# Sustainability **Report 2015**





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# Sustainability in Iren: Highlights 2015

#### **CREATE ADDED VALUE**

- 3,094 million Euro of revenue
- Over 258 million Euro of investments
- 1,074 million Euro of added value for stakeholders
- 0.055 Euro of dividends per share

#### **ENVIRONMENT**

- 2,130,745 tonnes of CO<sub>2</sub> avoided
- 662,500 TOE saved (approximately +20% compared to 2014)
- 80% of the electricity produced by environmentally friendly sources (renewable or similar)
- 56.7% of separated waste collection (national average 45.2%)
- 21% water network leaks (national average 37.4%)
- Over 22,640,000 million plastic bottles avoided during the year thanks to the 59 "Acquapubblica" water distribution points
- 82 million cubic meters of district heating volume

#### **IREN PEOPLE**

- 99% of employees have a permanent contract
- 196 recruitments in 2015, more than double compared to 2014
- approximately 90% of employees attended at least one training course
- 5,430 people involved, 230 projects and over 900 proposals in the project to "Cambiare Insieme" (change together) in order to share the values of the Group

#### **CUSTOMERS**

- 1,500,000 customers in the Energy Sector, 2,600,000 inhabitants served in the Integrated Water Service, 2,000,000 inhabitants for Environmental Services and 820,000 inhabitants served by district heating.
- 33 service counter positions and 240,000 customers served
- 3 call centres and 1.3 million answers
- Over 92% of energy customers satisfied
- 23% gas network losses
- 52,000 samples of drinking and waste water for approximately 563,000 parameters
- 84% gas networks inspected and 48% electricity substations monitored

#### **SUPPLIERS**

- Orders issued for 525 million Euro
- Local suppliers account for 58%
- 1,588 overall verified suppliers
- 34 cooperatives work with Iren
- 4,098 hours of training for third party companies

#### **INSTITUTIONS**

- 9 Trade Unions at a national and international level
- Over 35% of the employees trained on prevention and corruption

#### **COMMUNITY AND LOCAL AREA**

- 98% of the investments of the 2020 Business Plan aimed at development of the local area
- 13 projects by the Local Committees for sustainability
- Over 650 design contributions participated on Irencollabora.it
- Over 200 projects supported in favour of the community

### SHAREHOLDERS AND FINANCIAL BACKERS

- + 60% growth of the Iren share in 2015
- Rating Fitch "investment grade" BBB- with stable outlook
- 500 million Euro of bond issues placed, with a demand of 7 times the amount of the offer

#### **FUTURE GENERATIONS**

- 51,000 students from over 400 schools participated in the educational offer Edu.Iren
- 13 research and innovation projects
- 25% of operating investments of the Business Plan until 2020 dedicated to innovation
- Collaboration projects with business and academic institutions in over 65 European cities
- 6,000 citizens involved in the trial of a project for the sustainable consumption of energy resources



#### LETTER TO THE STAKEHOLDERS

Dear Stakeholders.

the year that has recently ended was particularly significant for the Iren Group in terms of corporate social responsibility.

We have presented the Business Plan until 2020 that outlines a course of ambitious growth for our Group that passes through **efficiency**, as a factor for the creation of value for all of the stakeholders, the constant **integration**, specialisations and focus on the **customer**, the close collaboration with the **local communities** to promote the shared growth of the area, the cross **innovation** and important investments in the enrichment of the **internal skills**: in summary **a new leading role in sustainable development**.

The new Plan is a commitment that the Iren Group renews with its stakeholders and that confirms its constant reference to the economic, environmental and corporate responsibility, as highlighted by the results achieved so far, presented in the pages of this Report, and the objectives of future improvements.

Another important passage is the adoption of new reporting criteria (GRI-G4) for the Sustainability Report. This is not a formal step, but a substantial change that has directly involved the management and the stakeholders of Iren in an in depth analysis that creates a close connection between the expectations of the stakeholders and the development strategies of the Group. Furthermore, the new approach is the cornerstone of an ongoing, frank and lasting dialogue with our stakeholders that increasingly are part of participatory planning in order to guarantee innovative services and solutions to the territories and communities. This is thanks to the 5 Iren Local Committees in which 80 Associations and Institutions operate, representative of the primary categories of stakeholders: customers, employees, suppliers, economic categories, institutions, shareholders, environment, local communities, school and university.

Concerning **environmental** sustainability, the energy produced by the Group derives 80% from renewable and other similar sources; an important contribution to the national and European energy objectives, that made it possible to avoid atmospheric emissions for 2.1 million tonnes of CO<sub>2</sub> (+0.3 million tonnes compared to 2014) and to save over 660,000 tonnes of equivalent crude oil. We have further expanded district heating (+2% volume served compared to 2014), a system that contributes to improving air quality and to increasing energy efficiency. Regarding waste management, the Group, with the entry of Amiat, increased its volumes handled, which now exceed 1.7 million tonnes, and the population served, which exceeds 2 million inhabitants, achieving also significant results in separated waste collection which has reached 56.7%. Attention to the quality and efficiency of the wastewater purifying systems continues to be strong with more than 1,000 plants serving approximately 2.6 million inhabitants.

Regarding **social** responsibility, in 2015 we have realised and supported more than 200 projects in favour of the local communities for innovation, the promotion of cultural and sporting initiatives and environmental protection. Particularly relevant in this context are the initiatives of education for sustainability, which have directly involved more than 51,000 students from 402 schools of all levels.

The Iren Group maintains, in carrying out its activities, a strong focus on its customers, confirmed by the results achieved in the independent study carried out on a national level by the Databank-Cerved Group, a study that measures the satisfaction of the main operators of the sector. The Group averages are higher than those of the market: 92.7 is the index of satisfaction for domestic gas customers (2 points higher than the market) and 92.0 is the index of satisfaction for domestic electricity customers

(1.8 points higher than the market). It is one of several returns on the quality of services achieved thanks to the skill and commitment of more than 6,100 people working in the Group. Our people are a fundamental resource in which Iren continues to invest in terms of training, professional growth, welfare and involvement in order to seize all of the opportunities for future growth.

The attention the Group pays to its employees - whose contribution was fundamental in order to accomplish all of the results achieved - is evidenced by the quality of work relations (99% are employed with permanent contracts), the consistency of the training (involving 90% of the personnel for more than 17 hours on average per capita) and the plan of new hires that, in 2015, saw the entry of 196 new employees (more than 2 and 4 times the entries of 2014 and 2013 respectively) with an age that, in approximately 50% of the cases, is younger than 30. These are all significant indicators, to which the rise in the number of corporate welfare interventions is to be added, with an always-constant attention to the topic of gender.

In terms of **economic** sustainability, the Iren Group confirms its capacity to create value, thanks to the ability to seize and plan opportunities for growth and enhance the efficiency of its organization and operational processes. In 2015, the Group generated value-added for 1,074 million Euro and, despite the still weak macro-economic context, it continued to generate investments for infrastructural development and environmental protection, with positive effects for the territory, the local communities and the employment generated.

The road map that we have designed will lead us to act in order to become more flexible, integrated and oriented towards customers, stronger in the territories in which we operate to create synergies and more focused on the future in order to satisfy the demands of sustainable development. This is the course of the Iren Group until 2020.

The Chairman
Francesco Profumo

The Deputy Chairman Ettore Rocchi

Chief Executive Officer Massimiliano Bianco



#### INTRODUCTION

The 2015 Sustainability Report, referring to the period 1 January - 31 December 2015, was prepared under the coordination of the Corporate Social Responsibility Department and Local Committees pursuant to the Sustainability Reporting Guidelines (version G4) of the Global Reporting Initiative (GRI) and the Utility supplement of the electricity sector – G4 Sector Disclosure, with an application level "In Accordance – Comprehensive".

The data on the environmental and social performance are reported through the application "Sustainability Report" which provides for the tracking, verification and approval of all required data.

