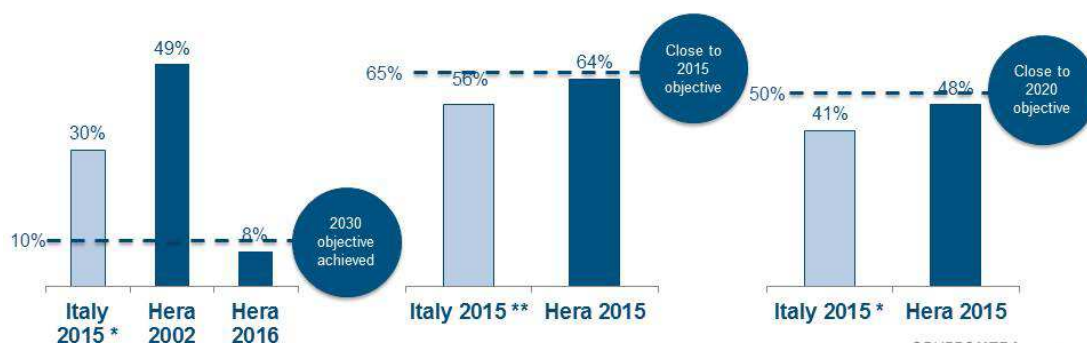
With 8,6% of landfill waste in the area it serves, Hera is of almost 15 years ahead of the objective and is at the levels of the best performing European countries. Instead, Italy had a high usage of landfills, above the European average of 28%

### Packaging recycling rate

Hera is near the target of 2025 and has already passed it in Emilia-Romagna (67% in 2015) thanks to the amount of recycling above the national average and the high recycling rates, especially for paper (for which the objective has been exceeded)

### Recycling rate

Hera's results are close to the objective and above the national average. 2020 target reached for all materials except for plastic and organic waste for which, however, there was an increase over the previous year



\* Source: Ispra, Rapporto rifiuti urbani 2016

\*\* Source: Conai, Programma prevenzione rifiuti 2015

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## Separate waste collection

**Circular economy and separate waste collection: separate waste collection actually recovered by Hera rises to 94.4%**

In 2016, Hera published "*Tracking waste*," a report certifying the percentage of separated waste actually recovered by the company. Now at its seventh edition, this report shows how in 2015, the percentage was **94.4%**.

The report, that for the first time includes the entire Group, shows a recovery rate of 98.7% for green waste, 96.6% for paper, 91.6% for organic, 93.4% for glass, 78.7% for plastic, 99.7% for wood, 99.6% for iron and 93.5% for metal.

The latest edition details **67 companies** that operate **79 first-destination waste plants**. Specifically, it includes all the stakeholders of the recovery chain, determined the percentage of waste transformed into "secondary raw materials" and identified the production plants that breathe new life into the material that comes from separate waste collection. The initiative regarded the main materials that are collected separately: green waste, paper, organic waste, glass, plastic, wood, iron and metals (aluminium, steel and tinplate packaging).

For the first time, a section was also dedicated to the Hera's positioning compared to 3 main objectives of the Circular Economy set by the European Commission in 2015: the percentage of use of landfills, the recycling rate of packaging waste and the total recycling rate. In particular, for the first one, the areas Hera serves are ahead of targets by almost 15 years with respect to the goal set by the Commission for 2030. For the other two, Hera ranks at the level of the European best practices.

Presented at the international Ecomondo 2016 event, the report emphasizes how recovery is one of the key supply chains of the "green economy". The circular recovery economy, in fact, feeds **191 recovery facilities** operated by **171**

**companies** that employ a total of **18,000 people** and achieve a total turnover of around Euro **10 billion**. To ensure maximum transparency and reliability of the data reported, **the report** was examined and entirely audited by DNV GL.

### **Separate waste collection in Bologna's city centre**

During 2016, Hera continued to implement the city centre separate waste collection project, consisting in the construction of mini underground drop-off points for glass and organic waste, and simultaneously starting door-to-door separate waste collection district by district, and other collateral actions such as custom collection for businesses, separately collecting crates (wood and plastic), plastic packaging, paper non-separated waste and to upgrade existing underground drop-off points for disposal of cardboard and non-separated waste.

This project, started in late 2014 with the ex San Vitale neighbourhood, continued in June 2015 in the Porto neighbourhood. Both districts have gone fully operational during 2015.

The time required to build the underground drop-off points, is mainly determined by demanding requirements set by the Archaeological Superintendence, due to the need for continuous stratigraphic surveys and the relevant restrictions related to underground utilities.

Specifically, the plan for 2016 suffered heavy delays because the project (3rd portion mini drop-off points and 3rd portion upgrade of large underground drop-off points) was subject to regional financing and therefore, before starting all the related activities, it had to wait for the completion of the authorisation process.

The results of the separate collection of previous years were confirmed, in particular in the neighbourhoods where underground drop-off points or bins for non-separate waste collection with mechanical lids are fully operational (Savona). The entire municipality reached 45.7% in 2016 compared to 44.8% in the previous year while the old-town changes from 42.1% of 2015 to 46.2% in the same period. In the Savona district, separate collection amounted to 59.9% (it was 57% in 2015). In the two districts of the old-town where the collection system is fully operational (mini underground drop-off points completed) separate collection doubled, reaching about 60%. Checks on the quality of the organic and glass waste continue to be encouraging, with percentages of compliant materials around 90%.

### **Il Rifiutologo (the Wasteologist)**

The Rifiutologo is a free app created by Hera to simplify the way separate collection is done in the 135 municipalities in which it provides environmental waste management services. At 31 December 2016 the app has reached 118,000 downloads proving that the operation was a success and that users like it.

In 2016, for inhabitants who bring material to drop-off points, we added the capability to view discounts on waste tax, where applicable. The "environmental reporting" function proved very popular. It can be used to send a customized message or a real time picture to Hera's staff to point out a problem that affects the services performed by the company and that requires attention. After the problem has been solved, the app tells the user the date when it was taken care of. The reporting by the inhabitants is made more effective by HergoAmbiente's new information system that connects bins, vehicles and drop-off points. In 2016 the reports of emptying, cleaning of the roads and the abandoned waste were

19,750 (+89% compared to 2015); 3,728 suggestions on new types of waste to be added to the database.

In 2016 the inhabitants of Bologna benefited by a trial of two other features of Rifiutologo, thanks to which they could view on their smartphones the position the mini underground drop-off points in the city centre, including its address and the materials that can be disposed of at each of them and view the calendar of door-to-door collection in the centre, so as to be always updated on the service.

At 31 December 2016 the "Scan barcode", feature which recognizes materials by the barcode printed on products and shows how to properly dispose of each package, accesses an archive of 1,120,093 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 inhabitant can report it via the Rifiutologo so that it can be added to the system: there were 11,850 reports of bar codes sent by the inhabitants to update the database (+45% compared to 2015). The searches carried out by scanning barcodes grew by 44% from 72,081 in 2015 to 104,081 during all of 2016.

### **A new project to recover used computers**

To retrieve old computers, based on obsolete technology but that are still functional, that Hera has phased out, to make them available to the disadvantaged sections of society, involved in computer literacy projects of and re-employment and social reintegration projects, such as the disabled, the elderly, prisoners, immigrants, political refugees and homeless people: this is the goal of an agreement signed by Techne and Hera.

Under the agreement Techne will collect the computer equipment, make sure it works and if it can be refurbished. If applicable it will then source the spare parts needed and completely refurbish it.

During 2016 Techne has received 120 devices, and of these, 95 have been donated to social cooperatives that manage projects in favour of prisoners and refugees, as well as voluntary associations to support the poorest people.

In addition to the significant and positive social repercussions, the "Informatica Solidale" agreement also has a non-negligible ecological-environmental aspect: in fact it makes it possible to reuse computer equipment that no longer has the requirements necessary for corporate use, but which are fully suitable to the needs of others, thus reducing the overall generation of waste.

### **Waste Management Services System: Information technology for waste management services**

In 2016, the Hergo Ambiente project was consolidated in the area served by Hera. The Business Intelligence components were activated in order to monitor the status of use and efficiency of the system so as to initiate both systemic and process-related corrective actions in order to increase the reliability of the software tool.

In 2016 we launched a project to integrate the geographic component and one concerning operational research to optimize our collection routes. The two projects constitute the link that completes a circular continuous improvement process and the development cycle of the Hergo system.



In 2017 we will extend the Hergo Ambiente system also to the area of AcegasAPS-AMGA (January 2017) and Marche Multiservizi (March 2017).

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

Riciclandino is the project dedicated to schools that involves children and families in an environmental initiative. In fact, the more waste they separate and the more waste they take to drop-off points, the more points they obtain, giving their schools the chance to receive economic incentives. Every student is given a Riciclandino Card that includes the barcode assigned to each participating school. The student's family can use the card to dispose of waste at drop-off points, obtaining a discount on their bill, as established by the municipal regulations, as well as an incentive of the same amount for their school.

Launched nine years ago in Ravenna, by 2016 the project had covered 41 municipalities in the provinces of Ferrara, Modena and Ravenna, and involved 361 schools and 75,890 students. In 2015 the participating schools received over Euro 60,000 of economic incentives for the activities carried out, and over 3,000 reams of paper.

### **Separate waste collection in Imola increases with the new basic drop-off points**

33,000 citizens have already been involved in the reorganisation of the waste collection services that began in Imola in 2016. The biggest developments: the streamlining of the spaces at basic drop-off points, all bins (no glass) with the electronic recognition of the user via a card with their name on it, the introduction of organic waste collection and unseparated waste bins with lids. With the new system, in six months separate waste collection in the areas of the city involved so far has grown by 15 percentage points from 55% to over 70%. The public has also been provided with lots of information with an explanatory letter sent to all 15,600 users involved in this phase. The users were also contacted directly by the environmental waste reps. The company met with over 1,400 citizens at the eight meetings held and interacted with a similar number via 13 information points, tutoring at the basic drop-off points and the dedicated help desk, and by answering their queries.

### **Self-service separate waste collection in Sant'Agata sul Santerno (Ravenna)**

Enabling the public to dispose of their separated waste at all times of day and independently, without the presence of an operator but with the efficiency of a waste collection centre: this is the philosophy behind the new self-service area at the drop-off point in the municipality of Sant'Agata sul Santerno (Ravenna), designed and opened by the Hera Group to broaden its range of services for the public. The new facility is available to members of the public and businesses across the province of Ravenna, who can access it independently 24 hours a day. In fact, the most distinctive feature of the area is that it is 'self-service', meaning that there is no operator present and that users can access and use it whenever they want. It is open every day so people can also dispose of their rubbish on Sundays, for example, or in the evening. The facility is an innovative and practically unique solution at national level for encouraging the public to increase their separate waste collection.

## Waste disposed of

### Tracking and recovery also for industrial wastes 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 the 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 2016, Herambiente Servizi Industriali handled over 566,000 tonnes of industrial waste (+15% compared to 2015) of which 25% was sent for recovery of materials or energy, decrease due to multiple factors, including the proper attribution to Herambiente in 2016 of some contracts to handle special waste of urban origin (with a high recovery rate) which had been allocated to Hasi in 2015 and the acquisition, also in 2016, of important customers that produce significant amounts of non-recoverable waste. The objective for 2017 is to increase the recovery rate of industrial waste through a commercial development integrated with circular economy solutions.

	2015		2016	
	Quantity treated (tonnes x 1000)	Share of waste recovered	Quantity treated (tonnes x 1000)	Share of waste recovered
<b>Herambiente Servizi Industriali</b>	<b>491</b>	<b>43%</b>	<b>566</b>	<b>25%</b>
of which large customers	310	19%	409	12%
<i>of which large global waste management customers</i>	<i>60</i>	<i>91%</i>	<i>53</i>	<i>72%</i>
including SMEs	181	66%	156	58%

The increase in volumes and the expansion of our customer portfolio, registered in 2016, is partly due to a more intense and focused commercial activities, and partly to a new internal control of the market segment resulting from the acquisition of Geonova.

Thanks to the cooperation and trust of our customers, we strengthened our Global Waste Management contracts, allowing HASI to play an even more prominent role in the partnership set up when we defined our commercial relationship. This means new reclamation activities for industrial plants, which have resulted in an increase in the incidence of the amount not recovered.

Among the customers who have signed GWM contracts, net of the energy recovery abroad of waste coming from of emergency municipal waste areas, we see a constant toward recovery: in 2015 active customers have already increased the recovery activities, many of the new ones have always reached the Zero Waste to Landfill goal.

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.

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.

A future step will also be to jointly report the results achieved and the objectives set, concerning the proper management of resources.

Lastly, approximately 60% of the factories of this type of companies, 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 optimising 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.

### **The initiatives for the local community**

#### **Renovation of the Viale Berti Pichat area in Bologna**

In January 2016, work began on the construction of the new office building, continued throughout the year and will be completed by March 2017. Testing will take place in April 2017 and it we will obtain authorizations and start to transfer staff, starting in May 2017.

The building has 4 floors above ground for offices and the canteen, for a total of 6525 m<sup>2</sup> and an underground floor used to park company vehicles for about 2500 m<sup>2</sup>. The new building will allow us to demolish the old buildings currently used as the canteen and offices of Hera Spa, making it possible to carry out environmental and functional remediation of the entire sector. Simultaneously with the start of the construction of the building, we completed the approval process and on 3 May 2016 we signed, the changes to the Regional Agreement for urban renovation of the area.

The variant to the Regional Agreement between Hera and the municipalities of Bologna, Castenaso, Granarolo and Metropolitan City includes, at a glance:

- a sub-sector intended for "Hera public equipment", of over 46,000 m<sup>2</sup> of land and over 20,000 m<sup>2</sup> of usable covered area;
- a sub-sector intended for "offices/education" of about 13,000 m<sup>2</sup> of land and approximately 4,600 m<sup>2</sup> of usable covered area with related local public car parking facilities for 2,300 m<sup>2</sup> and 2,600 m<sup>2</sup> of public parks;
- the elimination of public uses, municipal facilities to be constructed in the gas holder and in the building, in the first agreement planned to be adjacent to the gas holder itself;
- relegation of the gasometer to Hera, to be included in the sub-sector "Hera public equipment".

The change of town-planning intended use required a review of the operational reclamation project. We filed the new project in February 2016 and the Municipality of Bologna authorised its implementation on 13 April 2016 (Gen. Ref. 121009).

To support the development of the project, we prepared a sustainability analysis which guided our choice of the most environmentally, socially and economically sustainable reclamation scenario applicable to the specific site. The operational

reclamation project has a staged approach, implementing the environmental remediation measures on portions of the area, in sequence and for limited periods of time. This staged approach will complete the environmental remediation of the area consistently with timing set by the

Planning Agreement, simultaneously ensuring the accessibility and the usability of the entire sector, while carrying out the remediation.

Between June and October 2016 we carried out the reclamation of area 2, located in the north-west area of the community, by excavating and removing the old topsoil and the contaminated soil. In October 2016 reclamation of area 3 is in progress, and it will be completed in the second half of 2017.

In the first months of 2017, in accordance with a program schedule with the institutions, we will set up the jobsites for the reclamation of the site's aquifer and then those for the reclamation of areas 4 and 6.

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 in 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 all the other activities on the entire sector, expected by 2018 and the cost will be borne fully by Hera even if it is not the party responsible for polluting the area.

In 2016, three meetings were held with Health and Safety Representatives (RLS) to report and agree both the progress and 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 citizens, and under the control of the supervisory bodies.

Remaining on the subject of our office buildings and other properties of the Group, in 2017 we expect to complete a major plan to replace and decontaminate asbestos roofs of buildings located in all the areas we served, for a total of 29,000 m<sup>2</sup>.

### **CiboAmico: 10,000 meals recovered in Hera's canteens**

"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 have been prepared but not consumed in the company's 5 canteens for 6 non-profit organizations that provide hospitality and assistance to around 140 people in need every day in 8 facilities.

The project has social, economic and environmental benefits, from preventing the production of waste (in 2016 the project averted the production of 4.6 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 2016, 10,449 complete meals were recovered, amounting to Euro 44,000. Since the beginning of the project to the end of 2016, almost 67,400 meals were donated overall, for a value of over Euro 273,000; this avoided the production of approximately 29 tonnes of waste, meaning about 64 bins.

### **FarmacoAmico: for the recovery and charitable reuse of pharmaceuticals that have not yet expired**

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 decentralised 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.

During 2016, the parties involved in the "FarmacoAmico" projects made it possible to collect and redistribute a total of about 40,500 packets of pharmaceuticals that could actually be reused, worth over Euro 520,000.

Launched in 2013, in Bologna, FarmacoAmico is a joint project with Last Minute Market and the partners are the Municipality of Bologna, the non-profit organisation Fondazione ANT Italia Onlus and some trade associations in the pharmaceutical field. As well as non-profit organisation Fondazione ANT Italia Onlus - responsible for the storage, distribution, selection and inventory of pharmaceuticals - Sokos and We are Onlus and Amici di Ampasilava Onlus are accredited as secondary beneficiary organizations. During 2016, in the region capital city the 30 pharmacies involved collected 15,500 medicine packets that could be reused for a value of over Euro 199,500. In the municipalities of Imola, Medicina and Faenza, at the 9 pharmacies involved in the initiative, Caritas Diocesana di Imola the Associazione Frasi Prossimo (Caritas of Faenza) recovered 8,400 more packets of pharmaceuticals that could actually be reused, worth Euro 104,000.

The project is also active in Ravenna, where the 22 pharmacies participating in the project, and the associations A.D.A., AUSER and ANTEAS have recovered over 4,900 packets of pharmaceuticals which are still good, worth about Euro 63,700, and in the Forlì municipality, where the 27 participating pharmacies, and the Comitato per la Lotta contro la Fame nel Mondo have recovered in a year 10,500 packets of pharmaceuticals which can still be used, worth Euro 136,500.

Lastly, starting in September 2016, FarmacoAmico also started in the Unione dei Comuni Valli del Reno, Lavino e Samoggia (a local institution that groups the Monte San Pietro, Casalecchio di Reno, Zola Predosa, Sasso Marconi and Valsamoggia municipalities - the latter being the outcome of the merger in 2014 of the Bazzano, Castello di Serravalle, Crespellano, Monteveglio and Savigno municipalities), where the first 6 pharmacies involved in the project recovered, thanks to the cooperation of the Associazione Pubblica Assistenza of Casalecchio di Reno, 1,100 usable packets of pharmaceuticals, worth about Euro 16,000.

From the 6 municipalities that participated in 2015, the project was extended to 11 municipalities in 2016, thus increasing the percentage of coverage of inhabitants served in Emilia-Romagna and that use Hera's waste management service, from 31.44% to 35.77%.

## **Change the Ending an ongoing success: 751 tonnes of bulky goods collected in 2016**

“Change the Ending” is the project promoted by Hera, in collaboration with Last Minute Market and 20 local non-profit organisations, 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. A section of the website provides more information on Hera’s 20 non-profit partners in the collection and reuse of bulky items in good condition. The call centre also directs members of the public to the non-profit organisations in the event of requests for the home collection of bulky items in good condition. The non-profit organisations collect the items from the customer’s home free of charge, just as Hera does. In 2016 this dual promotional activity, together with the activity carried out directly by the non-profit organisations, led to the collection of 751 tonnes of bulky articles in good condition (+5% versus 2015), 71% of which were earmarked for reuse.