The Sustainability Report is prepared annually by the Iren Group (the 2014 report was published in March 2015) and published together with the draft Statutory Financial Statements and the Consolidated Financial Statements.

Companies	Subsidiary	Subsidiaries relevant for sustainability
Iren SpA	•	
Iren Energia SpA	•	
Iren Servizi e Innovazione SpA	•	
AEM Torino Distribuzione SpA	•	
TLR Veicolo SpA	•	
Iren Mercato SpA	•	
Iren Gestioni energetiche SpA	•	
O.C. Clim Srl	•	
Gea Commerciale SpA	•	
Olt Offshore Toscana Lng SpA		•
Iren Emilia SpA	•	
AGA SpA	•	
Consorzio GPO	•	
EnìaTel SpA	•	
Iren Acqua Gas SpA	•	
Genova Reti Gas Srl	•	
Laboratori Iren Acqua Gas SpA	•	
Mediterranea delle Acque SpA	•	

The Company AMIAT also falls within the scope of reporting starting from this Report; the aforementioned company manages the environmental services in the city of Turin, reported separately in the 2014 Report.

The document was submitted for audit to PricewaterhouseCoopers Advisory SpA pursuant to the principles of ISAE 3000 (International Standard on Assurance Engagement 3000) of the International Auditing and Assurance Standard Board.

#### SCOPE OF CONSOLIDATION

The scope of consolidation for the preparation of the Sustainability Report is indicated in the table below and takes into consideration:

- all of the subsidiaries of the Iren Group (stake exceeding 50%) with exception of those in liquidation as at 31/12/2015 (Sea Power & Fuel Srl, Tirana Acque Scarl and Agriren Srl) or destined to be transferred (Valfontanabuona sport Srl and Smag Srl) or insignificant for sustainability purposes (Fingas Srl):
- all of the subsidiaries of which the Group holds a stake of less than 50%, that are considered significant for their sustainability impacts.

Companies	Subsidiary	Subsidiaries relevant for sustainability
Idro-Tigullio SpA	•	
Immobiliare delle Fabbriche SpA	•	
Amter SpA		•
Acquedotto di Savona SpA	•	
Iren Ambiente Holding SpA	•	
Bonifica Autocisterne Srl	•	
Iren Rinnovabili SpA	•	
Greensource SpA	•	
Enìa Solaris Srl	•	
Varsi Fotovoltaico Srl	•	
Millenaria Fotovoltaico Srl	•	
Iren Ambiente SpA	•	
Monte Querce Srl	•	
Tecnoborgo SpA	•	
Amiat Veicolo SpA	•	
Amiat SpA	•	
TRM Veicolo SpA		•

The main social and environmental performance of the companies OLT Offshore LNG and TRM S.P.A. were reported separately in specific boxes also this year.

The data related to the personnel indicators of all Group Companies are reported at 100%, with the exception of AM.TER (49%) and Iren Rinnovabili (70%).

Any limitations in regards to the scope of the Sustainability Report are duly indicated.

In order to guarantee the reliability of the information provided, directly measurable amounts have been included, thus limiting the use of estimates as much as possible. Estimated amounts are clearly indicated as such. The calculations are based on the best information available or on sample surveys.

Materiality is intended as the assessment of the significance attributed to a topic by the Iren Group and by its stakeholders and renders this topic subject to reporting in this Sustainability Report.

The materiality analysis allows to underline the connection of the relevant topics with the execution of the Group strategy and ensures that the requests for information of the various stakeholders are taken into consideration.

The materiality analysis process was carried out in various stages:

#### **MATERIALITY**

The contents of the Report were defined on the basis of the materiality analysis performed for the time by the Iren Group.



- identification of the spectrum of potentially significant topics through the analysis of guidelines and GRI publications, of the financial and sustainability reporting of the Group, of its Business Plan and customer satisfaction surveys, of media and of peer and competitor sustainability reporting;
- involvement of Group management for the definition of relevant topics for Iren;
- involvement of the Iren Local Committees of Piacenza, Parma and Reggio Emilia for the definition of relevant topics for the stakeholders. The 60 Associations/Institutions that make up the Local Committees involved represent the main categories of Stakeholders of the Iren Group: consumers/customers, employees, suppliers, institutions,

shareholders, environment, local communities, future generations.

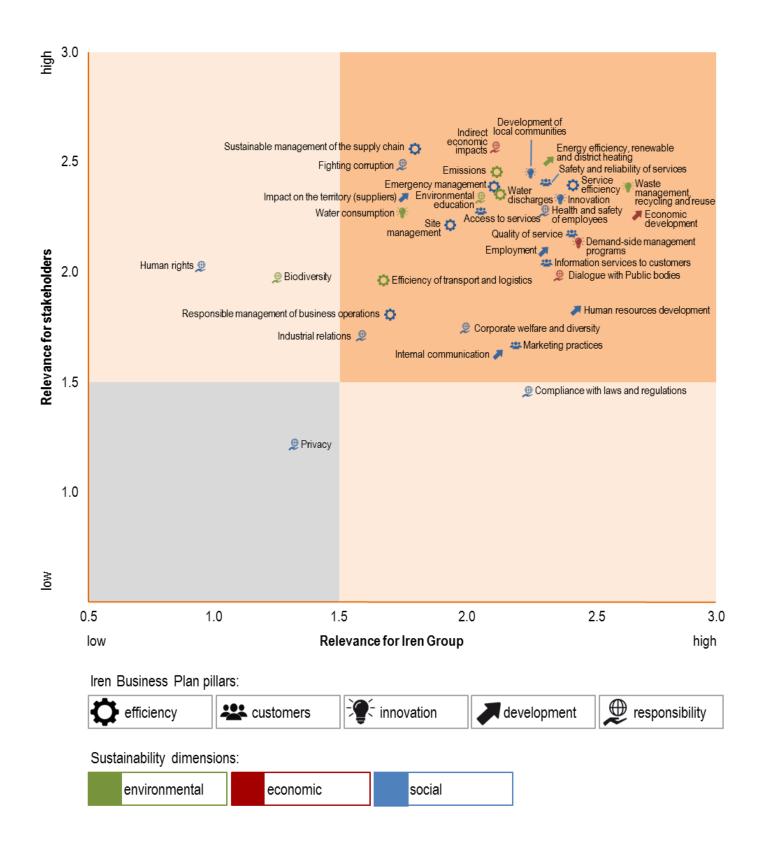
The topics identified were subject to assessment, on a scale from 0 to 3, by the Group's management and by its stakeholders represented through the Local Committees.

The result was the materiality matrix - validated by the Chairperson, Deputy Chairperson and CEO of the Iren Group - that identifies the topics discussed in depth within this Report.

As can be seen from the matrix, almost all of the topics assessed were considered important by the Iren Group, by the external stakeholders or by both. Only the topic of "Privacy" resulted as being less significant, but for completeness of information, also with regards to 2014, it will be handled, even if only in summary.



#### **MATERIALITY MATRIX**



# The Iren Group





#### **ABOUT US**

Iren, a multi-utility company listed on the Italian Stock Exchange, operates in the following business areas: electricity (production, distribution and sale), thermal energy for district heating (production, distribution and sale), gas (distribution and sale), integrated water service management, environmental services (waste collection and disposal) and services for the local authorities. Iren, which has provided services to the community for over 100 years, is structured as an industrial holding with its main corporate offices in Reggio Emilia and its operating units in Genoa, Parma, Piacenza and Turin, and with four business units, each overseeing a specific line of business:

- Reti, focusing on the integrated water service, gas distribution, electricity distribution, public street lighting and traffic light systems;
- Ambiente, dealing with waste collection, urban hygiene, the design and management of waste treatment and disposal plants, and the renewable energy sector;
- **Energia**, regarding electricity and heat production, management of district heating and technological services;
- Mercato, operating in the field of procurement and sale of electricity, gas and heat for district heating.

The Group actively contributes to the growth of the local territories in which it operates, tangibly promoting economic development and innovation

Iren focuses on providing services and creating infrastructure to improve and enhance local territories, in full respect for the environment and its customers.

The Group operates in a multi-regional area with over 6,100 employees, a portfolio of about 1.5 million customers in the energy sector, around 2.6 million residents served by the integrated water service and over 2 million residents within its environmental cycle.

#### **IMPORTANT EVENTS IN 2015**

In 2015 no significant changes occurred in the ownership structure and/or other operations involving the increase, maintenance or changes to the share capital.

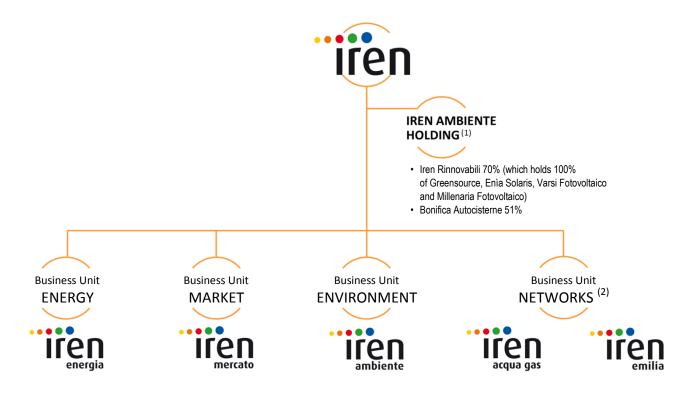
The Iren Group performed operations, in line with strategic guidelines, aimed at expanding and developing its lines of business:

- in June the Board of Directors approved the new Industrial Plan 2015-2020, illustrated in more detail in the section "strategies and policies for sustainability";
- important reorganisation measures were implemented, strongly supported by the Governance, aimed at giving it greater unity and clearly identifying the main activities and responsibilities pertinent to each structure, guaranteeing an effective and rapid integration process, crucial to tackling the challenges of the market;
- the reorganisation plan of the Group's subsidiaries was approved, resulting in a reduction in the number of companies through the merging and unification of activities having the same operating characteristics and the optimisation of the structure into four business units: Energia, Reti, Mercato and Ambiente to which four companies will correspond from 1 January 2016;
- in October the rating agency Fitch gave the Group a triple Brating with a stable outlook;
  - Società Acque Potabili SpA was merged by incorporation with Sviluppo Idrico SpA with cancellation of Acque Potabili's ordinary shares and its exit from the Mercato Telematico Italiano (the Italian 'screen-based' Stock Exchange). Sviluppo Idrico SpA took over the company name of Acque Potabili SpA. The Board of Directors of Acque Potabili SpA resolved to sell the business unit relative to the integrated water service for the Municipalities of Camogli, Rapallo, Coreglia Ligure and Zoagli, belonging to the Genoa ATO, and for the Municipality of Bolano (La Spezia) as well as the stake held in the subsidiary Acquedotto di Savona SpA, to Iren Acqua Gas SpA, and to sell the business unit relative to the integrated water service of Turin ATO 3 to Società Metropolitana Acque Torino SpA. The transfer operations of business units were performed so as to enable integration with the activities managed by the majority stakeholders, at the same time permitting a progressive valorisation of the licence portfolio;
- full consolidation of AMIAT SpA, following the acquisition at the end of 2014 of a further 31% of the share capital, with a significant increase in the quantities of waste handled by the Group and a substantial increase in revenues for the collection sector;
- Iren Mercato won the three lots of CONSIP's annual call for tenders for the supply of electricity to local authorities. The three lots, consistent with the Group's profile and its expansion and local involvement strategies, are: lot 1 Valle d'Aosta and Piedmont, lot 2 Liguria and Lombardy and lot 3 Emilia Romagna and Trentino;
- an understanding with the Municipality of Vercelli for local consolidation which in December led to a framework agreement being agreed between Iren and the Municipality of Vercelli aimed at promoting the leading role of Atena Group in the north east of Piedmont as part of its expansion project.
- the Group bought a share of 40% of Ecoprogetto Tortona S.r.l., from Ladurner S.r.l., a company involved in the construction and management of waste treatment plants, as

part of a contract signed with all current shareholders of Ecoprogetto Tortona which foresees the purchase of the entire company, certain conditions being met. The company holds a thirty-year licence (since 2009) issued by the publicly owned AMIAS for the construction and management of an anaerobic digestion plant in the Municipality of Tortona (AL),

situated in an ideal in relation to Iren's catchment area. The operation is the first step of a plan for the full acquisition of the company upon its achievement of quality and performance standards at the time of the plant commencing regular functioning.

#### STRUCTURE OF THE IREN GROUP AS AT 31/12/2015



- AEM Torino Distribuzione 100%
- TLR V. 100%

Main subsidiary companies

- Iren Servizi e Innovazione 100% Iren Gestioni Energetiche 100%
  - Gea Commerciale 100%
  - O.C. Clim 100%
  - · OLT Offshore LNG Toscana 43.99% (+ASA 5.08%, subsidiary of the Group)
- Tecnoborgo 100%
- · AMIAT V. 93.05% (which holds 80% of AMIAT)
- Monte Querce 60%
- TRM V. 48.8% (+ Iren Energia 0.1% + Iren Emilia 0.1%) (TRM V. holds 80% of TRM)
- · Genova Reti Gas 100%
- · Acquedotto di Savona 100%
- Laboratori Iren Acqua Gas 90.89%
- Mediterranea delle Acque 60% (which holds 66.55% of Idro-Tigullio, 49% of Amter and 100% of Immobiliare delle Fabbriche)
- AGA SpA 100% · Consorzio GPO 62.35%
- · Enìatel 100%

<sup>(1)</sup> On 21 December 2012, Iren Ambiente Holding SpA. was set up, thus implementing the spin-off of the business branch including some of the investments held by Iren Ambiente SpA. in the Companies: Bonifica Autocisterne, Iren Rinnovabili, Iniziative Ambientali (40%), Rio Riazzone (44%), Consorzio Leap (0.95%) and Reggio Emilia Innovazione (0.87%). The company Iren Ambiente Holding is active as of 9 January 2013.

<sup>(2)</sup> Since 1st January 2016 IRETI, the company managing the electricity, gas and integrated water service distribution network taking over the activities formerly supplied by Iren Emilia, Iren Acqua Gas, AEM Torino Distribuzione, Genova Reti Gas, Acquedotto di Savona, Eniatel and Aga, became operative.



#### MAIN AREAS SERVED



#### **BUSINESS SEGMENTS**

	Energy services	Water cycle systems	Environmental services
Customers	1,502,000 (electricity and gas)		
Citizens served	820,000 (district heating)	2,623,248	2,050,427
Volumes	Electricity  • produced: 8,125 GWh  • sold: 12,383 GWh  • distributed: 3,945 GWh  Gas  • sold: 2,568 million cubic metres  • distributed: 1,208 million cubic metres  Heat  • produced: 2,870 GWh  • sold: 2,385 GWh  • volume served 82 million cubic metres	Water sold: 162 million cubic metres	Waste treated: 1,753,559 tons
Networks and plants	28 hydroelectric plants 6 thermoelectric cogeneration plants 1 thermoelectric plant 2 waste-to-energy plants 3 landfills 2 biogas 75 photovoltaic  Distribution networks  Electricity: 7,555 km  Gas: 7,634 km  District heating: 883 km	1,085 treatment plants  Water mains network: 16,468 km Sewage systems: 9,274 km	19 treatment, selection, storage and recovery plants 144 waste collection points

# PRODUCTION OF ELECTRICAL AND THERMAL ENERGY

Iren Group's installed capacity totals over 2,800 MWe (in electricity mode).

Total heat production capacity is over 2,400 MWt, of which 36% is generated by cogeneration plants, while the remainder comes from conventional heat generators and waste-to-energy plants.

In 2015, the Iren Group plants produced around 8,125 GWhe of electricity and over 2,870 GWht of heat, with district-heating volumes of approximately 82 million cubic metres.