Finally, and significantly, Hera's 20 non-profit partners involved over 1,100 volunteers and made 360 socially-motivated job placements in 2016, 99 of which directly involved in the project.

In 2016 Change the Ending was also expanded to Ferrara therefore covering all of the most important municipalities in the region and increasing the scope of the project: now, thanks to Hera, 85% of citizens that use waste management services in Emilia Romagna are able to contribute to the environment and society while also generating economic value. The project is expected to be extended to the Triveneto in 2017.

In fact, Change the Ending has proven to be a circular economy project that is capable of creating value from both an economic and social viewpoint, as demonstrated by its SROI index of 1.37: for every euro spent on the initiative, 1.37 euro is made.

## **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 participated in many national and international exhibitions and for no fewer than 4 editions it used waste to make the clothes for the sopranos who sang duets with Maestro Bocelli, for the choir, for the scenery of the 2014 concert, and in 2016 even for all the costumes of the corps de ballet which performed at the Teatro del Silenzio.

## **When environmental and social sustainability go hand-in-hand**

In 2016, Hera has continued to implement projects for the prevention, recycling and recovery of waste, called "Manolibera", "RAEEbilitando", and "RAEE in carcere", also with the aim of socially requalifying categories facing hardships.

The "Manolibera" project has now been running for 5 years. In 2011 Hera, with the Techne training institute and the Comieco Consortium, contributed to create an artisan paper factory in the Forlì prison. Subsequently, the social cooperative CILS continued to support the activity, providing a concrete job opportunity to the people involved.

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 products made by the prisoners, thanks to the experience gained over recent years, have become unique pieces, sought after and customizable, and can be purchased at the Legatoria Editoriale Berti of Forlì or directly from the [www.cartamanolibera.it](http://www.cartamanolibera.it) site which offers a continuously up-to-date catalogue.

Since December 2016 the "Manolibera" project has become part of the "Freedhome" circuit, a circuit that has put on line a dozen prison-made projects, developed in several Italian cities. The first store to sell 100% prisoner-made biscuits, taralli, almond torrone, t-shirts, bags etc. was opened in Turin. The products are all made by prisoners under a dozen projects organized by social cooperatives that have involved a thousand prisoners of 191 Italian prisons.

The "RAEEbilitando" project is still active thanks to the contribution and the collaboration of Hera, the Remedia Consortium, the Opera dell'Immacolata and Tred Carpi Srl. After an inactive period due to the upgrade of the workshop's premises and an organizational and managerial reorganization, it has finally been able to resume, in July. For this reason, the young people with disabilities and the people facing hardship that worked in the Bologna workshop have been able to resume the disassembly of small and non-hazardous WEEE. When the work had to be stopped, no fewer than 9 people were working there, besides 3 more being trained. Since the project began, over 100 tonnes of WEEE have been processed, recovering nearly 90% by weight of the materials (copper, aluminium, plastic, glass).

The experience of the project "RAEE in carcere" is also continuing. It was started to promote social and working reintegration for persons serving a prison term, who need to be accompanied back into legality and into the civil life of the community. It was activated in 2008 at the Bologna, Ferrara and Forlì prisons, thanks to the development and coordination of Hera and Techne, and with the support of the Emilia-Romagna Region and many bodies and organizations among which there are the Ecolight, Ecodom and ERP consortia that joined, taking an important operational role. In the four workshops, of which three have been set up inside and one outside the prisons, the prisoners are employed in the disassembly of small and large WEEE coming from Hera Group's separate waste collection centres. At that point, after having been disassembled, the equipment is sent directly to treatment plants: the resulting recovery is over 85%.

In 2016, no less than 83 prisoners have been involved in the workshops since the start of the activities and, of these, 30 have been hired or a job has been found for them in the area by the social cooperatives that manage the workshops. Over 4100 tonnes of electrical and electronic equipment has been processed since the beginning of the activity.

### **VedoHera, Hera's sustainability within reach of an email**

VedoHera is the newsletter that chronicles the company's commitment to sustainability to its over 126,500 subscribers. Also, available on Hera's corporate website, in the section on corporate social responsibility, it updates readers on sustainability-related news, events and appointments. In particular, in 2016, the page got 38,200 on line views with a peak in November, when the special edition with the "Tracking waste" report was published.

### **With Hera new life for bulky goods also in Ferrara**

Change the Ending, the project for the recovery of items in good condition that can still be used, has also been launched in Ferrara. Managed by Hera together with Last Minute Market and local non-profit organisations, the project aims to prevent the production of waste and implement a virtuous and charitable cycle. In Ferrara the non-profit association involved is Scacco Matto Cooperativa Sociale, which carries out various activities aimed at inserting disadvantaged people, people undergoing psychiatric treatment, people with psychiatric illnesses and former patients at psychiatric institutions in the working world. The wide variety and quantity of material recovered made it possible to open a reuse site. A genuine second-hand store covering an area of around 1,100 m<sup>2</sup> with furniture, domestic appliances, bicycles, clothes, books and much more besides.

### **Almost 100 computers donated to people in need in Forlì-Cesena**

Prisoners, refugees and people in need now have access to 95 computers. This is thanks to "Informatica solidale", an agreement that saw Hera donate 120 computers (70 PCs and 50 laptops) to public training organisation Techne of Forlì-Cesena in support of solidarity projects. The project aims to recover old computers with obsolete technology that are no longer used by the company but which still work, and donate them to disadvantaged sections of society involved in digital literacy and re-employment and social reintegration projects, such as the disabled, the elderly, prisoners, immigrants, political refugees and the homeless.



## Suppliers

*There are more than 5,100 companies in Hera's pool of suppliers. 69% of the value of the supplies is ordered from local suppliers demonstrating the positive local economic impact of the Group. All the qualified suppliers have signed the letter of intent with commitment to observe the Sa 8000 standard.*

### Objectives and performance

What we said we would do	What we have done	Scope
<ul style="list-style-type: none"> <li>SA8000 monitoring: collect an additional 60 assessment questionnaires and 14 audits care of the suppliers (headquarters and Hera sites).</li> </ul>	<ul style="list-style-type: none"> <li>During 2016, 66 SA8000 assessment questionnaires were collected and 17 audits were carried out care of the suppliers (headquarters and Hera sites) (see page 306)</li> </ul>	H
<ul style="list-style-type: none"> <li>Hold 3rd convention with the main suppliers (with a focus on workplace safety).</li> </ul>	<ul style="list-style-type: none"> <li>The 3rd convention was not held.</li> </ul>	H A
<ul style="list-style-type: none"> <li>Compliance of Marche Multiservizi with the Group platform for qualification and selection of the suppliers by the end of 2016.</li> </ul>	<ul style="list-style-type: none"> <li>Marche Multiservizi's compliance with the Group platform was initiated at the start of 2017.</li> </ul>	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.</li> </ul>	<ul style="list-style-type: none"> <li>Increase in all values with respect to 2015: 87% of the value of the Iso 9001 supplies, 58% Emas/Iso 14001, 50% Ohsas 18001, 26% Sa 8000. (see page 287)</li> </ul>	H A
<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 the cases of insourcing).</li> </ul>	<ul style="list-style-type: none"> <li>The clause was included in 10 of the most significant tenders in 2016 (see page 299)</li> </ul>	H
<ul style="list-style-type: none"> <li>Continue to show preference for the economically most advantageous bid:                             <ul style="list-style-type: none"> <li>100% of the value of public tenders;</li> <li>&gt;70% of the value of total awards in the year;</li> <li>average score reserved for sustainability: 20 out of 100.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>In 2016, 63% of the value of the total awards was achieved using the economically most advantageous offer method and the average score reserved for sustainability was 26/100.</li> <li>97% of the public tenders were carried out using these criteria. (see page <b>Errore. Il segnalibro non è definito.</b>)</li> </ul>	H A M
<ul style="list-style-type: none"> <li>Develop supplier dynamism: incentive the active suppliers to generate ideas within a win-win logic.</li> </ul>	<ul style="list-style-type: none"> <li>In 2016, a further 9 win-win initiatives were implemented with the suppliers of which 8 relating to the optimisation of the material purchasing methods (by means of further digitalisation with the involvement of 25 suppliers) and the related operational optimisation care of a waste treatment plant. (see page 305)</li> </ul>	H
<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 72% of the value. (see page <b>Errore. Il segnalibro non è definito.</b>)</li> </ul>	H

What we will do	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>	H A

What we will do	Scope*		
• Continue to envisage 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).	H	A	M
• Continue with the development of the quality, safety and environmental management systems and corporate responsibility in the choice of the suppliers within Hera Spa.	H	A	M
• Continue to show preference for the economically most advantageous bid (taking into consideration the legislative innovations) and ensure an average score reserved for sustainability equal to at least 20 points out of 100.	H	A	M
• Complete compliance of Marche Multiservizi with the Group platform for qualification, selection and assessment of the suppliers by the end of 2017.			M
• 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.	H	A	

\* Geographic scope of the improvement objectives

H: Hera; A: AcegasApsAmga; M: Marche Multiservizi.

## Our suppliers

### *Over 5,100 companies supply Hera with goods, services and work*

At the end of 2016, the Group's suppliers included **more than 5,100 companies** qualified to supply **goods, services, professional services and work**. 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, Marche Multiservizi and Uniflotte: intercompany purchases are excluded.

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. 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 2017. Accordingly, certain information does not include the data relating to Marche Multiservizi.

### Pool of suppliers

No.	2014	2015	2016
Goods	2,124	2,433	2,532
Services	2,823	3,423	3,599
Job orders	592	761	879
<b>Total</b>	<b>4,093</b>	<b>4,881</b>	<b>5,139</b>
<b>of which suppliers who received at least one order during the year</b>	<b>2,743</b>	<b>2,920</b>	<b>3,076</b>

The table provides a breakdown of suppliers by goods/service class. Because some suppliers belong to more than one class, the total for suppliers by class does not tally with the total for suppliers. Excluding Marche Multiservizi.

More than 60% of the 5,139 suppliers on the list are qualified for the supply of services and work: almost 60% (more than 3,000 suppliers) had at least one contract active in 2016.

The **main activities outsourced** by Hera in the area of waste management services concern the refuse collection services using rear-loading compactors 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, greater recourse is made to outside suppliers for the activities concerning highly specialised maintenance, plant engineering activities and meter services (readings, closures, initialisations, etc.). Transversally, facility management (global service), call centre, commercial and contact activities are outsourced.

### Supplies from social cooperatives

In 2016, 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. Quarterly verifications are made of the total number of persons facing hardship employed, the type of hardships faced by individual workers used in the supply and their qualifications within each single contract. It is thus possible to check the observance of the work input project presented at the time of the tender by the supplier and assess the same.

### Supplies from social cooperatives

	2014	2015	2016
Social cooperatives or consortiums (number)	44	44	50
Value of supplied goods/serv. (in thousands of Euro)	44,703	46,527	57,180
Persons facing hardship hired (number)	642	686	743

Among the persons facing hardship hired, workers employed for less than one year were also counted.

In 2016, the value of the supplies by type of work or services requested by the Hera Group from social cooperatives came to around Euro 57 million, disclosing an increase of 23% on the previous year mainly due to the increase in the awards to social cooperatives in Emilia Romagna (+25% compared with 2015) due to the launch, at the start of 2016, of new contracts for awarding waste management services, where the temporary joint ventures awarded the work represented a greater percentage of the social cooperation.

Out of the total of the deliveries made by social co-operatives, more than Euro 56 million was assigned for the execution of waste management services, equal to 30% of the total awards made by the Group for these services. Supplies involved 50 cooperatives or consortia of social cooperatives, with the employment of 743 persons facing hardship (pursuant to Article 4 of Italian Law No. 381/91): 533 under permanent contracts and 328 under full-time contracts. At geographic level, the individuals employed came to 300 in the Emilia area, 345 in Romagna leading to an increase of 10% at overall level with respect to 2015, 66 in the Triveneto area and 32 in the Marche. These results derive from the implementation of the protocol entered into by Hera in 2009 with the associations representing social cooperatives.

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 obligation to apply the waste management services national collective labour agreement, via the definition of socially inclusive projects. This portion is equal to 5% and can be raised at company level to 15%. Hera applies 15% on the basis of an agreement entered into in March 2012 with the trade union organisations and with the Group union co-ordination.

### **Raw material supplies**

The natural gas sold by the group sales companies controlled by Hera Comm in 2016 was purchased for around 13% from Eni Gas & Power, approximately 47% was purchased from Edison, around 7% from Enel Trade and 33% 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, 43% of sales to final customers on the eligible and protected market were covered by bilateral purchases from other operators, with 57% 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 2015 and calculated according to the matters established by the decree of the Ministry for Economic Development dated 31 July 2009, involved a portion from renewable sources equal to 30% for the customers of the free market and 27% for customers of the non-eligible market.

### **Operations within local communities**

*The value of local supplies is 69% of the total*

The importance of the economic repercussions which the Hera Group generates on the area and local communities where it operates is confirmed once again in 2016.

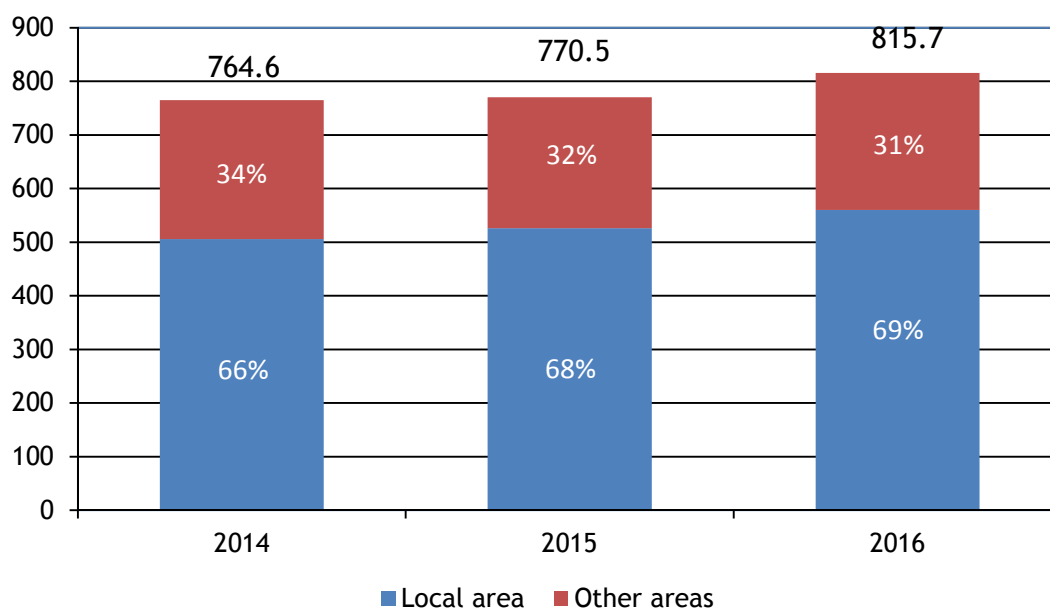
**More than 60% of the companies** enrolled in the supplier register (which as from 2014 also included the Triveneto region) have **commercial headquarters in the relevant area**. With regard to Marche Multiservizi's suppliers, 56% have headquarters in the relevant area.

### Suppliers (breakdown by geographic area)

No.	2014	2015	2016	% of 2016 total
Bologna area	578	582	523	10.2%
Ferrara area	171	169	160	3.1%
Forlì-Cesena area	307	303	267	5.2%
Imola-Faenza area	218	216	199	3.9%
Modena area	335	329	290	5.6%
Ravenna area	261	265	229	4.5%
Rimini area	223	220	202	3.9%
AcegasApsAmga area	456	905	1,235	24.0%
<i>Total local area</i>	<i>2,549</i>	<i>2,989</i>	<i>3,105</i>	<i>60.4%</i>
Other Italian regions	1,461	1,777	1,935	37.7%
Other European Union nations	68	88	74	1.4%
Other	15	27	25	0.5%
<b>Total</b>	<b>4,093</b>	<b>4,881</b>	<b>5,139</b>	<b>100%</b>

Excluding Marche Multisevizi.

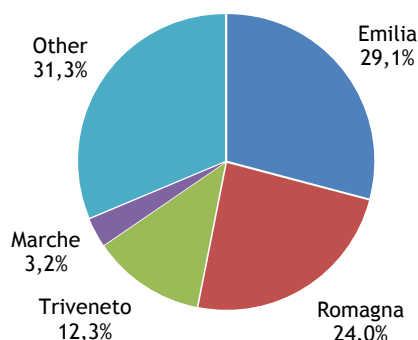
### Value of supplies: breakdown by geographic area (in millions of Euro)



In terms of **economic value**, Hera issued purchase orders for **Euro 560.2 million (69% of the total)**, to **businesses based in the same area as that covered by the same**. The incidence of the local supplies was up by three percentage points with respect to 2014.

The purchases outside the European Union were made from suppliers with commercial headquarters in Switzerland, the United States, Israel, Canada, Mexico and the Republic of San Marino.

## Value of supplies: breakdown by geographic area (2016)



### The qualification, selection and assessment of suppliers

#### *The system adopted by the Group to ensure safety and quality of the supplies*

Supplier qualification and assessment checks 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**.

#### 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 by commodity category in the Hera Group Suppliers list. The system, supplemented with the e-procurement platform, has streamlined the relationship of the Hera Group with its suppliers, making the qualification and assessment process more central within the Group's certified system and making it possible for the suppliers to benefit from tangible advantages in terms of transparency, opportunity, competitiveness and integrity of the data.

In the area of the website dedicated to qualification, the suppliers can access the procurement product categories and avail themselves of 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 (in particular, the contact person and the e-mail addresses) and 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 on the awarding of a contract;
- being updated on the Group's initiatives of economic interest.

The use of the e-procurement platform by the supplier to access the tender qualification and participation process is supported by a dedicated help desk service.

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. 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.

With regard to those who request that they be included in the Hera qualification system managed using the e-procurement platform, an **annual membership fee** is envisaged in keeping with the number of commodity sub-categories of goods groups (families) for which interest has been shown.

A process for the up-dating of the qualification self-declarations was undertaken during the second half of 2016 for all the suppliers further to the publication of the New tender code (Italian Legislative Decree No. 50/2016) with reference to the changes introduced to the legislation previously in force.

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 Ministerial Decree dated 18 April 2013: 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 represents the list of the suppliers who provide services and executors, as things stand, not subject to the risk of mafia infiltration.

#### Suppliers: breakdown by type of certification

The percentage of supplies from **certified suppliers** reported an **increase** with respect to 2015 at Group level for all certification, and is the result 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. The effect of the afore-mentioned action is clear in the following diagram.

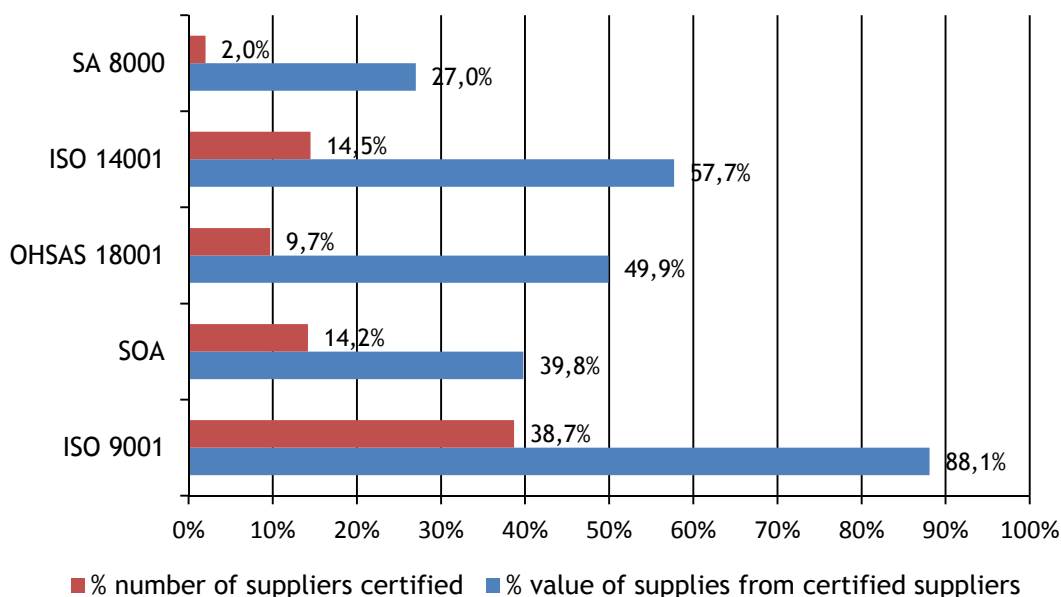
#### Procurement from suppliers - value breakdown by type of certification (% of total supplies)

%	2014*	2015	2016
Quality certification (Iso 9001)	85.1%	81.9%	87.1%
Environmental certification (Iso 14001-Emas)	55.0%	52.0%	58.0%
Certification of qualification for execution of public works (Soa)	47.3%	37.2%	39.0%
Occupational safety (Ohsas 18001)	45.7%	44.2%	49.5%
Social certification (Sa 8000)	18.4%	23.4%	25.8%
Sinal/Sit	4.7%	10.1%	12.1%
<i>Total supplies (in millions of Euro)</i>	<i>586.3</i>	<i>770.5</i>	<i>815.7</i>

\*Excluding AcegasApsAmga and Marche Multiservizi

Scope being equal in the two-year period, increases were reported for all the forms of certification and in particular for that involving quality (Iso 9001) and that regarding work safety (Ohsas 18001).

## The qualified suppliers and those rewarded (2016)



Excluding Marche Multiservizi

This sustainability choice of the Hera Group has contributed towards developing the sensitivity of the companies in considering certification to be an element of greater competitiveness, and has led to the constant increase of the percentage of supplies from certified suppliers over the years, scope being equal.

### Supplier assessment and checking

Further changes were introduced in 2016 to improve the **model for the monitoring and management of the periodic assessment** of the suppliers. Specifically, the coding and traceability of the parties grouped together in temporary joint ventures was introduced (representative and principals), consortiums and specific executing companies, sub-contractors and the like relating to the individual service purchase document (order and/or contract).

In this way it has been possible to implement a more complete monitoring-related reporting, which improves the governance of the purchases, and extends the mechanisms for valuation and control envisaged by the Group procedures to the principal companies, executing consortiums, subcontractors, etc., in this manner overseeing the entire chain of the economic parties involved in the service for various reasons.

The 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 is implemented on conclusion of the analysis and the definition of the specific corrective action. This allows the company to contact person 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 of the contractual relationship for a period which ranges from three to six months. In 2016, the suspension was activated for four suppliers



due to very serious non-compliances. In all the cases, the suspension was for six months.

The periodic assessment on the anomalies makes it possible for the active supplier to receive an up-date of their scoring for each individual qualified commodity, 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 by the supplier in their specific area of the supplier portal.

The scores have been divided up into three categories which contribute towards selecting the qualified suppliers by specific commodity class affected by the private tenders carried out by the Hera Group.

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 checks carried out by the company contact personnel take place for the deliveries of goods on receipt, while in relation to the provision of services and work it takes place during the execution of the service, for each related quarter: the check takes place by means of the compilation and signing of **specific lists of items to be checked (monitoring check-lists)**. These check-lists are compiled and signed also in relation to sub-contractors and similar if present. The activities of the various company work groups regarding the standardisation of another eight check-lists of services continued during 2016, 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** also helps to ensure the prompt and correct periodic evaluation of the qualified suppliers. The four categories identified essentially reflect the main certifications which the Hera Group has obtained: anomalies linked to the failure to observe Iso 9001, Iso 14001, Ohsas 18001 and Sa 8000 certification stand out. The number of checks on services and work is always defined on the basis of the contractual amount, the term of the order and the contract, and also the impact on quality, safety, the environment and on the social responsibility of the services monitored.

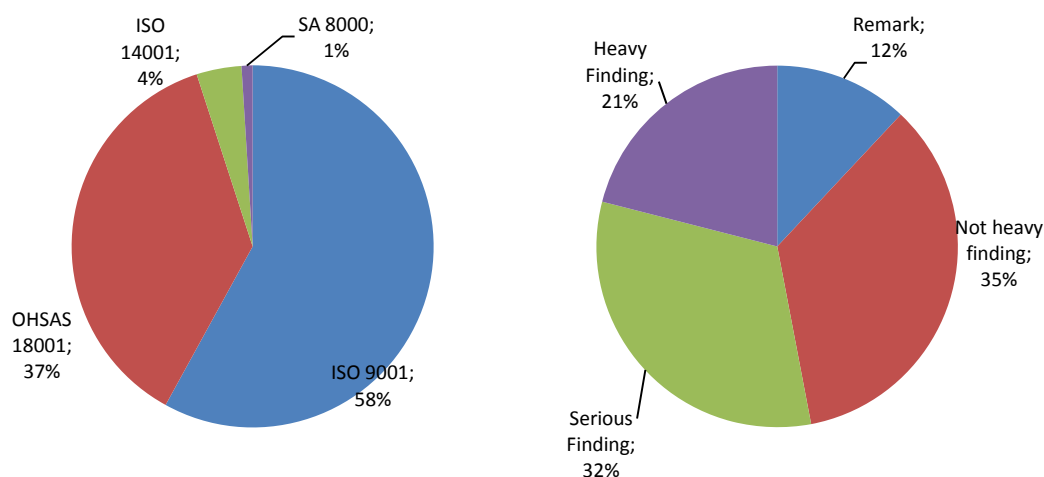
Once again in 2016, the internal audits of the Quality, Safety and Environment Department and the Procurement and Tender Contracts Department of Hera Spa continued, for checking the procedures adopted care of the contract contact individuals: these audits were increased to 11 during the year and on the basis of the problematic elements detected a new training plan has been set up for the company contacts. The new plan illustrated - to almost 130 individuals in Hera Spa and more than 150 individuals in AcegasApsAmga - all the innovations introduced in the activities for the accurate monitoring of the suppliers and the data uploading in the company information system. Per AcegasApsAmga, during the system launch phases, with the support of the Hera Spa Procurement and Tender

Contracts Division, an on-the-job training course was activated for the contract contact individuals, in order to support them in the compilation of the check-lists, the handling of the anomalies and irregularities and opening and classification of the non-compliances.

In 2016, 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 of the solution. There were 3 inspections during the year, which were joined by another six carried out within the Sa 8000 certification sphere.

Including AcegasApsAmga, during 2016 799 cases of non-compliance were detected overall (+33% with respect to 2015, in part the consequence of the full operations of the monitoring system also on the AcegasApsAmga volumes). Of these, 584 were closed as at 31 December 2016. The non-compliances relating to the observance of safety legislation numbered 295, those relating to respect for the environment were 27 and those concerning the social commitment were 11.

### Findings (2016)



Excluding Marche Multisevizi.

### Tenders for contracts awarded on the basis of the most economically advantageous bid approach

The Hera Group guidelines on Procurement 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. This guideline was adopted in 2008 further to the decision of the Board of Directors dated 2006.

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 and also on regulations on the matter, 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 other 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 (for the social commitment criterion), quality of materials, equipment and instruments, professional qualifications and skills, technical services and performance (for the service quality criterion).

In this connection, mention is made of the fact that in April 2016 the New Tender Code came into force, published by means of Italian Legislative Decree No. 50/2016, assimilating the EU directives issued on the subject and establishing the new regulations to be applied to tenders and public contracts, envisaging what is more, for the effective implementation of said code, 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 (e.g. cleaning services, scholastic services, etc.), or in engineering services for amounts greater than Euro 40 thousand. The Hera Group Procurement guidelines in fact anticipated these virtuous practices in the selection of the suppliers.

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 technical-economic score 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

	2014*	2015	2016
No. of public invitations for tenders published	13	18	37
Value of the public invitations for tenders published (in millions of Euro)	91.5	306.6	201.9
No. of public invitations for tenders published with economically advantageous bid	11	18	31
% of tenders with economically advantageous bid out of total (value of the calls)	98%	100%	97%
Average score assigned to aspects relating to sustainability of public tenders awarded during the year	26	25.3	27.6

\*Excluding AcegasApsAmga and Marche Multiservizi

In the three-year period considered, the incidence of the economically most advantageous bid criteria is equal to 99% of the total value of the invitations issued by the Group.

In particular, during 2016, a total of **37 public invitations for tenders** were announced, for a total starting price of more than Euro 202 million: of these 195 million, or 97% of the total value of the invitations issued in 2016, envisaged the awarding method according to the criteria of the most economically advantageous bid. The average score assigned to the sustainability aspects came to 27.6.

Excluding AcegasApsAmga and Marche Multiservizi, the same percentage is 100% of the value of the tenders awarded in 2016 in continuity with the previous year, with 30 points on average assigned for sustainability aspects. In 2016, 6 public tender invitations were issued with awarding to the largest discount for around Euro 6.5 million, equal to just 3% of the total value of the public tender invitations issued in the year. These invitations refer to the Triveneto and Marches areas where the incidence of the economically most advantageous bid criteria is greater than 75% of the total value of the invitations issued in 2016.

Furthermore, **6 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

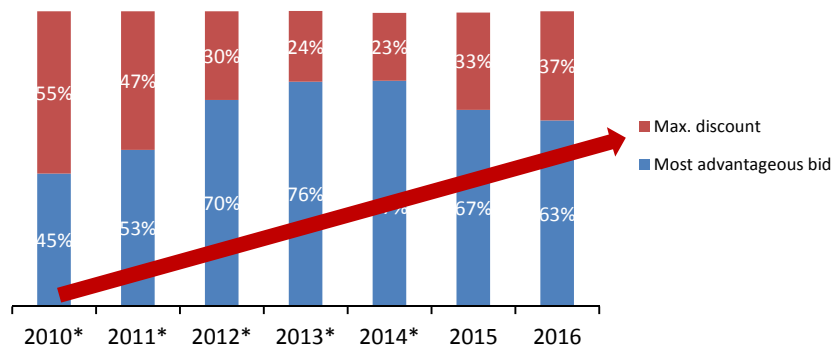
	2014*	2015	2016
Value of the total awards to which the economically most advantageous bid award method is applicable (in millions of Euro)	378.1	531.5	488.1
% of the value of the awards adopting the economically most advantageous bid method	76.5%	66.6%	63.0%
% of the value of the awards adopting the economically most advantageous bid method with environmental and/or social criteria	92.3%	95,6%**	95.4%

\*Excluding AcegasApsAmga and Marche Multiservizi. \*\*Excluding Marche Multiservizi.

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 **73% 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 63% if AcegasApsAmga and Marche Multiservizi are included.

In AcegasApsAmga, the 2016 value comes to 32%, down 8 percentage points with respect to 2015, a year which however had benefited from the extraordinary events relating to the tender for the integrated contract for the adaptation of the Servola treatment plant; net of this effect, the 2015 value would have been equal to 2% with consequent growth of 30 percentage points in 2016. In Marche Multiservizi during 2016, 36% of the value of the adjudications took place according to the economically most advantageous bid method, up 14 percentage points with respect to 2015.

At Group level, 2016 reported a slight drop in the percentage of the value of the adjudications involving the economically most advantageous bid compared with 2015 (-3 percentage points), a year which however benefited from the events described previously. Excluding this effect, the 2015 figure would have been equal to 59.3%, disclosing - at Group level in 2016 - an increase of almost four percentage points.

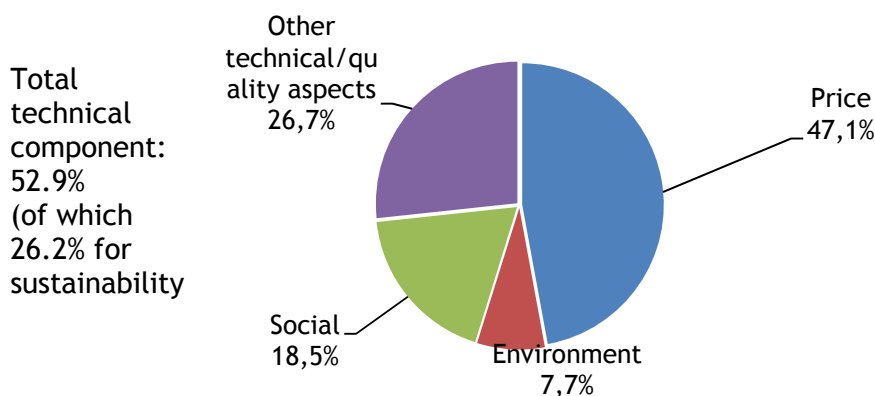


\*Excluding AcegasApsAmga and Marche Multiservizi

**95.4%** of the value of the adjudications awarded using the economically most advantageous bid was carried out using the **environmental and/or social assessment criteria**: in greater detail, for 84% with criteria which considers social commitments and 83% according to environmental assessment criteria.

With regard to orders/contracts awarded during 2016 via the economically most advantageous bid award method, the average score assigned to the technical component was almost **53** points out of 100, of which **26** relating to sustainability criteria (7.7 pertaining to environmental aspects and 18.5 to social aspects). Excluding AcegasApsAmga and Marche Multiservizi the average score assigned to sustainability criteria was 28, in the Triveneto area this value was 20 points, while in the Marches region the value was 8.

**Total awards adopting the economically most advantageous bid method: scores assigned to the various components (weighted average on the amounts) (2016)**



The objective for 2017 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 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 stood out among the tenders awarded in 2016.

**Among the public tenders:**

- In the negotiated procedure public tender for the supply, installation and commissioning of an **anaerobic digestion plant** for the production of biogas from organic waste deriving from separate waste collection located in Sant'Agata Bolognese (BO) for a tender amount of around Euro 13.7 million, of the 60 points reserved for the technical component, 57 were reserved for environmental sustainability aspects with reference to the consumption of thermal energy, electricity, water consumption and process efficiency, and 3 points were assigned to social sustainability in relation to the inspections of the Health and Safety Service. In the negotiated procedure public tender for supply, installation and commissioning of a **biogas treatment and purification plant** (upgrading) care of the Sant'Agata Bolognese composting plant, run by Herambiente Spa for a tender amount of around Euro 3.5 million, of the 60 points reserved for the technical component, 41 were reserved for environmental sustainability aspects with reference to energy consumption. In conclusion, in the open procedure public tender for the creation as a whole of **civil and demolition work** to be carried out care of the same composting plant for a tender amount of around Euro 7.3 million, of the 30 points reserved for the technical component, 8 were reserved for environmental sustainability aspects with reference to recourse to panelling for aesthetic mitigation and intumescent treatment of the load-bearing structures.
- In the negotiated public procedure for the entrusting of the creation as a whole of the works for the **enhancement of the gas and water ridges** (IV type) located in Pievesestina and realisation of pressurised sewage collectors and adaptation of the pumping plant for collection at the treatment plant in Via Calcinaro of the waste sewage networks for the districts of Pievesestina and Borgo Pievesestina for a tender amount of around Euro 6.9 million, of the 30 points reserved for the technical components, 5 points were reserved for social sustainability aspects (accident & injury trend and possession of OHSAS 18001 certification), 2 points for environmental sustainability (possession of ISO 14001 certification), and 23 points for technical aspects linked to the experience of the staff and execution timescales.
- In the restricted procedure public tender for the **supply of polyethylene, paper and bio-plastic sacks for the collection of urban waste**, including the related delivery, in the areas managed by the Hera Group (including AcegasApsAmga), for a tender amount of around Euro 3.6 million per annum, with regard to the bio-plastic and paper sacks, certification of

compliance of the sacks fit for composting offered with standard UNI EN 13432-2002 has already been requested in the technical specification, certification issued by the certifying Bodies (e.g. Cic-Certiquality; Vincotte; etc.), as laid down by Article 182 *ter* of Italian Legislative Decree No. 152/2006 as amended and added to, by contrast within the sphere of the 20 points reserved for the technical component, 4 points were reserved for socio/environmental sustainability aspects (possession of OHSAS 18001 certification, possession of ISO 14001 certification for bio-plastic and polyethylene, FSC - Forest Stewardship Council certification for paper).

- In the restricted procedure public tender for the awarding of the **solid municipal and similar waste collection and transportation service** involving a door-to-door method in the Padua area for a tender amount of almost Euro 2.5 million, of the 60 points reserved for the technical component, 22 points have been reserved for social sustainability with particular attention to projects for the work induction of individuals facing social hardship, and 11 have been reserved for environmental sustainability aspects (e.g. features for limiting the environmental impact of the vehicles used).
- Likewise, in the restricted procedure public tender for the awarding of the service **for security and handling of waste in the collection centres** managed in the Padua area, for a tender amount of almost Euro 1.5 million, of the 60 points reserved for the technical component, 31 points have been assigned to initiatives in the social sustainability sphere (e.g. projects for the work induction of individuals facing social hardship and measures and devices for increasing safety in the workplace).
- In the restricted procedure public tender for the awarding of the service for the **valorisation of waste** by means of mechanical/manual selection and sorting and mechanical handling care of the **Granarolo dell'Emilia (BO)** selection and recovery plant run by Herambiente SpA for a tender amount of around Euro 1.5 million, of the 60 points reserved for the technical component, 48 were reserved for social sustainability aspects (work induction of individuals facing social hardship, accident & injury rate trend applied, health and safety service inspections, cleaning and sanitation of work clothing of the staff, possession of OHSAS 18001 certification), and 3 points for environmental sustainability (possession of ISO 14001 certification).
- In the open procedure public tender for the services associated with the materials handling **service and operative and post-operative activities for the running of the landfill** for non-hazardous waste in Ravenna and post-operative activities for the running of the decommissioned landfills in the Romagna area and in the public tender for services associated with the materials handling service and operative and post-operative activities for the running of the Tremonti di Imola (BO) non-hazardous waste landfill and activities for the running of the decommissioned landfills in the Emilia - Emilia North - Florence area for a total tender amount of over Euro 10 million over 2 years, of the 60 points reserved for the technical component, 19 points were reserved for environmental sustainability aspects (environmental impact of the vehicles used and possession of ISO 14001 certification), and 31 points for social sustainability (accident & injury rate trend, possession of OHSAS 18001 certification, training on safety/fire prevention/first aid, cleaning and sanitation of work clothing of staff, health and safety service presence).