The production of electricity by plants fuelled by low carbon sources (renewable or similar) represents about 80% of the overall production of the Group, compared to the national average which stands at 39%. Plants fuelled by low carbon sources account for about 70% of the total.

The hydroelectric and photovoltaic production systems play an important role in protecting the environment given that they use a renewable and clean resource not emitting any pollutants, and

reduce the use of other forms of production with a higher environmental impact.

Iren has 75 photovoltaic plants for a total installed output of 17.5 MW and electricity production that in 2015 was around 20 GWh.



#### **MARKET**

Through Iren Mercato, the Group operates in the distribution of electricity gas and heat; acts as fuel provider to the Group; carries out trading of energy-efficiency certificates, green-certificates and



emission allowances; provides customer management services to Group companies; and supplies heat services and global services.

Iren Mercato is present throughout Italy, with a greater concentration of customers in the central-northern areas. The main Group sources available for Iren Mercato operations are the thermoelectric and hydroelectric plants of the Group.

Heat management and global services are aimed at both public and private sectors with development activities focused on airconditioning systems in buildings for residential use and use by the services sector, by offering energy service agreements. This model ensures long-term customer loyalty and, as a result, guarantees the maintenance of natural gas supplies, one of the core businesses of Iren Mercato.

#### SALE OF NATURAL GAS

The total amount of natural gas procured in 2015 came to approximately 2,568 million cubic metres, of which approximately 1,004 million m³ was sold to end customers outside the Group, 1,358 million m³ was used within the Group for producing electricity and heat as well as for supplying heating services, whilst 206 million m³ of gas remained in storage.

At 31 December 2015, the number of retail gas customers managed by Iren Mercato came to approximately 742,000 (about 381,000 in the protected market and 361,000 in the free market), distributed mainly across Liguria, southern Piedmont, the provinces of Reggio Emilia, Parma and Piacenza, and in other Municipalities in the Modena province. Moreover there are approximately 28,500 customers of Gea Commerciale which operates in the Grosseto area.

#### **SALE OF ELECTRICITY**

The volumes of electricity sold in 2015 amounted to 12,383 GWh.

At the end of 2015, the number of retail electricity customers managed came to approximately 732,000 (of whom approximately 457,000 on the free market and 275,000 on the protected market), mainly distributed in the traditional catchment areas of Turin and Parma where the Group also acts as the "protected market" service operator, and the other areas in which the Group operates; in addition to these are more than 8,000 business customers.

Below is a cluster analysis of the end customers:

- Free market and Power Exchange Total volumes sold to end customers and wholesalers amounted to 4,824 GWh while the volumes used on the Power Exchange amounted to 6,847 GWh.
- Protected market Total volumes sold to customers in the protected market amounted to 653 GWh.

#### SALE OF HEAT FOR DISTRICT HEATING

Iren Mercato manages the sale of heating to district-heating customers in the Municipalities of Genoa, Turin, Nichelino, Reggio Emilia, Piacenza and Parma. This activity consists in the supply of heating to customers already served by the district-heating network, the management of customer relations, and the monitoring and management of substations supplying power to the thermal plants in those buildings served.

At the end of 2015, Group district-heating volumes were about 82 million m³, for an estimated population of 820,000 inhabitants: 58 million m³ in Piedmont, while in Emilia the volume is over 20 million m³, and for Genoa it is about 3.7 million m³. Over 2,385 GWht of heat were sold. The thermal energy acquired by third parties amounted to approximately 7.5 GWht.

#### MARKETING OF ENVIRONMENTAL CERTIFICATES

Iren Mercato operates as procurer of environmental certificates. In 2015, around 3.5 million allowances (EUA) were purchased at an average price of 7.99 Euro/EUA and about 56 thousand credits (ERU) were sold at the price of 0.17 Euro/ERU. These purchases were made both to cover the shares needed to fulfil Group obligations, and for the purchase and sale of shares with third parties.

#### **GAS DISTRIBUTION**



The natural gas distribution service consists of taking gas from Snam Rete Gas pipelines and transporting it through local gas pipeline networks for delivery to the end users.

A gas distribution system is typically composed of:

- one or more points of interconnection with the national or regional network of transmission pipelines, through which the distribution network is powered; at these points (RE.MI. substations), delivery, filtration, preheating (necessary in order to prevent freezing of the equipment due to pressure reductions), pressure regulation, measurement and gas odoration are carried out;
- the gas distribution network;
- the user connection plants for delivery to the final users, where the gas is measured using appropriate measurement groups.

The gas distribution activities are carried out by the Group in compliance with regulations for functional separation of vertically integrated companies in the sector, in compliance with the principles of cost-effectiveness, profitability and confidentiality of company data with the aim of promoting competition, efficiency and adequate levels of guality in the delivery of service.

Through 7,634 km of network, the Group distributed natural gas to 714,830 customers.

In 2015 the Iren Group distributed a total of 1,208 million cubic metres of natural gas in 95 Municipalities in the province of Genoa (approximately 321,000 end customers to whom 338 million cubic metres of gas were distributed), Reggio Emilia, Parma and Piacenza (approximately 394,000 customers to whom 870 million cubic metres of gas were distributed). The Genoa distribution network is approximately 1,661 km long, at medium pressure and low pressure. Natural gas arriving from the domestic transmission pipelines transits through 7 owned interconnected reception cabins and is introduced into the local distribution network.

The gas distribution network in Emilia is approximately 5,972 km long, at medium and low pressure.

The use of innovative technologies for laying and maintening the networks means that ordinary maintenance can be performed while reducing time frames and costs, and limiting inconvenience to residents at a minimum.

The Iren Group also deals with the distribution and sale of LPG. In Emilia, where there is greater coverage, this distribution is performed through reduction plants and channelled networks in 3 municipalities of Reggio Emilia, where there are 14 delivery plants. The suppliers deliver already odorised LPG in tanks, and Iren distributes it to customers at a pressure of 30 mbar. Safety is ensured by means of remote control of the plants.

#### **ELECTRICITY DISTRIBUTION**



The Iren Group, through AEM Torino Distribuzione, with 7,555 km of networks (high, medium and low voltage), distributes electricity to the Cities of Turin and Parma (around 1,100,000 residents).

In 2015, it distributed a total of 3,945 GWh of electricity, 3,017 GWh of which in the City of Turin and 928 GWh in the City of Parma, for a total of over 684,000 customers.

#### DISTRICT HEATING

Thanks to over 880 km of underground dual piping, the Group supplies over 82 million cubic meter of heating, equivalent to an estimated population served of 820,000 residents.



The Turin area network is the largest in Europe, with over 534 km and a volume of 58 million cubic metres, including the municipalities of Nichelino and Moncalieri.

The district-heating networks of Parma (98 km), Reggio Emilia (218.4 km) and Piacenza (21.6 km), extending over 338 km, serve a total volume of over 20 million cubic metres.

District heating is provided in Genoa in a limited area corresponding to the district of Genoa Sampierdarena, with 10 km of network and a volume of 3.7 million cubic metres served.

#### INTEGRATED WATER SERVICE



The services include the procurement and distribution of drinking water, management of the sewage systems and water treatment activities.

With over 16,468 km of water mains networks, about 9,300 km of sewage systems and 1,085 water treatment plants, the Group serves approximately 2,623,248 residents in 191 Municipalities in the provinces of Genova, La Spezia, Parma, Piacenza, Reggio Emilia and Savona.

In 2015 the Iren Group supplied to the network about 238 million cubic metres of water in the areas managed, of which 162 million cubic metres sold.



#### **ENVIRONMENTAL SERVICES**

The Group's environmental services include the collection and recovery or disposal of solid urban waste, similar waste and non-hazardous special waste, as well as its transportation to plants belonging to the Group or third parties.

The Group provides environmental health services in the Provinces of Piacenza, Parma and Reggio Emilia and in the Municipality of Turin for a total of 123 municipalities, serving 2,050,427 residents.

In 2015, the Group managed 1,754,000 tonnes of waste, of which 1,200,000 tonnes of urban waste, by means of 18 treatment, selection, storage and recovery plants, 2 waste-to-energy plants (Piacenza and Parma), 3 landfills and 1 composting plant.

The non-separated fraction of collected waste is disposed of in several different ways in order to make the most of it as a resource, reducing the portion addressed to waste-to-energy conversion and disposal in landfills. The Group has activated highly structured separated waste collection systems which, partly thanks to the management of 144 equipped ecological stations, have made it possible for the area served to achieve results of 57% of separation. The environmental services also include street-cleaning, sweeping of pavements and urban green areas and the clearing of snow.



#### **OTHER SERVICES**

The Group provides the City of Turin with public street lighting services, traffic light services, management of heating (about 800 buildings) and electric services in municipal buildings, and the global technological service for buildings of public interest (Palazzo di Giustizia, Galleria d'Arte Moderna, Mole Antonelliana, Palazzo Madama, Archivio Storico, Palazzo Mazzonis, Borgo Medioevale and Scuola di Biotecnologie dell'Università di Torino).

In Emilia it manages the public street lighting plants in the municipalities of Parma (up to April 2015) and Medesano.

The Iren Group also offers broad-band internet connections in wholesale mode to institutional customers, local authorities and national and international telecommunications operators. The Turin network consists of almost 300 km of optic fibre with the possibility of connecting to the 'territorial agreement' network

enabling easy extension to the entire area of the new Metropolitan City. Collaboration with other public authorities and consortia also enables connection to the main provincial cities of Piedmont and to Milan.



The network infrastructure is composed of around 700 apparatuses connected by fibre and copper networks (generally ADSL), added to which is the management of over 10,000 data SIMs for the connection of remote control stations. In the provinces of Reggio Emilia, Parma and Piacenza, the network extends for over 1,500 km; in mountain areas the network extends over 95 hiperlan radio relays via 107 radio sites with 115 diffusion points, covering a vast area in digital divide.

## COMPANIES OUTSIDE THE PERIMETER

#### LIVORNO REGASIFICATION PLANT (OLT)

#### **COMPANY PROFILE**

OLT Offshore LNG Toscana SpA. is the Company that developed and owns the floating regasification terminal "FSRU Toscana", anchored at about 22 km off the coast between Livorno and Pisa. The terminal is one of the main projects of national interest, declared by the Ministry of Economic Development (Decree of 3/9/2013) to be important and necessary infrastructure for the safety of the national gas system, which can significantly contribute to lowering the cost and promoting competition in the supplies of natural gas.

The shareholders are Iren Group with 49.07%, Uniper Global Commodities SE (formerly E.ON Global Commodities SE) with 48.24% and GOLAR LNG with 2.69%.

The terminal, connected by a 36.5 km pipeline (of which 29.5 km at sea and 7 km on land) to the national Snam Rete Gas network, has a regasification capacity equal to 3.75 billion m³ per year, amounting to about 4% of the national requirement.

#### **PLANT OPERATION**

The regasification process takes place through the following steps:

- unloading LNG off the LNG carriers and storing it in 4 regasification tanks;
- regasifying LNG to returnit to the gaseous state by means of an increase in temperature;
- compressing the gas to the national grid.

The terminal is based on secure, consolidated technologies, using subsystems and components that have been used for some time in various sectors in the oil and gas industry.



#### **ECONOMIC PERFORMANCE**

2015 was the second year of operation for the terminal (which started commercial operation on 20 December 2013) which has been recognised a minimum tariff, guaranteeing 64% revenue coverage upon regular functioning.

The terminal is available in case of a gas emergency in Italy, offering Peak Saving service (emergency measure set up by the Ministry of Economic Development to ensure safety of the national gas system in case of specific unfavourable situations which may arise during the winter period of thermal year 2015/2016).

On 13 December 2015 the LNG needed for the Peak Saving service active from 1st January 2016 was supplied.

In 2015 the terminal regasified about 35 million cubic metres of gas

#### **ENVIRONMENTAL PERFORMANCE**

The terminal operates in compliance with the IEA decree no. 93 of 15 March 2013, requiring continuous monitoring of channelled emissions of  $NO_X$ ,  $NO_2$ , TOC, CO,  $CO_2$  and dusts coming from the two boilers (E1 and E2) needed for regasification, as well as continuous monitoring of the water discharge necessary for regasificationback into the sea, with reference to the quantity of free available chlorine, flow rate and the temperature gap with sea water.

#### Water consumption

In total, the authorised seawater consumption for the terminal is 141 million cubic metres/year, of which 94.6 million cubic metres/year is the volume withdrawn and discharged for regasification. In 2015 85 million cubic metres of seawater were used, of which 63 million cubic metres for regasification. Specifically, the average flow rate of water needed for gasification was approximately 10,250 cubic metres /hour (the main discharge used for gasification is authorised to discharge at a flow rate of not more than 10,800 cubic metres /hour).

#### Water discharges and emissions into water

In particular:

- the discharge relative to regasification, authorised for a quantity of free available chlorine of less than 3.6 tonnes /year totalled about 2 tonnes of free available chlorine in 2015
- For all other discharges from the terminal, a quantity of free available chlorine of 0.2 mg/l is authorised (limit pursuant to Italian Legislative Decree 152/06). These were monitored, as required by the IEA decree, both by internal personnel and by a certified laboratory and revealed values well below the legal limit.

Emissions in water in 2015 remained below the legal limit set for the terminal

#### Direct and indirect energy consumption

The terminal's production of electricity is ensured by 4 steam turbogenerators (2 of 3.35 MWh and 2 of 10 MWh) fuelled with steam produced by the two boilers on board and by a diesel generator of 3.35 MW. All electricity produced by the terminal is used for self-consumption. The electricity produced and consumed in 2015 was 38,865 MWh; 28,353,131 Scm of natural gas and 139.9 tonnes of marine diesel were used for this energy production.

#### Atmospheric emissions

The channelled emissions of NOx, NO2, TOC, CO, CO2 and dusts coming from the two boilers (E1 and E2) remained well below the authorised limits at the terminal (average hourly limits in normal operating conditions burning natural gas: NOx less than 150 mg/Nmc; CO less than 70 mg/Nmc; Dusts 5 mg/Nmc).

The annual averages of the parameters are reported below:

	NOx	СО	Dusts	тос	CO <sub>2</sub>
Boilers	<90	<1	<0.5	<1	<10

Values in the table expressed in mg/Nmc at 3% of Oxygen.

Over the entire year of 2015 only two limited episodes of exceeding the CO parameter (3 hourly averages in the full year of operation) led to a minimal emission of 0.0096 tonnes of CO more



than the limit set. Such episodes were immediately reported to the control authorities.

52,973 tonnes of CO<sub>2</sub> equivalent (monitored for the mission trading system) were emitted by the terminal in 2015.

#### Waste produced and disposed of

A total of 5,383 cubic metres of waste was produced and disposed of for the activities on board the terminal related both to industrial activities and to the normal activities on board (presence of personnel 24/7), of which 1,349 cubic metres of hazardous waste. The main waste was (non-hazardous) sewage due to the temporary closure of the discharge of domestic wastewater.

#### Impact on biodiversity and on marine ecosystems

The Environmental Impact Assessment (EIA) requires, for the entire operating period of the terminal, a "Monitoring plan of the marine environment" which provides for the performance of four monitoring campaigns a year of a chemical-physical, biological and eco-toxicological nature relative to the water column, sediments, the biological environment, the measurement of underwater noise and morphology of the sea bed.

The campaigns performed before the arrival of the terminal and at the end of the first and second year of operation of the terminal have not shown any impact on biodiversity or the ecosystems.

Specifically the noise level of the terminal measured experimentally while in operation (60 dB at 100 m from the terminal) appears significantly lower than estimated in the design analyses and authorised by the relative EIA Ruling.