Furthermore, mention is made of the following **public qualification systems**:

- Within the sphere of the public qualification system for the awarding of the **emergency response maintenance work on the aqueduct and sewage networks** for the districts of Rimini, Modena, Forlì-Cesena, Ravenna and Ferrara, for a total indicative and estimated tender amount of Euro 28.8 million per annum, of the 70 points reserved for the technical components, 42 points have been reserved for social and environment sustainability aspects (possession of Iso140001, Ohsas18001, Sa 8000 certification, first aid training, fire prevention, dedicated and confined areas, staff qualified to deal with asbestos, enrolments in the National Register of Environmental Operators, environmental impact of vehicles, accident & injury rate) and 28 points reserved for other aspects, with particular attention to the experience and technical training of the staff.
- Within the sphere of the public qualification system for the **supply of company vehicles** for the Hera Group (including AcegasApsAmga), for a value of around Euro 3 million per annum, of the 40 points reserved for the technical component, 25 have been reserved for environmental sustainability with reference to the “completeness and sustainability of the range” of the vehicles offered by the competition on the basis of the fuel supply of said vehicles, assigning a higher sustainability factor to models which are eco-sustainable: dual fuel, hybrid. electric.

**Among the private tenders:**

- In the private tender for the entrusting of the work for the **creation as a whole of the Vallata del Savio redevelopment work, waste water collection network at the treatment plant, Ranchio-Borello section**, in the municipalities of Sarsina, Mercato Saraceno and Cesena for a tender amount of around Euro 4.1 million, of the 30 points reserved for the technical component, 8 points were reserved for social sustainability aspects (accident & injury trend and possession of Ohsas 18001 certification) and 2 points for environmental sustainability (possession of Iso 14001 certification), as well as 20 points for technical aspects linked to the experience of the staff and execution timescales.
- In the private tender for the entrusting of the **waste acceptance and weighing service** care of the Herambiente plants for a tender amount of around Euro 2.3 million per annum, of the 70 points reserved for the technical component, 41 were reserved for social sustainability aspects (work induction of individuals facing social hardship, accident & injury rate trend applied, safety training, possession of Ohsas 18001 and Iso 9001 certification), 8 points for environmental sustainability (possession of Iso 14001 certification, training on environmental matters) and 21 technical points with reference to professional experience and similar services.
- In the private tender for the entrusting of the **refractory maintenance work care of the waste-to-energy plants** in Trieste and Padua for a tender amount of almost Euro 2.3 million, the technical proposal for said work was in fact rewarded for 26 points out of 65 of the overall technical component for social sustainability aspects (training activities, certification, accident & injury rate trend).
- In the private tender for the entrusting of the **activities supporting the sewage network emergency response service, ordinary and**

**extraordinary maintenance and connections** in the area of Padua, Abano Terme and Saccisica, for a tender amount of Euro 1.6 million, in which environmental sustainability was reserved 10 points out of the 70 reserved for the technical components (environmental impact of the vehicles used) and 24 points were reserved for social sustainability aspects (training activities, certification, staff requisites).

- In the private tender for the **supply of company furnishings** for the Hera Group (including AcegasApsAmga), for a tender amount of around Euro 1 million over 5 years, of the 30 points reserved for the technical component, 15 were reserved for environmental sustainability aspects with reference to the legality and sustainability of the wood and the absence of harmful substances both in the varnishes and in the finished products (e.g. volatile organic compounds, formaldehyde). Likewise in the private tender for the entrusting of the heliographic and photocopying service for a value of around Euro 90 thousand, of the 60 points reserved for the technical component, 40 were reserved for environmental sustainability aspects (paper certified as recycled or Fsc or Pefc or equivalent, bearing witness to the eco-sustainable aspects of the production of the paper, inks with a low environmental impact, disposal of toner according to established procedures, IT solutions for avoiding waste, environmental impact of the delivery means), while 20 points went to social sustainability with reference to the employment of individuals facing social hardship.

In January 2016, further to the European public tender, Hera entrusted the management of the waste management services in the province of Ravenna to a temporary joint venture which during the takeover procedure with the previous contractor, which took place in April, highlighted shortfalls in terms of vehicles made available and certain specific professional skills, with consequent inefficiencies in the provision of the road sweeping, waste collection and transportation services and management of the drop-off points. These shortfalls led, on 3 May, to the termination of the outstanding contract, entered into on the basis of a public tender carried out entirely correctly, as also certified by the related sentence of the Emilia Romagna Regional Administrative Tribunal. In order to limit the inconveniences for the citizens and guarantee the service levels, Hera oversaw the performance of the waste management services in the entire provincial area, with the utmost commitment and attention, also activating the mobilisation of its vehicles and staff originating from other areas.

## **Contract management**

*Hera ensures efficiency, cost-effectiveness, neutrality and non-discrimination with regard to procurement*

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 protocol, are the corporate references for supplier selection activities; in fact, they determine the principles inspiring the Group's procurement 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.

Furthermore, in accordance with the provisions contained in the AEEGSI 11/2007 resolution, amended by the subsequent AEEGSI 57/2010 resolution concerning functional separation (unbundling), it was also emphasised that the Hera Group

handles the activities for the procurement of goods, services and work ensuring the application of efficiency, inexpensiveness, neutrality and non-discrimination criteria. In dealings with suppliers, it also guarantees the adoption in the contractual documentation of clauses for the observance of the confidentiality of the commercially sensitive information relating to the activities functionally separated.

The process, launched in 2014, for the progressive alignment of AcegasApsAmga with the contract management formalities envisaged for the Hera Group was consolidated further in 2016, with an increase in the number of procedures carried out to satisfy the mutual needs of Hera Spa and AcegasApsAmga. Among these, the most significant concern the tender for the supply of smart gas meters (membrane, ultrasonic and thermal mass - calibre from G4 to G16), the tender for the entrusting of the **global maintenance and management service for the real estate property**, plant engineering, all the activities associated with the management of the spaces, the tender for the acquisition of the active electronic billing services, operational and replacement optical archiving of the administrative-accounting documents of fiscal-statutory value, the tender for the purchase of motor vehicles, the tender for the acquisition of metal and polyethylene containers for waste collection, the tender for the acquisition of polyethylene, paper and bio-plastic sacks for urban waste collection, the tender for the acquisition of the ordinary, corrective, adaptive, and evolving Application Maintenance service to be carried out on the applications used by the Group companies.

#### **Further action for social responsibility in tenders**

The Hera Group confirmed the action undertaken in previous years, so as to effectively implement social responsibility in tenders on a consistent basis with the standards expressed in the Group Code of Ethics and with the matters required by the Sa 8000 standard on attention towards the work conditions in the supply chain.

On 26 October 2016, the **Memorandum of Understanding regarding tenders** of the Hera Group was entered into in this connection with the National Trade Union Organisations. This agreement contains the principles disciplining the adjudications outside the corporate activities, defining a system of rules, standard within the Group and consistent with the legislation and the regulations on the subject envisaged by the national collective labour agreement applied. The rules make reference to the protection of the staff employed by the suppliers both with regard to the employment continuity and the salaries/wages and legislative treatment due to the same, to the methods for choosing the company by means of a system which is consistent with the legislation on tenders and the Anac guidelines, the Group's Code of Ethics and the Sa 8000 certification system.

The Protocol in fact envisages that "having taken into account the provisions contained in the New Tender Code, within the sphere of the main company sectors, also in observance of the matters envisaged by Article 30.4 of the Code, the suppliers will be obliged to apply to their employees sector-specific national collective labour agreements, as well as any territorial collective bargaining in force in the area in which the tender takes place signed by the trade union organisations comparatively the most representative at national level". The afore-mentioned protocol also envisages the specific indication of the sector-specific national collective labour agreement to be applied to the main company sectors. In all the cases not expressly envisaged, the contractor will be obliged to

apply to its employees the national collective labour agreement, signed by the trade union organisations most representative at national level, whose sphere of application is more strictly associated with the activities forming the subject matter of the tender, as well as any territorial collective bargaining, in force in the area where the tender takes place.

With regard to the aspects linked to employment continuity, the tender protocol envisages that “Without prejudice to the matters envisaged by the sector-specific national collective labour agreement with regard to social clauses as well as the matters envisaged by Italian Law No. 11 dated 28 January 2016 on the changeover of the personnel in tenders for call center services, having taken into account the provisions as per Article 50 of the new Tender Code dated 18 April 2016, also acknowledging the ethical value of the so-called “social clause” as envisaged by the “Patto per il Lavoro” entered into in Emilia Romagna on 20 July 2015 and within the sphere of the sectors regulated and involving high intensity of manpower, for the purposes of furthering the employment and professional continuity in tenders for work and services inherent to the activities post-first intervention networks and services correlated to the handling of the relationship with the end user (consumption readings and activities ancillary to the meter), in the case of new service tenders already outsourced, and with the exclusion of the cases of insourcing in consideration of the saturation and valorisation aims of the internal resources, the new contractor will be obliged to make an employment offer consistent with the overall conditions existing at the time of the tender changeover such as remuneration and professionalism as well as with the duration of the tender, to the staff employed on a permanent basis and used directly and predominantly in the activities forming the subject matter of the tender, on the workforce care of the outgoing contractor in the period of 90 days prior to the launch of the new management. In all the other cases of takeover of tenders, there will be the obligation to organise a prior meeting between the outgoing contractor, the new contractor and the trade union organisations responsible geographically, for the purpose of assessing any possible solution aimed at safeguarding employment”.

In this connection within the sphere of the regulations relating to the most significant tender published in 2016, both the **reference to the sector-specific national collective labour agreements** and the **social clause for safeguarding employment** has been included: this involves the negotiated procedure tender by call for the entrusting - for five years - of the integrated and co-ordinated real estate property maintenance and management service, plant engineering and all the associated activities and management of the spaces within the sphere of the areas Hera Spa and AcegasApsAmga are responsible for (global service), with a tender amount of Euro 85.2 million. Furthermore, it is mentioned that in this tender procedure the employment induction of individuals facing social hardship has also been envisaged, as a rewarding criterion for assessment of the technical offer.

**Both the safeguard clause and the reference to the sector-specific national collective labour agreements** have been envisaged in other important tenders of the Hera Group, specifically:

- in the negotiated procedure tender, originating from the qualification system call, for the annual entrusting of emergency response and scheduled maintenance work, network redevelopment, connections and accessory services in water and sewage mains in the area managed by Hera

Spa, divided up into 5 geographic lots (Rimini, Modena, Forlì-Cesena, Ravenna, Ferrara), for a total tender amount of Euro 28.8 million;

- in the negotiated procedure tender, originating from the qualification system call, for the annual entrusting of the services supporting emergency response and scheduled maintenance work, network extension, connections and accessory services in the gas and district heating commodity sectors in the area managed by Inrete Distribuzione Energia, divided up into 5 geographic lots (Bologna, Forlì-Cesena, Modena, Ravenna, Ferrara), for a total tender amount of Euro 9.3 million;
- in the negotiated procedure tender, originating from the qualification system call, for the annual entrusting of the scheduled maintenance work, network extension, connections and accessory services (for example plant engineering distributed on the networks) in the water, sewage, district heating and gas commodity sectors to be carried out in the area managed by Hera S.p.A. involving a maximum amount, per individual adjudication, of Euro 1 million, divided up into 2 geographic lots (Emilia area, Romagna area), for a total tender amount of Euro 30.2 million.

It is also hereby specified that in the three afore-mentioned tenders, also a **clause** relating to the **limitation of the discount percentage** has been envisaged, worded as follows: “It is hereby specified that, having taken into account the technical singularities subject to the tender and the economic analysis which underlies the price items which make up the unit price list (EPU) under tender, the contracting body deems that reductions of the tender base higher than 25% may present critical elements of sustainability and reductions higher than 30% may be difficult to accept.”

It is also pointed out that in the restricted procedure tender for the annual entrusting of the waste management services in the area of the municipalities of the province of Ravenna, for a tender amount of Euro 18.5 million, a **clause** has been envisaged by virtue of which the company awarded the tender “undertakes to guarantee the employees of the contracting company/companies dedicated to the execution of the service, **the application of the national collective labour agreement for waste management services Utilitalia** (former Federambiente)/FISE. The matters envisaged by Articles 6 and 8, letter b) of the national collective labour agreement for waste management services Utilitalia (former Federambiente), remain unaffected in any event. Furthermore, a **clause** has been envisaged, again **safeguarding employment**, by virtue of which the company awarded the contract declares that it is willing to “assess, on a priority basis, in the event of need, the employment of staff, previously used in the activities in question, on the basis of name lists which can be acquired further to possible trade union agreements existing”. Furthermore, it is mentioned that in this tender procedure the employment induction of individuals facing social hardship has been envisaged, as a rewarding criterion for assessment of the technical offer, assigning this criterion 20 points out of a total of 70 to be assigned to the technical offer.

The **employment safeguarding and protection clauses** have also been envisaged in the following two open procedure tenders published by Herambiente:

- three-year awarding of the service for materials handling and operational and post-operational activities for the running of the landfill for non-hazardous waste at Imola Tremonti and activities for the running of the

decommissioned landfills in the Emilia - Emilia North - Florence area, with a tender amount of Euro 6.2 million;

- two-year awarding of the service for materials handling and operational and post-operational activities for the running of the landfill for non-hazardous waste in Ravenna and post-operational activities for the running of the decommissioned landfills in the Romagna area, with a tender amount of Euro 4.3 million.

The clause is worded as follows: “The Company, with regard to the personnel used in the performance of the tender, including any shareholder-workers: 1. shall have to, in compliance with the matters envisaged by Article 30.4 of the New Tender Code and subsequent amendments and additions, guarantee the employees of the contractor dedicated to the execution of the service, application of the national collective labour agreement for Waste Management Services Utilitalia (former Federambiente)/Fise. The matters envisaged by Articles 6 of the national collective labour agreement for Waste Management Services Utilitalia (former Federambiente)/Fise, remain unaffected in any event.”

The **employment safeguard clause** has also been included in the restricted procedure tender for the awarding of the service for the valorisation of waste by means of mechanical/manual selection and sorting and mechanical handling care of the Granarolo dell’Emilia (BO) selection and recovery plant run by Herambiente SpA for a tender amount of Euro 1.5 million. This social clause, which envisages the obligation for the new service provider who is awarded the tender, to make an employment offer to the operational personnel used by the service provider who has lost the tender, is worded as follows: “the company, in the event of adjudication of this tender, undertakes to make an employment offer consistent with the duration of the tender to the personnel employed permanently and used by the outgoing contractor directly and predominantly in the activities forming the subject matter of the tender”. Furthermore, it is mentioned that in this tender procedure the employment induction of individuals facing social hardship has been envisaged, as a rewarding criterion for assessment of the technical offer, assigning this criterion 20 points out of a total of 60 to be assigned to the technical offer.

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 authorisation to use temporary manpower**, a clause by virtue of which “in accordance with the matters envisaged by Article 48.6 of Italian Legislative Decree No. 81/2015, recourse to accessory work services (so-called vouchers) within the sphere of the execution of tenders for work or services” has also been included.

With regard to the main tenders carried out by AcegasApsAmga, even if carried out before the signing of the afore-mentioned memorandum of understanding concerning tenders of the Group, it is mentioned that employment safeguarding and protection clauses have been envisaged: with regard to the tenders relating to emergency response support, network maintenance and related user connections for the gas distribution service and for the sewage service where AcegasApsAmga has laid down that the new parties awarded the tender are obliged to make an employment offer consistent with the duration of the tender to the operational personnel employed permanently and used mainly in the activities forming the subject matter of the tender, on the workforce of the outgoing contractor in the period of 240 days prior to the date established for the presentation of the offer; with regard to the tenders relating to the office cleaning service and the

foretrough and hopper cleaning service, loading of sanitary waste and slag care of the waste-to-energy plants where it has been established that, if the national collective labour agreements applied by the company previously entrusted with the service, and by the party taking over the same, do not envisage a social clause which permits the transfer of all the personnel previously employed by the new contractor, the new contractor must be obliged to make an employment offer consistent with the duration of the tender, to all the personnel, none excluded, on the workforce care of the outgoing contractor.

With regard to the protection of the employees of the suppliers, it is also mentioned that Hera has intervened on several occasions with action vis-à-vis the suppliers to sort out problematic issues relating to the continuity of the salaries and legislative treatment due to the workers of said suppliers.

### 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 - among the mandatory enclosures - 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, the process for the collation and analysis of the data was computerised using the Sap Srm platform.

### Accidents in the workplace of suppliers

	2014*	2015*	2016**
Value of supplies of services and work (in millions of Euro)	480.0	495.0	634,6
Value ordered from suppliers under monitoring (in millions of Euro)	386.0	495.0	634,6
Value ordered from suppliers under monitoring (%)	80%	100%	100%
Amount ordered during the year from suppliers who have forwarded the monitoring	360.0	392.0	450,6
Value ordered from suppliers who have forwarded the monitoring out of the value of the supplies of services and work (%)	75%	79%	71%

\*Excluding AcegasApsAmga and Marche Multiservizi. \*\*Excluding Marche Multiservizi

During 2016, an IT instrument was consolidated on the Sap platform to support the entire supplier accident monitoring process (input of individual accident events and forwarding of the annual summary), supervision and accurate control by the company contacts with the support of the Health and Safety Service and the Procurement and Tender Contracts Department.

698 suppliers answered the survey in 2016 (689 in 2015 and 130 in 2014) for a total of Euro 407 million in terms of value of contracts (Euro 392 million in 2015 and Euro 360 million in 2014). The new IT system, fully applied to AcegasApsAmga in 2016, made it possible to significantly increase the number of suppliers involved.

The overall value of the work and service contracts monitored came to Euro 563 million (Euro 495 million in 2015).

The envisaged objective of obtaining a response rate of 70% of the total value of the contracts was achieved (72.3%). During 2016, AcegasApsAmga fully participated for the first time in the monitoring campaign, with a response rate lower than the average of the other companies involved (50% with respect to the 78% obtained by the other Group companies).

Overall, 326 accidents care of suppliers were monitored during the year. Calculations based on the data received identified a frequency index of the average accident of 11.1 with a severity index of the average accidents of 0.23, down significantly with respect to previous years.

It should be highlighted that the first 38 suppliers in terms of turnover (out of a total of nearly 700 replying to the survey) contribute towards 90% of the total accidents reported and 80% of the turnover subject to monitoring. With regard to this subset of the suppliers, the frequency and severity indexes come to 39 up slightly with respect to the previous year and to 0.80 in line with last year's figure, respectively. The data processed relating to the accidents of suppliers of work and services will be sent to the company contacts for the purposes of an overall assessment of the supplier performances.

### The E-procurement system

Hera is positioned at national best practice level in the use of evolved e-commerce instruments, by means of the extension since 2011 of the use of the e-procurement platform also to public tenders: Excluding Marche Multiservizi, in 2016 **99% of total volumes** were traded on this platform. In the same year, another two initiatives improved the handling of the internal processes always with a view to innovation: the adoption of a documental work flow model based on exclusively IT-based authorisation with total dematerialisation of the process and the adoption of the digital signature for the purchase documents, with related computer archiving.