Overall, no substantial variations in the concentrations of contaminants in the water column or sediments were found. This finding is in keeping with the bio-accumulation studies conducted on mussels (bio-indicators) placed in the sea in special cages lowered from the terminal, and which showed no particular cellular or physiological damage or accumulation of contaminants.

The above investigations were conducted by the Inter-University Applied Marine Biology and Ecology Centre in Livorno.

#### **SOCIAL PERFORMANCE**

#### Personnel

The plant has made an important contribution to local employment. A total of 121 employees have regular jobs: 19 directly in OLT, indirectly a further 63 people at ECOS, the Company managing the terminal and 39 people at F.Ili Neri, the company handling the marine vessels serving the terminal.

#### **Environmental compensation in the area**

• Many economic benefits for the local area are possible thanks to the financial commitment of OLT to environmental compensation projects which, with reference to the environmental compensations relative to the IEA Decree, amount to € 1 million; the realisation, at the suggestion of the Province and Municipality of Livorno, of an environmental characterisation of the sites along the Livorno coastline functional to the structural plan and town-planning regulations of the Municipality of Livorno. The study has been conducted;

- the realisation, proposed by the Province and Municipality of Livorno, of the Visitor Centre of the Marine Reserve "Secche della Meloria":
- the funding, requested by the Municipality of Collesalvetti and the Province of Livorno, of the environmental requalification of the town centre of Stagno;
- the funding, requested by the Province and Municipality of Pisa, for the realisation of a park with facilities in the public area "La Camilla" in Marina di Pisa;
- the reopening of the Incile Canal, agreed with the Municipality of Pisa, and the connection between the Arno river and the Navicelli canal to restore navigation from the centre of Pisa to the port of Livorno. The works are in progress and are scheduled for completion in 2016:

A further sum of € 500,000 has been deliberated for five years by way of Compensation (unilateral act of submission signed by OLT in July 2005) which the Region of Tuscany has assigned to the Municipality of Livorno for implementation of door-to-door waste collection service.

Lastly, the Compensations under the Memorandum of Understanding signed with the Municipality of Collesalvetti on 12 July 2005 provided for the co-funding of the project to open a separated waste collection centre in the village of Stagno for a maximum amount of  $\in$  100,000.

#### Company policies

OLT, in line with company policies, has defined its own policy for Quality, Environment, Health, Safety, Corporate Responsibility and the Prevention of Accidents by means of which it undertakes to:

- strictly comply with legislative provisions safeguarding the employment, health and safety of workers and protection of the environment in the surrounding area;
- diffuse inside and outside the Company a philosophy of quality, respect for the environment, health, safety and corporate responsibility, specifically promoting dialogue with the interested parties to ensure transparency and clarity in its relations:
- to adopt even with its outsourcers all the precautions technically possible to prevent major incidents and accidents to the environment and to persons;
- to promote and diffuse the culture of customer and employee satisfaction;
- to continually improve corporate processes, services and performance so as to make them increasingly effective and efficient through training, on the job coaching and awareness-raising at all levels.

In order to fulfil such commitments, OLT has adopted an Integrated Management System according to the standards UNI EN ISO 9001:2008, UNI EN ISO 14001:2004, BS OHSAS 18001:2007 and SA 8000:2008.

Furthermore the company considers the attitude of its collaborators and outsourcers as regards safety for the prevention

of major accidents and the safeguarding of the environment a crucial element in assessing their level of professionalism.

The Company, considering the naval nature of the terminal and given the presence of a shipbuilder (outsourcer) to whom the operative management of the terminal is subcontracted, shares the company objectives and constantly supervises the management system (UNI EN ISO 9001:2008, UNI EN ISO 14001:2004, BS OHSAS 18001:2007) applied by the shipbuilder with the primary objective of preventing major accidents and safeguarding persons and the environment.

#### **IMPROVEMENT STRATEGIES AND COMMITMENT**

OLT has developed the improvement strategies defined in 2014, obtaining authorisation to substitute carbon dioxide ( $CO_2$ ) with nitrogen ( $N_2$ ), as the inert gas required for the inertization of loading tanks during the five year maintenance and scheduling such change for 2016.

It has also implemented a draft plan for acquisition of EMAS registration in the period 2017-2018.

Among the improvement plans for 2016 is the preparation of a feasibility study to assess the possibility of reducing pollutants in the atmosphere (NOx) coming from the channelled emissions of boilers.

#### TRM SPA

#### **COMPANY PROFILE**

TRM S.p.A. was established in 2002 for the purpose of designing, developing and managing waste treatment and disposal plants; in 2005, the company obtained the in-house assignment to manage the waste-to-energy plant of Turin. In December 2012 TRM became a joint enterprise: 80% of its shares are held by TRM V., jointly controlled by the Iren Group (49%) and by F2i Ambiente (51%); the remaining 20% is held by the Municipality of Turin (18%), by a number of other municipalities of the Province and by four waste collection consortia (CCS, C.A.DO.S., ACEA Pinerolese and Covar 14).

On 29/01/16 the agreement leading to the total control of TRM V. by the Iren Group was completed.



#### PLANT OPERATION

In 2015, 472,754 tonnes of waste were collected, considering both solid urban waste (SUB) remaining after separated waste collection and the special waste similar to urban waste (SSW); of the latter 38,586 tonnes came from Genoa, which the waste-to-energy plant accepted under a reciprocal rescue agreement between the Piedmont and Liguria regions, to tackle waste management emergencies following the closure of a landfill.

The three plant lines worked for a total of 22,542 hours. Combustion and treatment of the fumes generated 129,264 tonnes of residues of which: 104,258 tonnes of slag (non-hazardous), 8,799 tonnes of fly ash and 5,911 tonnes of residual sodium (RSP), 10,296 tonnes of other residues (ferrous, sludges, etc.). In addition, in the same period 351,992 MWh of electricity were produced, of which 293,973 MWh were supplied to the network and 58,019 MWh were used for self-consumption.

Plant operating performance	unit of measure	2015
Hours of activity and total waste	hours	22,542
of which Line 1	hours	7,519
of which Line 2	hours	7,527
of which Line 3	hours	7,496
Total waste collected	t	472,754
of which solid urban waste	t	448,916
of which similar waste	t	23,838
Total waste removed	t	129,264
of which slag	t	104,258
of which fly ash	t	8,799
of which residual sodium products	t	5,911
others	t	10,296
Production of electricity	unit of measure	2015
Total electricity produced	MWh	351,992
of which supplied to the network	MWh	293,973
of which used for self- consumption	MWh	58,019



#### **ENVIRONMENTAL PERFORMANCE**

On average, plant emissions remained well under the limits set in the Authorisation for regular operating conditions, in any case stricter than those provided for in the initial phase (first two years following commencement of incineration), applied in 2015. Regarding episodes in which the half-hour averages were exceeded, these never exceeded the legally permitted number during the calendar year of activity (60 hours permitted for each Line). (Line 1-21.5 hours, Line 2-20.0 hours, Line 3-25.0 hours); the statistical monitoring of half-hourly averages, imposed by applicable regulations, was positive. With regard to parameter emissions measured periodically - dioxins, furans, polycyclic aromatic hydrocarbons (PAH) and metals - the results of all tests performed in 2015, as per the previous year, were much lower than the limits provided for by law and, in some cases, so low that they could not be detected by the instruments. The Integrated Environmental Authorisation also provides for continuous control of dioxins, furans and PAH through their accumulation in special vials which are replaced and sent to a specialised laboratory for analysis on a regular basis.

In 2015 the first step of the plant certification procedure was completed, with UNI EN ISO 14001 certification due to be achieved within two years of commencement of incineration operations, according to IEA forecasts.

#### **ECONOMIC PERFORMANCE**

2015 was the first year of full, direct management of the waste-toenergy plant by TRM personnel.

The continuous functioning of the plant made it possible to achieve a major operating result and close the year with a significant net profit.

With the issue of the provisory test certificate in November and subsequent approval by the Shareholders' meeting, the contract for the construction of the plant was closed with an out-of court settlement of mutual claims of the company and the contractor.

Income statement (euro) <sup>(1)</sup>	2015
Collection	49,506,114
Electricity	14,942,281
Green Certificates:	17,798,046
Other income	4,470,534
Total revenue	86,716,975
EBITDA	47,647,976
Net profit for the year	7,100,426

 $<sup>^{\</sup>mbox{\scriptsize (1)}}$  The figures have not yet been approved by Company bodies and could vary.

#### **SOCIAL PERFORMANCE**

During the year a new figure was hired to assist the plant operating manager, raising the total number of employees to 53.

TRM, according to the Contract for provision of the service, has the obligation to disburse to the communities included in the area influenced by the waste-to-energy plant (considered to be within a 2 km range of the same), a one-off compensation to finance "interventions for the improvement of the quality of the local area and the quality of citizens' life", equal to 10% of the cost of construction works, i.e.  $\leq 24,390,923$ . The Piedmont Region and the Turin Province co-finance the compensation works for  $\leq 9,010,827$  and  $\leq 1,239,173$  respectively, for a total of almost  $\leq 35$  million. Over 2015, TRM disbursed a sum of  $\leq 4,421,853$ .

Lastly, within the framework of maintaining an absolutely transparent approach towards all its stakeholders, in 2015 TRM dedicated considerable space to visits to the plant. 3,200 visitors, of whom 1,850 schoolchildren (from primary to secondary school); from here a new initiative was launched this year, the Schools Project, designed for children from primary and middle schools and aimed at making their visit to the plant more suited to the new generations. The scheme involves dedicated educational tours in which participants are directly involved and - through games-explore the plant.

#### **IMPROVEMENT STRATEGIES AND COMMITMENT**

Among the improvement projects, works for the connection of the plant, which will work in cogeneration, to the district heating network, continued. In 2015 the tender called by TRM to choose the constructor of the district heating building inside the plant was awarded on a provisional basis. In addition, contracts between the parties involved in managing the heat produced by the plant and sold to the distribution network are at the final stages.

TRM will continue its path aimed at creating an integrated Management System for the Environment, Health and Safety of workers and Quality, with maximum focus on safeguarding the environment and health and safety of workers, as well as compliance with laws, regulations and provisions. In particular the 2016 improvement plan envisages for health and safety both precise operations of the systemic type and organisational measures which include focusing on training, information and practical coaching of operating personnel and aspects of communication towards the third party companies operating in the plant.

And, lastly, among the commitments for 2016, is the realisation of a new set up of the visitor circuit with the addition of a virtual application and a series of installations which will improve visitors' experience when seeing the plant. As well as offering greater involvement, this way more detailed information can be provided regarding the functioning of various stages of the waste -to-energy process- combustion , energy recovery, treatment of fumes.

Emissions: parameter continuously	unit of	unit of Authorized limit values		Average of daily averages 2015		
measured	measure	Authorised limit values	Line 1	Line 2	Line 3	
Hydrochloric acid (HCI)	mg/Nm³	5	2.36	2.21	2.24	
Carbon monoxide (CO)	mg/Nm³	50	8.45	4.51	5.17	
Nitrogen oxides (NO <sub>x</sub> )	mg/Nm³	70	36.30	38.27	40.67	
Sulphur oxides (SO <sub>2</sub> )	mg/Nm³	10	0.04	0.05	0.16	
Total organic carbon (TOC)	mg/Nm³	10	0.44	0.36	0.28	
Total dusts	mg/Nm³	5	0.65	0.55	0.25	
Hydrofluoric acid (HF)	mg/Nm³	0.5	0.01	0.01	0.03	
Ammonia (NH <sub>3</sub> )	mg/Nm³	5	0.76	0.86	0.70	

Emissions: parameter subject to	unit of Authorised limit values		Average values 2015		
periodic sampling	measure	Authoriseu illilit values	Line 1	Line 2	Line 3
Cadmium + Tallium (Cd + Tl)	mg/Nm³	0.03	0.002	0.002	0.002
Mercury (Hg)	mg/Nm³	0.05	0.004	0.008	0.005
Sum of metals (Sb+As+Pb+Cr+Co+Cu+Mn+Ni+V+Sn)	mg/Nm³	0.3	0.036	0.032	0.024
Zinc (Zn)	mg/Nm³	0.5	0.012	0.020	0.007
Polycyclic aromatic hydrocarbons (PAH)	ng/Nm³	5,000	15.270	26.313	16.800
Dioxins and Furans (PCDD+PCDF)	pg/Nm³	50	2.687	3.847	2.510

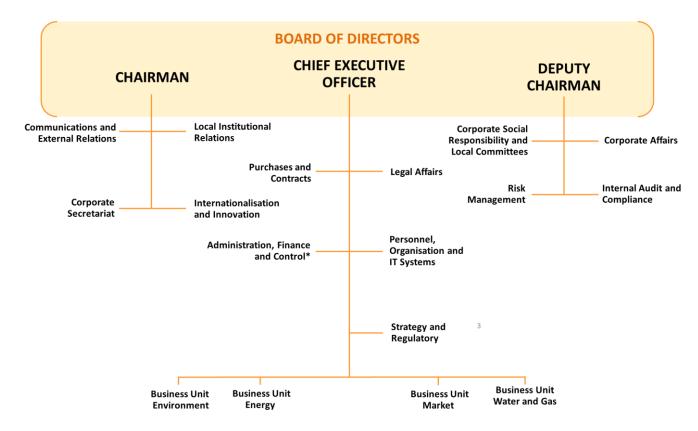
Emissions: parameter continuously	unit of	Average values 2015		
sampled	measure	Line 1	Line 2	Line 3
Polycyclic aromatic hydrocarbons (PAH)	ng/Nm³	0.28	0.57	0.85
Dioxins and Furans (PCDD+PCDF)	pg/Nm³	0.14	0.21	0.07





#### **CORPORATE GOVERNANCE**

#### ORGANISATIONAL STRUCTURE OF THE IREN GROUP



<sup>\*</sup> Including Mergers & Acquisitions, Planning and Investor Relations

The Iren Group has a traditional governance system, in line with the principles contained in the Code of Conduct for listed companies issued by the Italian Stock Exchange. The Board of Directors (BoD) has the fullest powers for the ordinary and extraordinary administration, implementation and achievement of the company business objective.

#### **BOARD OF DIRECTORS**

Following the amendments to the Articles of Association approved by the shareholders' meeting held on 19 June 2013, by suppression of the Executive Committee the shareholders aimed to grant a broader range of powers to the Board of Directors (BoD) for the ordinary and extraordinary administration of the company, in particular assigning the power to take all action deemed appropriate to implement and achieve the corporate purpose, also organising the company and the Group into business segments, whether in the form of companies or operating divisions, with the sole exclusion of powers which by law or by the Articles of Association are the responsibility of the shareholders' meetingThe Board of Directors assesses the economic, environmental and social performances of the organisation, any significant risks and opportunities, and its

compliance with standards, codes of conduct and the principles outlined in the yearly, half-yearly and quarterly financial statements. The Board of Directors also examines the Group's socioenvironmental performance as illustrated on a yearly basis in the Sustainability Report.

The Board of Directors of Iren in office as at 31 December 2015 was appointed by the Shareholders' meeting of 27 June 2013 (for three years until approval of the company's financial statements as at 31 December 2015) and is composed of 13 members.

Articles 18, 19 and 20 of the current Articles of Association regulate the composition, appointment, methods and criteria of presentation of the lists for appointing Directors. The articles of association are such as to guarantee sufficient presence of the less represented gender in the body (art. 3 L. 120/2011 and Implementation Ruling by Presidential Decree 251/2012). More specifically, as regards the current mandate, in compliance with the share of members restricted to the less represented gender (at least one-fifth of the total no. of directors to be appointed) 3 of the Directors elected are women The Articles of Association also ensure the election of at least one minority director (art. 147 ter, subsection 3 of the CLF).