### The use of sub-contracts

With regard to sub-contracting, the procedure introduced in the last quarter was further consolidated in 2016 partly by means of the full compliance of AcegasApsAmga. The authorisation to sub-contract makes the Works Directors and the company contacts, (parties tasked with controlling the outside companies), responsible for documental check activities, and Vendor Rating and Assurance responsible for the validation of the process, the checking of the social security contribution regularity, the search of the Anac electronic records and also, 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 is periodically reviewed for up-dates with the reference legislation. All the documentation is made available, via the supplier portal, to the companies and via the Company Information Portal, to all the employees. Furthermore, since April 2015 all the standardised documentation and the operational flow for the handling of the sub-contracts are also available. In conclusion, 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), along with the obligations for permitting 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 and/or Map (performance certification form). In the absence of proof, the Works Director/company contact suspends the payment of the subsequent progress reports/performance form until payments are up-to-date. This method is alternative to the direct payment of the sub-contractors which, as per standard specifications, can be activated during the course of the work. Hera intervened in this sense in various cases during 2016.

In 2016 approximately Euro 41 million was sub-contracted out, equal to 7.1% of the amount of work and services outsourced by the Group (excluding Marche Multiservizi).

#### **Times of payment as per contract**

The payment times for the supplies during 2016 came to 112 days (excluding Marche Multiservizi).

#### **Supplier relations**

*The channels of contact with the suppliers comply with the requisites of simplicity, efficiency and effectiveness*

The supplier portal is the main tool for communications with the market of suppliers, especially thanks to the consolidation of the activities for the handling of the qualified suppliers, which takes place via the Vendor Management system and the integrated e-procurement platform for the on-line management of procurement. In 2016, there were **around 15 thousand requests for information** received: all the requests were **sorted out within the timescales envisaged** by company procedures.

During 2016 the customary discussion encounters continued with trade associations and representatives (for example, Cna and industrial associations/coop of Ravenna), along with participation in the meetings of the local multistakeholder committees HeraLAB further to requests for in-depth analysis into the Group procurement and supplier relationship system.

Once again in 2016, training/information sessions continued addressing suppliers active with the Group (2 sessions and 18 companies involved) to illustrate the methods for handling anomalies detected during the monitoring by the Hera company contacts, and to describe the sub-contracting management process (including the handling of the mandatory and necessary documents).

As usual, at the beginning of 2017 the customary meetings were held with representatives of **social cooperatives** working in the areas served by the Hera Group, to discuss the 2016 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.

In 2016, in accordance with the model defined in 2015 which encourages the suppliers to generate winning solutions to improve quality and efficiency of the supplies and extract the greatest value possible, 9 win-win initiatives were implemented with the suppliers of which 8 relating to the optimisation of the materials purchasing methods (by means of further digitalisation with the

involvement of 25 suppliers) and the related operational optimisation care of a waste treatment plant.

### Litigation with suppliers

The number of disputes rose: at the end of 2016, there were 16 disputes pending with the suppliers, compared with 14 at the end of 2015. The proceedings activated in 2016 came to ten and mainly concerned tender aspects.

### Case studies for suppliers

#### Operations within local communities

##### Lead-on employment generated by Hera: more than 6,000 workers

The impact on employment can be gauged directly by the workforce employed; taking into consideration the area in which the Group companies are operative, **8,475 employees** were taken on under permanent and temporary employment contracts.

In order to globally assess the social repercussions on the country, however, it is useful to consider the employment of suppliers who procure sundry goods, work 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 2016, lead-on employment generated an estimate of **6,037 jobs** of which more than 3,555 in Emilia-Romagna, 760 in Triveneto and 162 in the Marche.

This figure was obtained by analysing the financial statements of the Group's leading 365 suppliers which cover 79% of the volume purchased in 2016. 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.

#### Qualification and selection of suppliers

##### Sa 8000 certification: the supplier monitoring plan

During the year, 66 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. More than 130 disclosure measures on the legislation were requested and reported on, by the companies, vis-à-vis their workers.

During 2016, **6 Sa 8000 audits** were carried out directly care of the headquarters of the suppliers: in two cases, it became necessary to carry out a second check to control the effective launch of the improvement process agreed on and the activation of the corrective action. Eleven audits were also carried out directly at the Hera Group worksites. The audits at the premises of suppliers were carried out and signed by certified external personnel with references, so as to ensure a transparent and independent process adopted by the Group.

## Methodological guide to the Report

*A fundamental tool for management, reporting and dialogue to evolve towards “shared value”*

### Drawing up this report

For the Hera Group, the sustainability report continues to be 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.

Since 2007, the sustainability report has been approved by the Board of Directors of Hera Spa when the financial statements are approved and has been submitted to the Shareholders' Meeting; this aspect testifies to the role that this instrument has within the company's planning and control system.

It is widely distributed: presentation event, to all of the Group's employees and to its main stakeholders (over 1,300 people), and publication on the web together with the financial statements.

Hera's sustainability report provides the principles which guide our actions, **the performance achieved, the objectives reached** compared to stated and future objectives, **the results of our dialogue** with stakeholders and **the projects in the field**. Special focus was given to case studies: projects of particular relevance that demonstrate the Group's commitment towards social responsibility and the results achieved. Some of the technical terms used are defined in the attached glossary. The analytical list of contents makes it easier to read the document.

The 2016 report presents Hera's new approach to shared value which focuses on the evolution of sustainability reporting with a view to responding more effectively to local stakeholders' needs and to make the value generated through the local area more tangible.

### Standards

The 2016 sustainability report was drawn up on the basis of the **AA1000 standard** which provides the **steps required** for preparing social and sustainability reports.

The report content matter was selected **in compliance with GRI Sustainability Reporting Standards** (2016) and “Electric Utilities Sector Disclosures” (2013) both defined by Global Reporting Initiative (GRI) with the option “In accordance” - Comprehensive. For the definition of Value added and its distribution to stakeholders the **Standard GBS 2013** defined by Gruppo di studio per il Bilancio Sociale have been used. In this issue of the report, **for the first time this year and two years ahead of mandatory requirements**, the GRI standard approved in October 2016 was used as a reference.

The Hera Group has ratified its commitment to the aims of the **Global Compact** and the report represents the yearly Communication on Progress that is submitted to the Global Compact.

### Structure of the document

The first section of the report describes the company's identity, its mission, corporate strategies, sustainability policies, the key indicators for assessing economic, environmental and social sustainability, the dialogue with stakeholders and the corporate economic returns using the methodology based on value added allocated to stakeholders proposed by the GBS. The next sections provide an

account of the results achieved for each class of stakeholder, given as performance ratings of a qualitative and quantitative nature and related to the objectives set forth in the previous report and achievement of these. In each section, the stakeholder listening, dialogue and involvement initiatives are indicated.

The objectives for the coming years for each class of stakeholder have been set in line with the company's strategic planning instruments; in many cases, future targets which the company has committed to have been specified with numeric indicators.

### Reporting actions

The reporting actions of this Report comply with the AA1000 standard. An **internal procedure** was issued in January 2012 and updated in 2015 which describes the activities required for planning, achieving, approving, disclosing and presenting the report and the associated 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 2016-2020, budget 2017 and balanced scorecard 2017. 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 final data collection actions required for the report were carried out through forms providing the technical indications used to detect the indicators.

### Definition of contents

Sustainability reporting is preceded annually by the identification and analysis of the most relevant topics for the stakeholders and for the company.

The process for defining the material topics is based on the analysis of internal and external documents which brings to light the stakeholders' outlook on the sustainability aspects related to the Company's activities. The purpose of the subsequent analysis phase is to select the most relevant aspects for the stakeholders, upon which sustainability reporting must also be focused.

The work of 6 HeraLABs (local multistakeholder councils) 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 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.

HeraLABs (laboratories for local areas or Local Advisory Boards) 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 topics during the next meetings in order to improve their related impacts.

As part of the development of the sustainability report with a focus on shared value, national and supranational strategic guideline policies were analysed relating to the businesses managed by the company. The main drivers of the global and local agenda were defined, therefore, with a focus on shared value and an initial reclassification of the report with respect to these drivers was carried out.

The topics that had a high relevance assessment (defined in terms of interest and conflict) during 2014-2016 in a widespread manner by the 6 Labs (in which 69 stakeholder representatives took part) were:

- attention to vulnerable users (across all areas);
- waste treatment plant environmental impact (especially in Imola);
- energy efficiency and energy savings (with a growing trend especially as regards interest);
- local development and attention to local suppliers (especially in Ravenna);
- separate waste collection, reuse of waste and quality and costs of urban hygiene services;
- development and costs of district heating service (especially in Ferrara and Imola);
- urban decor (especially in Bologna).

Regarding the **press review** analysis, the presence of Hera 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 those with greater visibility (weighted positive or negative visibility index above 10,000 points). The topics identified were: financial results and governance, contract management for waste management services (especially in Ravenna), start of the waste collection services and quantity-based pricing applied to waste (especially in Bologna, Imola and Modena), environmental impacts of new plants (especially in Imola), new acquisitions, disposal of urban waste from outside the region and management of the glass recovery sector.

**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 2015 highlighted the following important topics: remuneration, internal communication, relations with colleagues and coherence with values.

The following table summarises the aspects regarded as material topics by the analysis, i.e. those of greater relevance both for the Group and its stakeholders. At local level material topics relate to district heating in Ferrara and Imola, and the Servola purifier in Trieste.

These aspects are reported in the Sustainability Report together with other topics that despite not passing the high-relevance threshold are considered important in respect of the relationships held with various company stakeholders.

### Topics raised in the 2016 materiality analysis

Stakeholder	Aspect
Customers	Attention to users suffering economic difficulties (see page 80)
	Energy efficiency and energy savings (see page 179)
	Health & Safety (H&S) and trustworthiness of the gas service (see page 92)
	Presence and performances at branches (see page 65)
	Online services (see page 102)
Workforce	Salaries and incentives (see page 138)
	Internal communication (see page 149)
	Professional development (see page 128)
The environment and future generations	Environmental impact of systems (new and existing) (see page 224)
	Separate waste collection and waste prevention (see page 217 and 216)
	Quality and costs of waste collection and city integrity service (see page 207)
Suppliers	Local development (see page 284)
	Supplier selection procedures (see page 286)
	Management of contracts for waste management services (see page <b>Errore. Il segnalibro non è definito.</b> )

### SA8000 reporting

This report is the tool for external communication and for stakeholder engagement support set out in the SA8000 standard. Hera Spa and two subsidiaries are SA8000 certified.

### Scope of the report

The scope of this report includes all the companies in the Hera Group, consolidated using the line-by-line method in the Group's consolidated financial statements.

Furthermore, the following were also considered:

- 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 50%) which manages the sale of electricity and gas in the north east, with regard to aspects involving customer relations.

In certain cases, the findings do not tally fully with the report, in terms of scope of reporting, as indicated by the notes accompanying the single tables. The reasons for this may be ascribed to the lack of certain items, to the fact that certain items are not sufficiently significant, or to the fact that the pertaining data cannot be collected by applying the same management and recording procedures.

## Companies included in the scope of reporting

Hera Spa			AcegasApsAmga	Herambiente	Hera Comm
<ul style="list-style-type: none"> <li>• Acantho Spa</li> <li>• Hera Luce Srl</li> <li>• Hera Spa</li> <li>• Hera Trading Srl</li> <li>• Inrete</li> <li>• Distribution Energy Spa</li> <li>• Marche Multiservizi Spa</li> <li>• Medea Spa</li> <li>• Uniflotte Srl</li> </ul>	<ul style="list-style-type: none"> <li>• AcegasApsAmga Spa</li> <li>• AcegasAps Service Srl</li> <li>• Aresgas AD*</li> <li>• Black Sea Gas Company eood*</li> <li>• SiGas*</li> <li>• Sinergie Spa*</li> <li>• Tri-Generazione Srl*</li> </ul>	<ul style="list-style-type: none"> <li>• ASA Scpa</li> <li>• Biogas 2015 Srl</li> <li>• Feronia Srl</li> <li>• Frullo Energia Ambiente Srl</li> <li>• Herambiente SpA</li> <li>• Herambiente Servizi Industriali Srl</li> <li>• Hestambiente Srl</li> <li>• Sviluppo Ambiente Toscana Srl</li> <li>• Waste Recycling Spa</li> </ul>	<ul style="list-style-type: none"> <li>• Amga Calore &amp; Impianti Srl</li> <li>• Amga Energy &amp; Services Srl</li> <li>• Gran Sasso Srl</li> <li>• Hera Comm Marche Srl</li> <li>• Hera Comm Srl</li> <li>• Hera Services Energy Srl</li> </ul>		

\*As far as economic aspects are concerned

### 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, Claudio Galli, Mauro Tiviroli, Alessandro Baroncini, Roberto Gasparetto, Franco Fogacci and Susanna Zucchelli.

**Corporate Social Responsibility Department - Sustainability Reporting:** Filippo Bocchi, Nicola Astolfi, Benny Buozzi, Giuseppe Milici and Gianluca Principato.

Thanks to all the 116 persons involved in the preparation of this Sustainability Report.

### Assurance

This report was audited by an external company, which certified its compliance with the **GRI standard** (Global Reporting Initiative Standard, Electric Utilities Sector Disclosures) and the **GBS** guideline.

The corporate quality management system, certified in compliance with the ISO 9001:2008 standard, envisages a procedure relating to the preparation of the Sustainability Report and collection of quality KPIs on a regular basis.

In terms of the two options of application identified by the GRI standard, this report adopts the **Comprehensive** option, which corresponds to complete application of the guideline requirements.

## INDEPENDENT AUDITORS' REPORT ON THE SUSTAINABILITY REPORT

### To the Board of Directors of Hera S.p.A.

We have carried out a limited assurance engagement on the Sustainability Report of the Hera Group (the "Group") as of December 31, 2016.

#### *Directors' responsibility on the Sustainability Report*

The Directors are responsible for the preparation of the Sustainability Report in accordance with the "GRI Sustainability Reporting Standards" (2016) and the "Electric Utilities Sector Disclosures" (2013) both issued by GRI - Global Reporting Initiative, as stated in the paragraph "Methodological guide to the Report" of the Sustainability Report, and for such internal control as they determine is necessary to enable the preparation of a Sustainability Report that is free from material misstatement, whether due to frauds or unintentional behaviours or events. The Directors are also responsible for defining the Hera Group's objectives regarding the sustainability performance and the reporting of the achieved results, for the identification of the stakeholders and the significant aspects to report.

#### *Auditors' responsibility*

Our responsibility is to issue this report based on the procedures performed. We conducted our work in accordance with the criteria established in the "International Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information" ("ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board for limited assurance engagements. The standard requires the compliance with ethical principles, including independence requirements, and that we plan and perform the engagement to obtain limited assurance whether the Sustainability Report is free from material misstatement.

The procedures performed on the Sustainability Report included inquiries, primarily with company personnel responsible for the preparation of the Sustainability Report, analysis of documents, recalculations and other evidence gathering procedures as appropriate.

These procedures consisted in verifying its compliance with the standard GRI 101: Foundation for defining report content and quality, and are summarized as follows:

- comparing the economic and financial information and data reported in the chapter "The economic value for our stakeholders" of the Sustainability Report with those included in the Group Consolidated Financial Statements as of December 31, 2016, on which Deloitte & Touche S.p.A. issued the report pursuant to articles 14 and 16 of Legislative Decree no. 39 of 27 January, 2010, dated April 5, 2017;
- analysing, through interviews, the governance system and the management process of the matters related to sustainable development regarding the strategy and operations of the Group;
- analysing the process relating to the definition of material aspects disclosed in the Sustainability Report, with reference to the methods used for the identification and prioritization of material aspects for stakeholders and to the internal validation of the process results;



- analysing how the processes underlying the generation, collection and management of quantitative data of the Sustainability Report operate. In particular, we have performed:
  - interviews and discussions with the management of the Hera Group to gather information about the accounting and reporting systems used in preparing the Sustainability Report, as well as on the internal control procedures supporting the gathering, aggregation, processing and transmittal of data and information to the department responsible for the preparation of the Sustainability Report;
  - analysis, on a sample basis, of the documentation supporting the preparation of the Sustainability Report, in order to gather the evidence of processes in place, their adequacy, and that the internal control system correctly manages data and information in connection with the objectives described in the Sustainability Report;
- analysing the compliance and the internal consistency of the qualitative information disclosed in the Sustainability Report in relation to the standards identified in the paragraph "Directors' responsibility on the Sustainability Report" of this report;
- analysing the stakeholders engagement process, in terms of methods applied, through the analysis of the minutes of the meetings or any other available documentation about the main topics arisen in the discussion with them;
- obtaining the representation letter signed by the Chief Executive Officer of Hera S.p.A., on the compliance of the Sustainability Report with the standards identified in the paragraph "Directors' responsibility on the Sustainability Report" of this report, as well as the reliability and completeness of the data and information disclosed.

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.

### *Conclusion*

Based on the work performed, nothing has come to our attention that causes us to believe that the Sustainability Report of the Hera Group as of December 31, 2016 is not prepared, in all material respects, in accordance with the "*GRI Sustainability Reporting Standards*" (2016) and the "*Electric Utilities Sector Disclosures*" (2013) both issued by *GRI - Global Reporting Initiative*, as stated in the paragraph "Methodological guide to the Report" of the Sustainability Report.

DELOITTE & TOUCHE S.p.A.

Signed by  
**Franco Amelio**  
Partner

Milan, Italy  
April 5, 2017

*This report has been translated into the English language solely  
for the convenience of international readers.*

## Annexes

### Sustainability KPIs - Hera Spa

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Social Responsibility</b>											
Open-ended contract employees (average annual % of total workforce)	93.2%	93.4%	94.3%	95.2%	95.6%	96.0%	97.0%	97.5%	98.3%	98.1%	98.1%
Training hours (average, per capita)	20.1	24.3	33.2	23.0	23.0	28.1	27.5	28.3	29.8	32.1	31.5
Workforce attending at least one training course (%)	92.5%	92.1%	97.6%	93.4%	96.0%	95.6%	97.1%	97.6%	97.2%	99.7%	98.1%
Accident frequency index (number of accidents/hours worked x 1,000,000)	49.2	41.6	38.0	32.0	28.2	22.1	22.3	19.8	18.6	17.8	17.1
Internal climate index (score 0-100)	-	53	-	58	-	64	-	61	-	64	-
Index of customer satisfaction for residential customers (score 0-100)	67	65	67	69	69	70	69	70	69	70	70
Compliance with AEEGSI and Service Charter quality standards (gas, electricity, integrated water service, district heating)	94.6%	94.8%	95.8%	97.5%	98.6%	98.7%	99.5%	99.4%	99.5%	99.5%	99.8%
Emergency gas services: percentage of calls with intervention within 60 minutes	96.3%	96.8%	96.5%	96.8%	97.8%	98.9%	98.7%	98.6%	97.9%	97.1%	96.9%
Average call centre response time for residential customers (seconds)	34.5	46.2	66.1	33.2	33.8	37.4	39.9	49.0	40.0	30.2	33.8
Average branch operator waiting time (minutes)	23.7	20.7	19.3	14.6	14.5	10.5	9.9	11.8	11.1	8.9	10.4
Value of supplies from local suppliers (% of total)	-	-	66%	68%	64%	65%	65%	64%	64%	63%	64%
Contracts awarded using the economically most advantageous bid (% of total)	-	-	-	36.0%	44.6%	53.0%	70.2%	76.1%	76.5%	73.1%	73.1%
No. environmental education programme students	37,622	36,019	45,617	39,901	41,306	52,017	51,906	58,022	59,220	65,362	80,295
<b>Environmental responsibility</b>											
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%)	27.6%	27.9%	31.9%	27.3%	25.0%	29.3%	28.6%	30.5%	38.0%	34.4%	34.2%
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%) and similar	51.2%	62.9%	53.9%	62.9%	67.5%	72.6%	71.2%	71.7%	69.7%	70.3%	71.2%
Waste-to-energy plant emission levels vs. legal limits (real concentrations/legal limits: optimal value <100%)	21.2%	19.3%	17.1%	13.4%	13.0%	12.0%	11.0%	12.9%	14.1%	14.6%	12.3%
Quality of treated water vs. legal limits (real concentrations/legal limits: optimal value <100%)	-	-	-	35.5%	36.1%	38.3%	40.9%	38.2%	35.8%	40.7%	39.9%
Intensity index of greenhouse gas emissions (kg/MWh)	-	-	-	-	-	628	583	549	535	594	495
Non-invoiced water (physical and administrative losses from the domestic water system): cm/km of network/day	8.48	8.33	8.00	7.87	7.99	7.83	8.36	8.12	8.32	8.94	-
Separate waste collection	31.2%	36.1%	42.4%	45.3%	47.4%	50.7%	51.6%	54.0%	55.3%	56.7%	57.4%
Kilos of separate waste collection per capita	217	224	251	275	349	357	353	366	373	382	391
Vehicles using low environmental impact fuels (methane, LPG, electric powered) (% of total)	13.7%	14.0%	15.8%	17.6%	18.4%	19.2%	23.5%	25.9%	28.9%	29.5%	30.1%
Portion of urban waste collected for disposal via landfill (% total collected solid waste)	37.0%	35.3%	33.5%	27.0%	21.8%	19.8%	19.0%	16.1%	11.9%	6.4%	5.5%

## Sustainability KPIs - AcegasApsAmga

	2013	2014	2015	2016
<b>Social Responsibility</b>				
Open-ended contract employees (average annual % of total workforce)	93.3%	95.9%	96.7%	96.6%
Training hours (average, per capita)	17.4	24.5	28.6	20.5
Workforce attending at least one training course (%)	99.8%	97.5%	97.3%	98.2%
Accident frequency index (number of accidents/hours worked x 1,000,000)	28.9	24.4	21.4	19.1
Internal climate index (score 0-100)	56	-	58	-
Index of customer satisfaction for residential customers (score 0 to 100)*	70	69	69	68
Compliance with AEEGSI and Service Charter quality standards (gas, electricity, integrated water service, district heating)	98.4%	99.7%	99.9%	99.8%
Emergency gas services: percentage of calls with intervention within 60 minutes	99.1%	99.5%	99.7%	99.7%
Average call centre response time for residential customers (seconds)*	52.2	44.1	57.7	44.0
Average branch operator waiting time (minutes)**	22.6	20.5	24.7	20.0
Value of supplies from local suppliers (% of total)	-	60%	69%	61%
Contracts awarded using the economically most advantageous bid (% of total)	33.8%	17.4%	39.9%	31.7%
No. environmental education programme students	7,309	5,035	10,156	15,039
<b>Environmental responsibility</b>				
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%)	-	-	-	-
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%) and similar	-	-	-	-
Waste-to-energy plant emission levels vs. legal limits (real concentrations/legal limits: optimal value <100%)*	16.3%	15.8%	16.7%	18.0%
Quality of treated water vs. legal limits (real concentrations/legal limits: optimal value <100%)	61.2%	60.6%	69.5%	66.1%
Intensity index of greenhouse gas emissions (kg/MWh)	-	-	-	-
Non-invoiced water (physical and administrative losses from the domestic water system): cm/km of network/day	29.92	27.25	25.70	-
Separate waste collection	42.0%	44.8%	47.7%	50.2%
Kilos of separate waste collection per capita	227	241	246	265
Vehicles using low environmental impact fuels (methane, LPG, electric powered) (% of total)	1.1%	0.9%	0.9%	1.3%
Portion of urban waste collected for disposal via landfill (% total collected solid waste)	0%	0%	0%	0%

\* Refers to AcegasApsAmga and AcegasAps Service

\*\* Weighted average of AcegasApsAmga and Estenergy

\*\*\* Weighted average AcegasApsAmga and Amga Energia&Servizi

\*\*\*\* Refers to Hestambiente

## Sustainability KPIs - Marche Multiservizi

	2013	2014	2015	2016
<b>Social Responsibility</b>				
Open-ended contract employees (average annual % of total workforce)	98.5%	98.0%	97.4%	95.0%
Training hours (average, per capita)	30.0	19.5	32.1	33.7
Workforce attending at least one training course (%)	88.7%	87.4%	100%	97.9%
Accident frequency index (number of accidents/hours worked x 1,000,000)	48.4	32.9	46.7	21.0
Internal climate index (score 0-100)	n.a.	-	65	-
Index of customer satisfaction for residential customers (score 0-100)	-	-	-	-
Compliance with AEEGSI and Service Charter quality standards (gas, electricity, integrated water service, district heating)		100%	99.9%	99.6%
Emergency gas services: percentage of calls with intervention within 60 minutes		99.2%	97.8%	97.1%
Average call centre response time for residential customers (seconds)	84.0	44.4	50.7	125.0
Average branch operator waiting time (minutes)	11.3	9.4	11.7	14.6
Value of supplies from local suppliers (% of total)		44%	40%	43%
Contracts awarded using the economically most advantageous bid (% of total)			55.4%	34.7%
No. environmental education programme students		1,420	2,609	700
<b>Environmental responsibility</b>				
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%)	100%	100%	100%	100%
Portion of energy produced from renewable sources (incl. waste-to-energy at 51%) and similar	100%	100%	100%	100%
Waste-to-energy plant emission levels vs. regulations (real concentrations/regulations: optimal value <100%)	-	-	-	-
Quality of treated water vs. regulations (real concentrations/regulations: optimal value <100%)		29.0%	32.8%	30.0%
Intensity index of greenhouse gas emissions (kg/MWh)		-	-	-
Non-invoiced water (physical and administrative losses from the domestic water system): cm/km of network/day	6.27	6.64	6.83	-
Separate waste collection		54.2	52.9	57.6
Kilos of separate waste collection per capita		331	307	319
Vehicles using low environmental impact fuels (methane, LPG, electric powered) (% of total)	1.3%	1.3%	10.3%	12.0%
Portion of urban waste collected for disposal via landfill (% total collected solid waste)	43.2%	46.0%	43.1%	40.7%

## Topics of the Sustainability Report consistent with the 2030 UN Sustainable Development Goals

Objective	Targets of interest for the Hera Group	Objectives, results e measures of Hera Group
Ob. 4: Quality education	4.4 By 2030, substantially increasing the number of young people and adults who have the necessary skills, including technical and professional skills, to access dignified employment and to have entrepreneurial ability.	<ul style="list-style-type: none"> <li>• Continue the activities related to the regional protocol on school-work experience</li> </ul>
	4.7 By 2030, ensure that all students acquire the knowledge and skills needed to promote sustainable development by, among others, education for sustainable development and sustainable lifestyles (...)	<ul style="list-style-type: none"> <li>•</li> </ul>
Ob. 5: Gender equality	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.	<ul style="list-style-type: none"> <li>• Bringing up to speed the employee welfare system and updating the contents of the offer on the basis of the experience acquired in 2016 (funds allocated and number of initiatives made available to employees)</li> <li>• ...</li> </ul>
Ob.6: Clean water and sanitation services	6.3 Improve water quality by 2030, by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and increasing recycling and safe reuse globally.	<ul style="list-style-type: none"> <li>• PSBO at Rimini</li> <li>• Servola treatment plant: start-up of treatment plant in 2017</li> <li>• Upgrade of urban areas</li> <li>• Continue to upgrade and improve treatment plants.</li> <li>• Continue the authorization process on the upgrade of the Borgheria plant in Pesaro and continue the construction;</li> </ul>
	6.4 Substantially increase, by 2030, the water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.	<ul style="list-style-type: none"> <li>• Innovative projects to recover energy from treatment sludge and installation of micro-turbines</li> </ul>
	6.5 By 2030 implement integrated water resources management at all levels, including through transboundary cooperation if appropriate.	<ul style="list-style-type: none"> <li>• Innovative projects to recover energy from treatment sludge and installation of micro-turbines</li> </ul>

Objective	Targets of interest for the Hera Group	Objectives, results e measures of Hera Group
Ob. 7: Sustainable and affordable energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.	<ul style="list-style-type: none"> <li>• Electricity consumed: 100% from renewable sources by 2017 for Emilia-Romagna and assessment of extension to other areas and reduction of greenhouse gas by XX%</li> <li>• “Biorefinery and biomethane” project</li> <li>• Increase the share of energy from renewable sources and similar sources serving the district heating to 76% (up 18% compared to 2015)</li> <li>•</li> </ul>
	7.3 By 2030, double the global rate of improvement in energy efficiency.	<ul style="list-style-type: none"> <li>• ISO 50001 energy improvement plan: achieving a 3% reduction in energy consumption in 2017 (compared to 2013) and planning further measures to reduce energy consumption by 5% by 2020 (compared to 2013)</li> <li>• Hera Luce: increase energy saving measures and replacement of lighting fixtures with LED lamps</li> </ul>
Ob.8: Decent work and economic growth	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, focusing on high-value-added and labour-intensive sectors.	
	8.3 Promote development-oriented policies that support productive activities, creation of dignified jobs, and entrepreneurship.	<ul style="list-style-type: none"> <li>• Workers facing hardship hired: 686</li> <li>• SA8000 Certification for AAA and new standard for Hera Spa</li> <li>• Continue to implement actions to optimise work time through the digitisation of internal processes and innovative tools (Hera smart project)</li> </ul>
	8.8 Protect labour rights and promote safe and secure working environments for all workers	<ul style="list-style-type: none"> <li>• Set up accident prevention actions: 18.9 frequency index in 2017 (-13% compared to 2014)</li> </ul>
Ob.9: Innovation and infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes.	<ul style="list-style-type: none"> <li>• 83 waste treatment plants certified, of which 44 are recovery plants</li> <li>• % of customers with on-line billing: 13.8%</li> <li>• % customers using online services: 15.9%</li> </ul>

Objective	Targets of interest for the Hera Group	Objectives, results e measures of Hera Group
	9.5 Encourage scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and increasing the number of research and development workers per 1 million people, and public and private research and development spending.	HergoAmbiente project, Customer Experience project, smart thermostats, Eureka project, biorefinery and biomethane project, smart poles, innovative projects in the SII.
Ob. 11: Sustainable cities and human settlements	11.6 Reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.	<ul style="list-style-type: none"> <li>• MSW disposed of in landfills: 8.6% (EU 2030 objective achieved)</li> <li>• RD: 55.4%</li> <li>• Packaging recycling rate: 64% (close to EU 2025 objective)</li> <li>• Recycling rate: 48% (close to EU 2020 objective)</li> <li>• "Tracking waste" report</li> <li>• WTE emissions at 15% of the legal limits</li> <li>• Emissions avoided by district heating (NOX and SOX): about 500 t</li> </ul>
Ob. 12: Responsible consumption of resources	12.2 Achieve the sustainable management and efficient use of natural resources	<ul style="list-style-type: none"> <li>• 99.9% of tap water analyses are compliant with regulations</li> <li>• "In Good Waters" report, one-of-a-kind in Italy</li> <li>• Water network leaks: 31.3% vs average Italy 37.4%</li> </ul> Innovative projects to recover energy from treatment sludge and installation of micro-turbines
	12.3 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.	<ul style="list-style-type: none"> <li>• % of recovery of market industrial waste: 43%</li> </ul>
	12.5 Substantially reduce waste generation through prevention, reduction, recycling and reuse	<ul style="list-style-type: none"> <li>• Waste decrease projects amounted to 11,000 t (food, pharmaceuticals, bulky waste)</li> </ul>

Objective	Targets of interest for the Hera Group	Objectives, results e measures of Hera Group
	12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.	<ul style="list-style-type: none"> <li>• Sustainability Report prepared together with Financial Statements since 2007, GRI-G4 Comprehensive, external audit</li> <li>• 4 sustainability reports</li> <li>• Hera in 2nd place in Italy for web communication on sustainability</li> <li>• Traceability of disposal of industrial waste</li> </ul>
	12.7 Promote sustainable public procurement practices	<ul style="list-style-type: none"> <li>• Value of supplies not based on largest discount: 67%, average score of on social aspects 15/100 and the average score reserved for sustainability: 23.5 out of 100</li> <li>• Social clause to ensure employment and other CSR activities in procurement</li> <li>•</li> <li>• Continue to show preference for the economically most advantageous bid: <ul style="list-style-type: none"> <li>• 100% of the value of public tenders;</li> <li>• &gt;70% of the value of total awards in the year;</li> </ul> </li> </ul> <p>average score reserved for sustainability: 20 out of 100.</p>
Ob. 13: Combating climate change	13.2 Integrate climate change measures into national policies, strategies and planning.	<ul style="list-style-type: none"> <li>• Intensity index of greenhouse gas emissions: 594 kg/MWh (+3% vs 2014 due to lower landfill biogas collection)</li> <li>• CO<sub>2</sub> avoided since 2007: 1.3 million</li> <li>• Energy consumption: down 2.5% vs. 2003, thanks to 175 projects identified (-3% objective by 2017)</li> <li>• Further decrease in the use of landfills (6% in 2020) and increase of separate waste collection (66% in 2020)</li> <li>• “Biorefinery and biomethane” project</li> </ul>
Ob. 14: To conserve and use the oceans, the seas and the marine resources	14.1 By 2025, prevent and significantly reduce all kinds of marine pollution, especially due to land-based activities, including marine waste and water pollution caused by nutrients	<ul style="list-style-type: none"> <li>• PSBO at Rimini: Reduce the polluting impact by 90%, measured in terms of COD by 2020 (through 11</li> </ul>



Objective	Targets of interest for the Hera Group	Objectives, results e measures of Hera Group
for long term, sustainable development	14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to prevent significant adverse impacts, while also strengthening their resilience and acting for their recovery, in order to achieve healthy and productive oceans	measures) <ul style="list-style-type: none"> <li>• Upgrade of the treatment plant at Servola (Trieste) in 2017 and start of authorization process for the treatment plant at Borgheria (Pesaro-Urbino)</li> <li>• PSBO at Rimini</li> <li>• Effectiveness of treatment: pollutants vs regulations: 43.7%</li> <li>• Compliant urban areas: 98 out of 116: 18 expected to be compliant by 2019</li> </ul>
	14.5 By 2020, protect at least 10% of coastal and marine areas, consistent with national and international law, and based on the best scientific information available	

The table shows only the Sustainable Development Goals and the targets related to topics in this sustainability report.

**Level of fulfilment of commercial quality standards according to service (chapter I Customers).**

**Compliance with gas distribution quality standards (final customers)**

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Estimates for simple work	15	96.2%	97.0%	98.6%	8,977
Execution of simple work	10/15	95.4%	92.2%	93.9%	4,774
Estimates for complex work	40	98.7%	96.2%	99.7%	317
Supply activation	10/15	99.5%	99.4%	99.8%	60,507
Supply deactivation	5/7	98.4%	99.0%	99.1%	39,886
Reactivation after late payment	2	99.3%	98.4%	96.9%	17,021
Reactivation in the event of disconnection due to potential danger	2	99.8%	99.5%	98.6%	2,362
Punctuality bracket for agreed appointments	2 hours	99.8%	99.7%	99.9%	115,252
Punctuality bracket for postponed appointments	2 hours	99.8%	99.8%	99.7%	21,919
Submission of metering unit control results to the vendor	10	24.1%	70.4%	88.3%	409
Frequency of measurement	**	99.8%	99.8%	99.8%	2,331,191
<b>Total</b>		<b>99.7%</b>	<b>99.7%</b>	<b>99.9%</b>	<b>2,602,822</b>

By type of customer in accordance with article 14, paragraph 14.1, of the TIVG (Consolidated Law on the Retail Sale of Gas).

**Compliance with gas distribution quality standards (sales companies)**

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Provision of technical data obtained through readings, requested by vendor	10	97.4%	97.8%	91.1%	426
Provision of other technical data requested by the vendor	15	96.1%	94.2%	97.5%	2,233
<b>Total</b>		<b>97.1%</b>	<b>94.8%</b>	<b>96.5%</b>	<b>2,659</b>

**Compliance with electricity distribution quality standards (final customers)**

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Supply estimate	20/40	90.8%	98.7%	94.3%	3,006
Execution of simple work	15/30	98.4%	98.3%	97.5%	1,275
Supply activation	5	95.6%	97.5%	98.7%	16,961
Supply deactivation	5/7	99.3%	99.2%	99.0%	12,236
Control of metering unit	15	48.5%	54.3%	86.5%	52
Voltage control	30	30.8%	0.0%	100.0%	4
Supply reactivation following suspension due to late payment	1	98.6%	98.5%	99.5%	13,044

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Punctuality bracket for agreed appointments	2 hours	99.4%	99.5%	99.7%	5,121
Punctuality bracket for postponed appointments	2 hours	99.5%	99.6%	98.7%	1,317
Supply recovery following metering unit malfunction	3/4 hours	82.4%	91.2%	96.8%	558
Estimates for works on LV network, temporary connections	10	66.4%	93.1%	96.5%	282
Execution of simple work for temporary connections (up to 20 metres from plants)	5	98.4%	98.7%	93.9%	197
Execution of simple work for temporary connection (over 20 metres from plants)	10	100.0%	100.0%	100.0%	14
Replacement of damaged metering system	15	100.0%	100.0%	100.0%	19
Recovery of correct supply potential difference value	50	80.0%	20.0%	100.0%	31
<b>Total</b>		<b>97.0%</b>	<b>98.3%</b>	<b>98.7%</b>	<b>54,087</b>

#### Compliance with electricity distribution quality standards (sales company)

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Provision of technical data obtained through readings, requested by vendor	10	93.3%	96.9%	99.0%	203
Provision of other technical data requested by the vendor	15	83.0%	88.7%	99.3%	712
<b>Total</b>		<b>84.5%</b>	<b>90.4%</b>	<b>99.2%</b>	<b>915</b>

#### Compliance with gas and electricity sales quality standards

%	Standard (calendar days)	2014	2015	2016	Number of services provided (2016)
Response to claims	40	98.2%	97.7%	97.6%	20,742
Billing adjustments	90	99.7%	99.7%	100.0%	548
Double billing adjustments	20	93.7%	91.1%	91.2%	589
<b>Total</b>		<b>98.2%</b>	<b>97.6%</b>	<b>97.5%</b>	<b>21,879</b>

Data relating to Hera Comm.

#### Compliance with water service quality standards

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Estimates for execution of simple work (water system)	15	97.1%	98.8%	99.0%	2,286

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Estimates for execution of simple work (sewer system)	15-40	97.6%	98.3%	99.1%	220
Estimates for execution of complex work (water system)	30-40	99.4%	99.7%	98.9%	271
Estimates for execution of complex work (sewer system)	30-40	90.9%	100.0%	100.0%	6
Water connections for measures related to simple works	15	97.5%	97.2%	97.9%	1,371
Sewer connection for measures related to simple work	30-40	99.0%	99.2%	99.5%	187
Service supply activation and transfer	7-10	99.7%	99.9%	99.8%	12,757
Service supply termination	5	98.5%	98.9%	98.9%	9,860
Supply reactivation following suspension due to late payment	2	99.8%	99.7%	99.8%	3,202
Punctuality bracket for appointments agreed with the user	2-3 hours	100.0%	99.9%	100.0%	24,365
Punctuality bracket for appointments postponed with the user	2-3 hours	99.9%	99.8%	99.9%	3,873
Billing adjustments	45-90	100.0%	100.0%	100.0%	109
Response to claims	20-40	98.9%	97.9%	96.3%	3,615
<b>Total</b>		<b>99.4%</b>	<b>99.5%</b>	<b>99.5%</b>	<b>62,122</b>

The Service Charters applicable to Padua, Pesaro and Trieste set out compensation payable upon request from each customer, and therefore they are not indicated in the table above.

### Compliance with district heating quality standards

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
Estimates for execution of simple work	15	66.7%	100.0%	100.0%	1
Estimates for execution of complex work	80	100%	100.0%	100.0%	74
Supply activation	10	99.4%	99.5%	99.1%	347
Supply deactivation at the customer's request	5	97.7%	98.3%	98.0%	199
Supply reactivation following suspension due to late payment	2	97.8%	100.0%	92.1%	76
Punctuality bracket for personalised and non-personalised appointments	2 hours	100%	99.7%	99.8%	613
Control of correct consumption metering	30	100%	100.0%	100.0%	0
Submission of results regarding the control of correct consumption metering	20	100%	100.0%	100.0%	0

%	Standard (working days)	2014	2015	2016	Number of services provided (2016)
<b>Total</b>		<b>99.2%</b>	<b>99.5%</b>	<b>98.9%</b>	<b>1,310</b>

Data relating to Hera Spa

#### Compliance with general standards set forth in the Consolidated Regulations on the Quality of the Electricity and Natural Gas Sales Service

%	AEEGSI (Italian Authority for Electricity and Natural Gas) general standard	2014	2015	2016
Minimum percentage of replies to written requests for information sent within the maximum time limit of 30 calendar days	95%	98%	99%	94%
Minimum percentage of motivated replies to written requests for billing corrections within the maximum time limit of 40 calendar days	95%	98%	97%	96%

Data relating to Hera Comm.

Detail of the information present in the Environment and Future Generations chapter, by plant.

Net electricity produced in the Group's plants (MWh)

Plant	2014	2015	2016
Coriano - Rimini	77,999	86,647	69,109
Frullo Granarolo - Bologna (Frullo Energia Ambiente)	129,965	130,598	115,937
Canal Bianco Ferrara	62,649	63,160	68,627
Grigioni Forlì	61,218	65,958	63,248
Strada Romea km 2.6 Ravenna	21,794	18,034	17,352
Comparto Area 2 Cavazza Modena	127,708	132,705	115,122
Special Waste Ravenna	13,221	11,971	11,292
Padova	105,504	109,387	106,744
Trieste	105,454	99,179	107,284
Pozzilli - Isernia	92,302	81,714	86,422
<b>Total waste-to-energy plants</b>	<b>797,813</b>	<b>799,353</b>	<b>761,135</b>
Galliera landfill - Bologna	12,825	11,810	10,543
S. Agata Bolognese landfill - Bologna	6,536	5,032	3,515
Marche Multiservizi landfills	17,999	16,233	3,744
Third-party plants at Hera landfills	33,185	22,281	15,005
Digestion of livestock waste and wastewater, Spilamberto - MO	0	0	32,728
Anaerobic digestion, Cesena	6,879	4,428	0
Anaerobic digestion, Cà Baldacci Rimini	6,817	7,502	6,858
Anaerobic digestion, Voltana di Lugo - Ravenna	7,465	7,002	7,504
Bologna treatment plant	4,949	4,299	7,373
Forlì treatment plant	539	494	2,969
Savignano sul Rubicone treatment plant - Forlì-Cesena	566	100	575
Cesena treatment plant	886	435	277
<b>Total biogas from landfills, anaerobic digestion and treatment plants</b>	<b>98,646</b>	<b>81,616</b>	<b>763</b>
Bologna Freight Village 1 (Hera Energie Rinnovabili)	225	249	-
Bologna Freight Village 2 (Hera Energie Rinnovabili)	1,159	1,233	-
Bologna Freight Village 3 (Hera Energie Rinnovabili)	1,085	1,120	-
Bologna Freight Village 4 (Hera Energie Rinnovabili)	1,159	1,248	-
Petriolo - Macerata (Hera Energie Rinnovabili)	1,282	1,341	-
Alfianello - Brescia (Hera Energie Rinnovabili)	1,163	1,180	-
Copparo - Ferrara (Hera Energie Rinnovabili)	1,215	1,351	-
Ghirlandina Solare - Modena (Hera Energie Rinnovabili)	1,161	1,213	-
Faenza - Ravenna (Hera Energie Rinnovabili)	1,343	1,396	-
Mordano - (Bologna)	220	232	220
Voltana di Lugo - Ravenna	340	341	317
Voltana di Lugo - Ravenna (Herambiente)	297	346	299
Pozzilli - Isernia (Herambiente)	618	668	573

Plant	2014	2015	2016
Rimini (Herambiente)			191
Ravenna Site	122	100	92
AcegasApsAmga Solar photovoltaic	87	58	94
Solar photovoltaic with peak capacity below 50 kW	52	58	41
<b>Total solar photovoltaic</b>	<b>11,529</b>	<b>12,120</b>	<b>1,827</b>
Cavaticcio Bologna	1,644	1,523	706
Para 1 Verghereto - Forlì-Cesena (Hera Energie Rinnovabili)	160	0	0
<b>Total hydroelectric</b>	<b>1,803</b>	<b>1,523</b>	<b>706</b>
Casalegno Imola - Bologna	175,897	294,218	274,809
Castelbolognese - Ravenna	743	626	642
Ecocity Casalecchio di Reno - Bologna	7,777	7,710	9,447
Fossolo Bologna	244	0	0
Acer Barca Bologna	9,005	11,161	5,559
Bologna Site	19,422	15,556	20,195
Monterenzio - Bologna	308	167	208
S. Biagio Casalecchio di Reno - Bologna	1,089	1,723	2,030
Ippodromo Cesena	2,804	2,930	4,329
Bufalini Cesena	11,624	11,754	10,884
Campus Forlì	-	-	368
Giardino Modena	12,915	11,632	13,983
3rd PEEP Modena	4,597	4,085	3,094
Molino Rosso Imola - Bologna	140	907	819
Padova	2,013	2,114	1,893
Cogeneration operated as a service	142,265	152,449	169,589
<b>Total Cogeneration</b>	<b>390,843</b>	<b>517,032</b>	<b>517,849</b>
Bologna	2,248	2,172	2,633
Forlì	1,367	1,989	610
Ravenna	2,145	2,159	1,545
Padova	4,330	2,995	3,914
<b>Total turboexpanders</b>	<b>10,090</b>	<b>9,315</b>	<b>8,702</b>
<b>Total</b>	<b>1,314,049</b>	<b>1,420,959</b>	<b>1,382,075</b>

### Thermal energy produced in the Group's plants (MWh)

Plant	2014	2015	2016
Bologna (Frullo Energia Ambiente)	45,207	52,285	36,608
Ferrara	61,252	56,774	74,200
Forlì	8,995	10,654	11,668
<b>Total waste-to-energy plants</b>	<b>115,454</b>	<b>119,713</b>	<b>122,476</b>
Ferrara geothermics	78,527	73,253	71,733
<b>Total geothermal</b>	<b>78,527</b>	<b>73,253</b>	<b>71,733</b>
Bologna treatment plant	4,266	3,533	2,253
<b>Total treatment plant biogas</b>	<b>4,266</b>	<b>3,533</b>	<b>2,041</b>
Casalegno Imola - Bologna	71,204	98,657	4,294
Castelbolognese - Ravenna	761	814	101,904
Ecocity Casalecchio di Reno - Bologna	7,759	7,903	826
Fossolo Bologna	338	0	9,606
Acer Barca Bologna	10,899	16,336	-
Bologna Site	10,290	10,493	7,506
Monterenzio - Bologna	361	114	13,976
S. Biagio Casalecchio di Reno - Bologna	1. 460	2,067	205
Ipermercato Fiera Forlì	-	-	2,191
Ippodromo Cesena	3,431	3,624	5,218
Bufalini Cesena	13,576	-	13,631

Plant	2014	2015	2016
Aranova Ferrara	-	13,743	227
Giardino Modena	12,096	10,552	12,539
3rd PEEP Modena	4,694	4,396	3,232
Molino Rosso Imola - Bologna	216	916	897
Padova	6,697	2,586	2,315
Cogeneration operated as a service	142,463	135,039	153,222
<b>Total cogeneration</b>	<b>284,785</b>	<b>307,240</b>	<b>327,495</b>
<b>Total thermoelectric power stations</b>	<b>199,806</b>	<b>246,513</b>	<b>226,614</b>
<b>Total</b>	<b>681,775</b>	<b>761,853</b>	<b>757,604</b>

### Cogeneration plants for district heating (2016)

Plant	Location	Nominal installed electric power (MW)	Net electricity generated (MWh)	Thermal energy produced (MWh)
Casalegno	Imola (Bologna)	84.5	274,809	101,904
Cogen Barca	Bologna	7.8	5,559	7,506
Headquarters	Bologna	4.9	20,195	13,976
Ecocity	Casalecchio di Reno (Bologna)	4.0	9,447	9,606
Quartiere Giardino	Modena	3.6	13,983	12,539
Bufalini	Cesena	1.9	10,884	13,631
Ippodromo	Cesena	1.7	4,329	5,218
3rd PEEP	Modena	1.1	3,094	3,232
5 other smaller plants	Bologna and Ferrara	2.9	4,067	4,345
<b>Total</b>		<b>112.4</b>	<b>346,367</b>	<b>171,957</b>

### Cogeneration plants operated as a service (2016)

Plant	Location	Nominal installed electric power (MW)	Net electricity generated (MWh)	Thermal energy produced (MWh)	RISP - Primary energy saving (MWh)	PES - Primary energy saving (%)
Safta	Piacenza	7.3	24,104	12,475	13,933	18.7%
Orogel	Cesena	4.0	21,950	10,971	11,128	17.9%
Cerindustries	Castelbolognese (Ravenna)	0.8	15,891	8,520	15,529	22.5%
Magema	S.Zaccaria (Ravenna)	3.6	10,786	8,486	7,417	16.4%
Covalpa	Celano (L'Aquila)	1.6	7,728	5,176	3,480	13.9%
Centroplast	Meldola (Forlì-Cesena)	1.2	6,392	3,943	2,873	14.7%
Villani	Modena	1.0	7,452	6,014	5,163	16.2%
Cafar	Gatteo (Forlì-Cesena)	2.0	5,181	3,460	2,544	14.7%
Palazzo Pepoli	Bologna	0.1	333	515	135	5.6%
Terme di Riolo	Riolo Terme (Ravenna)	0.1	750	1,078	404	8.4%
Ducati	Bologna	1.8	10,466	5,494	5,502	17.7%



Plant	Location	Nominal installed electric power (MW)	Net electricity generated (MWh)	Thermal energy produced (MWh)	RISP - Primary energy saving (MWh)	PES - Primary energy saving (%)
MB Mangimi	Forlì	1.0	6,768	4,794	3,726	15.3%
<b>Total</b>		<b>24.5</b>	<b>117,801</b>	<b>70,926</b>	<b>71,834</b>	

#### Average annual concentrations at the main plants (2016)

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*	31.6	11.0	8.3	5.3	39,924
	Anzola (Bologna)	22.5	10.2	8.5	2.2	1,335
	Calderara (Bologna)	38.0	14.4	9.4	2.1	1,163
	Ozzano (Bologna)	21.8	12.8	10.8	3.3	155
	S. Giovanni (Bologna)	28.0	11.0	9.3	2.4	158
	Ferrara Gramicia	42.1	11.1	12.3	3.2	16,643
	Cesena	19.3	7.5	5.0	2.0	7,114
	Cesenatico (Forlì-Cesena)	46.5	10.0	7.8	2.4	4,337
	Forlì	25.5	10.9	6.4	1.2	16,099
	Savignano (Forlì-Cesena)	28.0	8.6	8.0	2.7	5,505
	Faenza Formellino (Ravenna)	46.8	14.8	8.2	4.8	5,210
	Imola Santerno (Bologna)	30.6	6.8	47.8	1.2	9,109
	Modena	20.5	5.0	7.6	1.0	35,971
	Ravenna	35.5	11.6	10.2	2.6	15,954
	Alfonsine (Ravenna)	27.9	10.3	10.3	1.0	1,904
	Bagnacavallo (Ravenna)	20.1	7.8	5.2	3.0	2,100
	Cervia (Ravenna)	29.5	11.4	7.0	1.9	6,852
	Lido di Classe (Ravenna)	29.8	10.8	13.3	3.1	1,076
	Lugo (Ravenna)	37.0	9.8	10.3	2.1	6,517

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> )	
	Marina di Ravenna (Ravenna)	Scolo Piombone	29.2	10.9	10.1	2.5	1,219
	Russi (Ravenna)	Scolo Pisinello	19.1	9.3	6.8	1.0	1,592
	Rimini Marecchiese	River Marecchia	25.6	10.0	6.7	3.4	1,365
	Rimini S. Giustina	River Marecchia	22.4	10.3	6.5	1.5	34,598
	Riccione (Rimini)	Rio Marano	35.4	12.4	10.3	2.9	5,169
	Cattolica (Rimini)	Torrente Ventina	23.7	10.7	6.6	4.5	6,730
	Pesaro Borgheria (Pesaro Urbino)	River Foglia	27.0	8.0	7.0	1.2	6,301
	Ca' Nordio (Padova)	Roncajette Canal	10.9	6.5	4.3	1.0	21,243
	Guizza (Padova)	Scolo Amolari	10.9	6.0	4.2	0.6	1,151
	Abano Terme (PD)	Scolo Rialto	12.2	5.6	1.8	0.2	2,531
	Codevigo (Padova)	River Brenta	10.9	5.5	5.2	0.8	4,329
	Zaule (Trieste)	Gulf of Trieste	31.0	8.0	14.9	0.4	9,574
	Servola (Trieste)	Gulf of Trieste	92.0	30.0	45.0	17.0	31,676
	<b>Total volume treated</b>						<b>304,602</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.

### Concentrations of atmospheric emissions from waste-to-energy plants (2016)

mg/Nm <sup>3</sup>	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	1.0	0.4	0.1	0.6	0.8	0.5	0.2	0.3	0.1	0.7	1.7
Hydrochloric acid	10	0.6	3.0	0.8	2.6	2.4	0.4	0.1	1.7	4.2	0.7	0.7
Nitric oxide	200	82.8	43.3	48.3	45.8	55.2	136.0	79.5	55.7	151.9	50.0	150.1
Sulphur oxides	50	1.5	1.1	0.7	0.6	0.9	0.4	1.9	1.7	3.4	0.5	1.1
Carbon monoxide	50	13.8	8.0	8.8	2.6	6.7	4.1	4.1	8.1	3.3	6.0	11.3
Hydrofluoric acid	1	0.01	0.18	0.1	0.1	0.1	0.1	0.1	0.1	-	0.08	0.14
Total Organic Carbon	10	2.1	0.5	0.9	1.2	1.3	0.5	0.8	0.8	0.3	0.7	0.7
Total metals	0.5	0.008	0.180	0.003	0.0075	0.005	0.016	0.004	0.004	0.040	0.008	0.025
Aromatic polycyclic hydrocarbons	0.01	0.00000	0.00060	0.00001	0.00001	0.00000	0.00001	0.000002	0.00001	0.00015	0.00007	0.00005

mg/Nm3	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)
Dioxins and Furans (ng <sub>FTE</sub> /Nmc)	0.1	0.00228	0.00250	0.00042	0.00065	0.00123	0.01233	0.00095	0.00038	0.0084	0.00189	0.00292
Cadmium and Thallium	0.05	0.00040	0.00020	0.00038	0.00067	0.00022	0.00050	0.00023	0.0005	0.0025	0.00021	0.00133
Mercury	0.05	0.0003	0.0027	0.0002	0.001	0.0006	0.0008	0.0002	0.002	0.0024	0.0002	0.0014

The legal 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.

### Urban and special waste disposal by plant (thousands of tonnes)

Plant	ISO 14001	EMAS	2014	2015	2016
Coriano - Rimini	x	x	138.4	147.4	144.5
Frunlo Granarolo - Bologna (Frunlo Energia Ambiente)	x	x	216.9	213.8	213.5
Canal Bianco Ferrara	x	x	129.9	130.0	141.9
Grigioni Forlì	x	x	119.9	119.4	119.7
Strada Romea km 2.6 Ravenna	x	x	50.5	51.7	47.0
Comparto Area 2 Cavazza Modena	x	x	202.9	206.8	212.3
Special Waste Ravenna	x	x	38.3	40.0	39.9
Faenza - Ravenna (Enomondo)	x		63.8	66.1	0.0
Pozzilli - Isernia (Energonut)	x	x	93.5	90.2	93.5
Padua waste-to-energy plant	x	x	183.5	167.5	161.3
Trieste waste-to-energy plant	x		165.0	157.4	162.8
<b>Total waste-to-energy plants and biomass plant</b>			<b>1,402.6</b>	<b>1,390.3</b>	<b>1,336.4</b>
Ravenna km 2,6 ex1C	x	x	131.1	219.8	200.5
Lugo - RA	x	x	52.8	14.7	0.0
Imola - BO	x	x	246.1	244.6	75.6
Firenze - FI	x	x	76.3	7.3	0.0
Ravenna km 2,6 ex2B super	x	x	1.5	0.0	0.0
Ravenna km 2,6 ex2B super TN	x	x	86.2	83.5	76.3
Zocca - MO	x	x	92.6	0.0	0.0
Castelmaggiore - BO (ASA)	x	x	150.1	140.8	150.0
Sant'Agata Bolognese - BO	x		21.5	7.4	0.0
Finale Emilia - MO (Feronia)			139.6	18.0	0.0
Sommacampagna - VR				4.1	72.7
Loria - TV				10.3	67.1
Sogliano (esterno)				22.1	0.0
Discariche Marche Multiservizi	x	x	134.8	135.0	135.5
Discariche di terzi				10.8	0.0
<b>Totale discariche</b>			<b>1,137.2</b>	<b>918.4</b>	<b>777.7</b>
Coriano - Ravenna	x	x	90.3	78.9	77.3
Modena	x		89.0	72.3	77.5
Mordano - (Bologna)	x	x	39.9	32.6	33.2
Lugo-Cotignola - Ravenna	x	x	73.2	57.2	62.9
Ferrara	x		68.2	55.8	57.6
Bologna			34.3	66.7	67.8
Other external plants			1.7	11.6	100.5
Tavullia (Marche Multiservizi)			49.1	57.5	58.7

Plant	ISO 14001	EMAS	2014	2015	2016
<b>Total selection plants</b>			<b>445.7</b>	<b>432.6</b>	<b>535.5</b>
Busca anaerobic digester - Forlì-Cesena			43.8	45.8	44.3
S. Agata Bolognese - Bologna	x		63.2	59.4	34.7
Stabilisation plant at S. Agata Bolognese - Bologna	x		15.9	0.0	0.0
Ozzano - (Bologna)	x		27.2	27.9	27.9
Voltana di Lugo - Ravenna	x	x	71.4	72.8	62.9
Cà Baldacci Rimini	x	x	63.1	61.7	63.3
Ostellato - Ferrara	x		29.1	30.9	35.7
Stabilisation plant Ostellato - Ferrara	x		74.3	73.9	59.1
WDF stabilisation plant - Ravenna	x		19.8	21.9	19.3
Tre Monti Imola stabilisation plant - Bologna	x	x	66.2	57.8	41.0
Stabilisation plant (Marche Multiservizi)	x		3.2	0.0	0.0
Other external plants				3.0	0.0
<b>Total composting and stabilisation plants</b>			<b>477.2</b>	<b>455.1</b>	<b>388.2</b>
Ravenna chemical phys. biological plant	x	x	187.0	188.1	0.0
Disidrat Ravenna sludge treatment plant	X	x	145.0	119.7	196.0
Chemical-physical plant Z.I. Ravenna	X	x	487.2	494.0	115.3
Lugo chemical-physical-biological plant - Ravenna	x	x	118.8	96.1	554.6
ITFI stabilisation and chemical phys. plant Bologna	x	x	131.8	141.8	57.6
Ravenna stabilisation plant	x	x	9.2	2.2	135.4
Area 2 Cavazza chemical physical plant Modena	x	x	96.4	92.1	0.0
Area 3 chemical physical plant Modena	x		0.0	0.0	87.3
Leachate treatment plant Forlì-Cesena			5.4	7.6	0.0
Experimental sludge treatment plant			1.5	0.0	8.0
<b>Total stabilisation and chemical phys. plants</b>			<b>1,182.3</b>	<b>1,141.6</b>	<b>1,154.2</b>
WDF production Ravenna	x	x	0.0	0.1	-0.9
Tre Monti separation				0.0	0.3
Ostellato - Ferrara separation	x		0.0	0.4	0.9
Separation Herambiente Recuperi				6.3	0.0
<b>Total separation plants</b>			<b>0.0</b>	<b>6.8</b>	<b>0.3</b>
Treatment plants			530.9	479.4	393.9
Third-party plants			1,249.0	1,401.0	2,281.9
<b>Total third-party plants/Other plants</b>			<b>1,779.9</b>	<b>1,880.4</b>	<b>2,675.8</b>
<b>Total</b>			<b>6,425.8</b>	<b>6,225.7</b>	<b>6,867.6</b>

## Detail of investments financed with the Green Bond

Type of measure	Measure	Investment in 2006-2015 (thousands of Euro)	Investment in 2016 (thousands of Euro)
Increase of energy generated from non-fossil sources	Solar fotovoltaic Interporto Bologna (see page 153 and 285)	11,416	
Increase of energy generated from non-fossil sources	Solar fotovoltaic Alfianello (BS) (see page 153 and 285)	943	
Increase of energy generated from non-fossil sources	Solar fotovoltaic Copparo (FE) (see page 153 and 285)	956	
Increase of energy generated from non-fossil sources	Solar fotovoltaic Faenza (RA) (see page 153 and 285)	835	
Increase of energy generated from non-fossil sources	Solar fotovoltaic 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)	10,464	400
Increase of energy generated from non-fossil sources	Lugo (RA) anaerobic digester (see page 153 and 285)	12,233	204
Increase of energy generated from non-fossil sources	Rimini anaerobic digester (see page 153 and 285)	12,890	283
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)	93,202	2,269
Increase of energy efficiency	Development of district heating networks - Ferrara Area (see page 161)	20,687	1,305
Increase of energy efficiency	Development of district heating networks - Forlì-Cesena Area (see page 161)	31,242	3,261
Increase of energy efficiency	Development of district heating networks - Imola-Faenza Area (see page 161)	34,352	349
Increase of energy efficiency	Development of district heating networks - Modena Area (see page 161)	11,199	674
Increase of energy efficiency	Development of district heating networks - Bologna Area (see page 161)	8,808	10,507
Increase of energy efficiency	Development of industrial cogeneration (see page 163 and 288)	2,516	3,127
Improvement of waste treatment plants	WTE Ferrara (see page 182 and 184)	42,885	

Type of measure	Measure	Investment in 2006-2015 (thousands of Euro)	Investment in 2016 (thousands of Euro)
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	
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)	10,082	7,100
Increase of separate waste collection	Separate waste collection services development (see page 196-201 and 243)	9,836	2,081
<b>Total</b>		<b>470,504</b>	<b>29,496</b>

## **Glossary**

### **Population equivalent**

The concept of population equivalent was introduced 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 corresponds to 60 g of BOD<sub>5</sub> per day.

### **Italian Regulatory Authority for Electricity and Gas (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.

### **Water and Waste Regulatory Authority (ATO)**

In accordance with Law 36/1994, the ATO water and waste regulatory authorities define the local level of organisation of the integrated water services in order 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) is used to define the amount of oxygen consumed during a specific time period (5 days for BOD<sub>5</sub>), at a given temperature, to biodegrade the organic matter present in the water via bacterial action (uptake of oxygen 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**

Stock loan 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**

The Services Charter is the document that any entity that supplies a public service uses to outline its performance standards, declaring its goals and recognising 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 oxidised. 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 organisation.

### **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 aimed at providing instructions for the use and the coordinated operation of production plants, the transmission grid and auxiliary services (Bersani Decree).



**Dispatching (gas sector)**

Activities aimed at providing instructions for the use and the coordinated operation of extraction and storage plants, the transport and distribution network and auxiliary services (Letta Decree).

**EMAS**

EU Regulation no. 761/2001 which provides for the adoption by business concerns of environmental management systems based on policies, programmes, procedures and objectives aimed at improving the environment, and the publication of 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 gas**

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.

**Mobility 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 recognised benchmark for the certification of workplace health and safety management systems.

**Nitrogen oxides**

Nitrogen oxides (mainly NO and NO<sub>2</sub>), 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 no. 22/1997 defines waste as “any substance or object which the holder disposes of or has decided or is required to dispose of”. 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 number 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.

**Stakeholder**

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.

**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).

**UNI EN ISO 9001:2008**

International technical standard for the certification of quality management systems.

**UNI EN ISO 14001: 2004**

International technical standard for the certification of environmental management systems.

## GRI contents reference table

The following table provides a reference to the information required by the GRI standard, indicating the indicator code and the page number where each issue is dealt with.

Indicator	Description	Page	Changes in the company's scope
<b>Company profile</b>			
102-1	Name of the organization	Pag.9	
102-2	Activities, brands, products, and services	Pag.9-12	
102-3	Location of headquarters	Pag.9-12	
102-4	Location of operations	Pag.9-12	
102-5	Ownership and legal form	Pag.9; Pag.32; Pag.163	
102-6	Markets served	Pag.9	
102-7	Scale of the organization	Pag.9;59	
102-8	Information on employees and other workers	Pag.117	
102-9	Supply chain	Pag.290	
102-10	Significant changes to the organization and its supply chain	Pag.9	
102-11	Precautionary Principle or approach	Pag.30. Regulations are respected and Environmental Impact Assessments are carried out for new plants.	
102-12	External initiatives	Pag.30	
102-13	Membership of associations	Pag.247	
<b>Strategy</b>			
102-14	Statement from senior decision-maker	Pag. Errore . Il segnalibro non è definito.	
102-15	Key impacts, risks, and opportunities	Pag.34;Pag 40	
<b>Ethics and integrity</b>			
102-16	Values, principles, standards, and norms of behavior	Pag.12,21	
102-17	Mechanisms for advice and concerns about ethics	Pag.30: Pag.34-35	
<b>Governance</b>			
102-18	Mechanisms for advice and concerns about ethics	Pag.30	
102-19	Governance structure	Pag. 43	
102-20	Delegating authority	Pag.43	
102-21	Executive-level responsibility for economic, environmental, and social topics	Pag.47	
102-22	Consulting stakeholders on economic, environmental, and social topics	Pag.30-33	
102-23	Composition of the highest governance body and its committees	Pag.30	
102-24	Chair of the highest governance body	Pag.30	
102-25	Nominating and selecting the highest governance body	Pag.30	
102-26	Conflicts of interest	Pag.30	
102-27	Role of highest governance body in setting purpose, values, and strategy	Pag.30, 34, 314	

Indicator	Description	Page	Changes in the company's scope
102-28	Collective knowledge of highest governance body	Pag.30,145 Board evaluation( Corporate Governance report 2016 pag. 109)	
102-29	Evaluating the highest governance body's performance	Pag.30	
102-30	Identifying and managing economic, environmental, and social impacts	Pag.30	
102-31	Effectiveness of risk management processes	Pag.30	
102-32	Review of economic, environmental, and social topics	Pag.307	
102-33	Highest governance body's role in sustainability reporting	Pag.30	
102-34	Communicating critical concerns	Pag.30	
102-35	Nature and total number of critical concerns	Pag.138-143	
102-36	Remuneration policies	Pag.138-143	
102-37	Process for determining remuneration	Pag.138	
102-38	Stakeholders' involvement in remuneration	Pag.138-141	The data refer to Hera Spa, Hera Comm, Hera Trading, Herambiente, Fea, Inrete Distribuzione Energia and Uniflotte for which uniformity in the calculation is ensured.
102-39	Annual total compensation ratio	Pag.138	
<b>Stakeholder engagement</b>			
102-40	List of stakeholder groups	Pag.47-52	
102-41	Collective bargaining agreements	Pag.117	
102-42	Identifying and selecting stakeholders	Pag.47-52	
102-43	Approach to stakeholder engagement	Pag.47-52	
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<b>Reporting practice</b>			
102-45	Entities included in the consolidated financial statements	Pag.307	
102-46	Defining report content and topic Boundaries	Pag.307-308	
102-47	List of material topics	Pag.307	
102-48	Restatements of information	Pag.307	
102-49	Changes in reporting	Pag.307	
102-50	Reporting period	Pag.307 (year)	
102-51	Date of most recent report	Pag.307 (april 2016)	
102-52	Reporting cycle	Pag.307 (yearly)	
102-53	Contact point for questions regarding the report	Pag.318	
102-54	Claims of reporting in accordance with the GRI Standards	Pag. Errore . Il segnalibro non è definito., 339	
102-55	GRI content index	Pag. 334	
102-56	External assurance	Pag. Errore . Il segnalibro non è definito.	
<b>Management approach</b>			
103-1	Explanation of the material topic and its Boundary	Pag. Errore. Il segnalibro non è definito.	

Indicator	Description	Page	Changes in the company's scope
103-2	The management approach and its components	Pag. 14, 16-20, 35-45, 47-49, 61, 120, 160, 285	
103-3	Evaluation of the management approach	Pag. 14, 16-20, 35-45, 47-49, 61, 120, 160, 285	
<b>Economic performance</b>			
201-1	Direct economic value generated and distributed	Pag. Erro re. Il segnalibro non è definito .-55	
201-2	Financial implications and other risks and opportunities due to climate change	Pag. 44; 213-217	
201-3	Defined benefit plan obligations and other retirement plans	Pag. 140	
201-4	Financial assistance received from government	Pag. Erro re. Il segnalibro non è definito .-55	
<b>Indirect economic impacts</b>			
203-1	Infrastructure investments and services supported	Pag. 242	
203-2	Significant indirect economic impacts	Pag. 283	
<b>Procurement Practices</b>			
204-1	Proportion of spending on local suppliers	Pag. 283	
<b>Anti-corruption</b>			
205-1	Operations assessed for risks related to corruption	Pag. 21	
205-2	Communication and training about anti-corruption policies and procedures	Pag. 128	
205-3	Confirmed incidents of corruption and actions taken	Pag. 252	
<b>Anti-competitive Behavior</b>			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Pag. 242	
<b>Energy</b>			
302-1	Energy consumption within the organization	Pag. 179 Consumption equal to 23,6 millions of GJ	The data refer to Hera Spa, Uniflotte, Herambiente, FEA, Hera Luce, Marche Multiservizi and AcegasApsAmga since the disclosure does not apply to the other companies.
302-2	Energy consumption outside of the organization	Pag. 10 Consumption equal to 152,7 millions of GJ	
302-3	Energy intensity	Pag. 179	The data refer to Hera Spa, Uniflotte, Herambiente, FEA e Hera Luce for which uniformity in the calculation is ensured.

Indicator	Description	Page	Changes in the company's scope
302-4	Reduction of energy consumption	Pag. 179 Consumption reduction equal to 0,3 millions of GJ	The data refer to Hera Spa, Uniflotte, Herambiente, FEA, Hera Luce, Marche Multiservizi and AcegasApsAmga since the disclosure does not apply to the other companies.
302-5	Reductions in energy requirements of products and services	Pag.176 Consumption reduction equal to 1,7 millions of GJ	

#### Water

303-1	Water withdrawal by source	Pag.187	
303-2	Water sources significantly affected by withdrawal of water	Pag.187 There are no water sources significantly affected by withdrawal of water in 2016.	
303-3	Water recycled and reused	Pag.187	The data refer to all EMAS registered plants for which uniformity in the calculation is ensured.

#### Biodiversity

304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Pag.236-240	
304-2	Significant impacts of activities, products, and services on biodiversity	Pag.236-240	
304-3	Habitats protected or restored	Pag.236-240	
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	Pag.236-240	

#### Emissions

305-1	Direct (Scope 1) GHG emissions	Pag.207-217	The data refer to Hera Spa, Uniflotte, Herambiente, FEA, Hera Luce and AcegasApsAmga since the disclosure does not apply to the other companies.
305-2	Energy indirect (Scope 2) GHG emissions	Pag.207-217	The data refer to Hera Spa, Uniflotte, Herambiente, FEA, Hera Luce and AcegasApsAmga since the disclosure does not apply to the other companies.
305-3	Other indirect (Scope 3) GHG emissions	Pag. 217	
305-4	GHG emissions intensity	Pag.207-217	The data refer to Hera Spa, Uniflotte, Herambiente, FEA, Hera Luce and AcegasApsAmga since the disclosure does not apply to the other companies.
305-5	Reduction of GHG emissions	Pag.207-217	The data refer to Hera Spa, Uniflotte, Herambiente, FEA, Hera Luce and AcegasApsAmga since the disclosure does not apply to the other companies.

Indicator	Description	Page	Changes in the company's scope
305-7	Emissions of ozone-depleting substances (ODS)	Pag.195	
<b>Effluents and waste</b>			
306-1	Water discharge by quality and destination	Pag.340	
306-2	Waste by type and disposal method	Pag.235	
306-3	Significant spills	Pag.187	
306-4	Transport of hazardous waste	Pag. 234	
306-5	Water bodies affected by water discharges and/or runoff	Pag.340	
<b>Environmental Compliance</b>			
307-1	Non-compliance with environmental laws and regulations	Pag.250 Pag.250	
<b>Supplier environmental assessment</b>			
308-1	New suppliers that were screened using environmental criteria	Pag.286	The data refer to Hera Spa, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Hera Comm, Hera Luce, Inrete Distribuzione Energia, Marche Multiservizi for which uniformity in the calculation is ensured.
308-2	Negative environmental impacts in the supply chain and actions taken	Pag.286-294	
<b>Employment</b>			
401-1	New employee hires and employee turnover	Pag.121-124	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Pag.154	
401-3	Parental leave	Pag.124	
<b>Labor/Management Relations</b>			
402-1	Minimum notice periods regarding operational changes	1 month (Ccnl Federga sacqua)	
<b>Occupational Health and Safety</b>			
403-1	Workers representation in formal joint management-worker health and safety committees	100%	
403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	Pag.133	The data refer to Hera Spa, AcegasApsAmga, Fea, Hera Comm, Hera Luce, Herambiente, Inrete Distribuzione Energia, Marche Multiservizi, Uniflotte and Waste Recycling since the disclosure does not apply to the other companies.
403-3	Workers with high incidence or high risk of diseases related to their occupation	Pag.133	
403-4	Health and safety topics covered in formal agreements with trade unions	Pag.133; 306	
<b>Training and Education</b>			
404-1	Average hours of training per year per employee	Pag.128	
404-2	Programs for upgrading employee skills and transition assistance programs	Non significativo	
404-3	Percentage of employees receiving regular performance and career development reviews	Pag.19; 153; 159	
<b>Diversity and Equal Opportunity</b>			
405-1	Diversity of governance bodies and employees	Pag.21; 124	
405-2	Ratio of basic salary and remuneration of women to men	Pag.124	The data refer to Hera Spa, Hera Comm, Hera Trading, Herambiente, Fea, Inrete Distribuzione Energia and Uniflotte for which uniformity in the calculation is ensured.



Indicator	Description	Page	Changes in the company's scope
<b>Non-discrimination</b>			
406-1	Incidents of discrimination and corrective actions taken	Pag. 34-35; 109;152; 156;163; 312	
<b>Freedom of Association and Collective Bargaining</b>			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Pag. 293. The Group has no relationship with suppliers in countries at risk	
<b>Child Labor</b>			
408-1	Operations and suppliers at significant risk for incidents of child labor	Pag. 293. The Group has no relationship with suppliers in countries at risk	
<b>Local Communities</b>			
413-1	Operations with local community engagement, impact assessments, and development programs	Pag. 47	
413-2	Operations with significant actual and potential negative impacts on local communities	Pag. 272, 273	
<b>Supplier Social Assessment</b>			
414-1	New suppliers that were screened using social criteria	Pag. 286	The data refer to Hera Spa, AcegasApsAmga, Fea, Herambiente, Herambiente Servizi Industriali, Hera Comm, Hera Luce, Inrete Distribuzione Energia, Marche Multiservizi and Uniflotte for which uniformity in the calculation is ensured.
414-2	Negative social impacts in the supply chain and actions taken	Pag. 286	
<b>Public Policy</b>			
415-1	Political contributions	Pag. 242	
<b>Customer Health and Safety</b>			
416-1	Assessment of the health and safety impacts of product and service categories	Pag. 87	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Pag. 64; Pag. 34-35; 109;152; 156;163; 312	
<b>Marketing and Labeling</b>			
417-1	Requirements for product and service information and labeling	Pag. 87	
417-2	Incidents of non-compliance concerning product and service information and labeling	Pag. 250 Pag. 250	
417-3	Incidents of non-compliance concerning marketing communications	Pag. 250 Pag. 250	
<b>Customer Privacy</b>			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Pag. 34-35; 109;152; 156;163; 312	
<b>Socioeconomic Compliance</b>			

Indicator	Description	Page	Changes in the company's scope
419-1	Non-compliance with laws and regulations in the social and economic area	Pag.250	
<b>Sector supplement</b>			
EU 1	Installed production capacity by energy source	Pag.170	
EU 2	Net energy production by source	Pag.170	
EU 3	Number of customer accounts of energy services	Pag.59	
EU 4	Length of electricity transmission and distribution lines	Pag.90	
EU 5	Kyoto Protocol compliance ratings	Pag.207	
EU 11	Average efficiency of power generation plants	Pag.170	
EU 12	Losses in the electricity distribution grid	Pag. 92	
EU13	Biodiversity in relocated habitats against the biodiversity in the original habitat	No cases in 2016.	
EU24	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity and customer support services	Pag.98	
EU25	Number of injuries involving company assets	Pag.90	
EU26	Percentage of population unserved by electricity	Not present in 2016.	
EU27	Number of disconnections for non-payment	13.303 cases in 2016	
EU28	Power outage frequency by customer	Pag.90	
EU29	Average power outage duration	Pag. 90	