Under the terms of the Articles of Association, the Board of Directors delegates its powers to one or more of its members and can also assign powers to the Chairperson, Deputy Chairperson and CEO, provided they do not conflict with each other.

The Delegated Body can decide to delegate some of its duties and responsibilities to those directly subordinated and, in specific cases, to other collaborators having proven skills and capacities. Such powers may relate to signatures and expenditure, representative powers, powers relative to health and safety in the workplace and fire prevention (art. 16 of the Legislative Decree 81/2008 and subsequent amendments and supplements), the protection and safeguarding of the environment. A specific guideline provides procedures for managing, updating, retaining and revoking such powers and mandates.

As at 31 December 2015 in the Board of Directors, 5 Directors have the requisites of independence (articles 147, subsection 4 and 148, subsection 3 CLF and art. 3 of the Code of Conduct of the Italian Stock Exchange).

The independence of the directors is regularly assessed by the Board of Directors after their appointment and thereafter on an annual basis. The Board of Statutory Auditors, within the scope of the tasks assigned to it by law, checks the correct application of the verification criteria and procedures adopted by the Board to asses the independence of its members. The outcome of the assessments of the Board and of the Board of Statutory Auditors is disclosed to the market.

As provided for by Art. 2391 of the Italian Civil Code, the Directors that have, themselves or on behalf of third parties, an interest in a particular transaction must provide advance notice to the other Directors and the Board of Statutory Auditors, specifying the nature, terms, origin and scope; in the case of the CEO, the latter must also refrain from executing the transaction, appointing the Board of Directors to do so.

Directors actively participate in the meetings of the Board of Directors, receiving full information on the matters relative to the decisions to be taken. In addition to the many meetings of the

BoD, several preliminary meetings were organised in which the Chief Executive Officer or Strategic Directors illustrated, in several stages, the draft financial statement, the draft budget, the draft Industrial Plan, a number of extraordinary transactions and the Group's major initiatives.

Initiatives were also launched for the participation at courses and conferences of the Board of Directors and the members of the Board of Statutory Auditors. This is a training programme on the tasks and responsibilities inherent to the office of members of the administrative and control bodies of listed companies, in line with the recommendations of the Code of Conduct, aimed at the members of corporate bodies in office in listed companies. Such meetings were, in different ways, important opportunities to inform, educate and communicate to those present the economic, social and environmental aspects of the company.

In line with the provisions of the Code of Conduct, at least once a year the BoD carries out a self-assessment of the Board and its committees (Board evaluation), as well as their size and composition. Bearing in mind the recommendations of the Italian Stock Exchange, attention was drawn to the critical areas identified by the BoD at the moment of the Board evaluation, including so as to assess the efficacy of the corrective and improvement measures launched in 2015 following the suggestions made.

Iren's Board of Directors held 19 meetings in 2015. The dates of the Board of Directors' meetings for the approval of the interim management reports, half-year report and draft Financial Statement and Consolidated Financial Statement are shown in the calendar of corporate events published on the website.

The Iren Group has a traditional governance system, in line with the principles of the Code of Conduct for listed companies issued by the Italian Stock Exchange





#### **COMPOSITION OF THE BOARD OF DIRECTORS**

nairman		
	Executive Director	Executive Director
eputy Chairman (since 06/2015) rector (until 04/06/2015)	Executive Director	Executive Director
eputy Chairman (until 30/04/2015)	Executive Director	Executive Director
nief Executive Officer and entral Manager of Operations d Strategy	Executive Director	Executive Director
rector	Independent Non-Executive Director	Independent Non-Executive Director
rector	Non-independent Non- Executive Director	Non-independent Non-Executive Director
rector	Non-independent Non- Executive Director	Non-independent Non-Executive Director
rector	Independent Non-Executive Director	Non-independent Non-Executive Director
rector	Independent Non-Executive Director	Non-independent Non-Executive Director
rector	Independent Non-Executive Director	Independent Non-Executive Director
rector (from 04/06/2015)	Independent Non-Executive Director	Independent Non-Executive Director
rector	Non-independent Non- Executive Director	Independent Non-Executive Director
rector	Independent Non-Executive Director	Independent Non-Executive Director
rector	Independent Non-Executive Director	Independent Non-Executive Director
TO THE THE	6/2015) ector (until 04/06/2015) ector (until 04/06/2015) euty Chairman (until 30/04/2015) ef Executive Officer and entral Manager of Operations I Strategy ector	ector (until 04/06/2015)  Executive Director  Independent Non-Executive Director  Executive Director  Executive Director  Executive Director  Executive Director  Executive Director  Independent Non-Executive Director  Executive Director  Independent Non-Executive Director  Executive Director  Independent Non-Executive Director  Executive Director  Executive Director  Independent Non-Executive Director

## REMUNERATION AND NOMINATION COMMITTEE

The Remuneration and Nomination Committee is composed of three non-executive directors, the majority of whom are independent. The Chairperson of the Committee is chosen from among the independent directors. At least one member of the Committee has appropriate experience in financial and retribution policies which is assessed by the Board of Directors at the moment of appointment.

The Committee performs the duties provided for by Art. 7 of the Code of Conduct in force adopted by Iren and, in particular, the following proposal and consulting functions addressed to the Board of Directors:

- periodically assessing the suitability, overall consistency and actual application of the remuneration policy of directors with delegated powers, and senior managers with strategic responsibilities, by making use of the information provided by delegated directors;
- presenting proposals or expressing opinions to the Board of Directors regarding the remuneration of directors with delegated powers and other directors with specific office, as well as establishing performance objectives relating to the variable part of the remuneration;
- monitoring the application of the decisions adopted by the Board itself by verifying, in particular, the actual fulfilment of performance objectives;
- refers to the shareholders on how it performs its functions (to such purpose the Chairperson or other member of the Committee should be present at the annual Shareholders'

meeting). The power to determine the remuneration of the directors holding specific office pursuant to the Company Articles of Association remains in the hands of the Board of Directors, upon approval of the Remuneration Committee and the Board of Statutory Auditors, pursuant to Art. 21 of the Articles of Association in force.

With regard to nominations, the Committee performs the following functions (provided for by the Code of Conduct):

- formulates opinions to the Board of Directors in respect of its own size and composition, and makes recommendations on the professional figures whose presence in the Committee is deemed desirable;
- expresses recommendations to the Board of Directors in relation to the maximum number of appointments that members can take as Director or Statutory Auditor in other listed companies in regulated markets (even foreign), in financial, banking, insurance or relatively large companies, compatible with the efficient performance of the office of Director of Iren, bearing in mind the participation of Directors in the Committees established within the Board, as well as the exceptions to the bans on competition provided for by art. 2390 of the civil code.
- proposes candidates to the Board of Directors for the office
  of Director in cases of co-opting ex 2386 subsection 1 of the
  civil code where independent Directors need to be replaced,
  ensuring compliance with the requirements on the minimum
  number of independent directors and on the percentages
  restricted to the less represented gender;
- prepares a draft to be submitted to the Board of Directors-Guideline on the matter of appointments in top-level companies and in the Group companies controlled by the same or in any case in which Iren (directly or indirectly) designates members of the corporate bodies and verifies the compliance of the aforesaid Guidelines, with the assistance of the competent bodies;
- performs enquiries into preparation of the plan for the succession of Directors, where adopted by the Company
- supports the Board of Directors in the annual selfassessment of the Board and its Committees pursuant to the Code of Conduct, the assistance of an external consultant being permitted as regards the methodological aspects.

#### REMUNERATION OF MEMBERS OF THE BOD AND OF SENIOR MANAGERS WITH STRATEGIC RESPONSIBILITIES

The Shareholders' Meeting of Iren decides, at the moment of appointment and for the entire duration of office, the total annual remuneration of the members of the Board of Directors and the maximum total amount for the remuneration of the directors holding specific offices provided for in the Articles of Association.

The Board of Directors decides, at the suggestion of the Remuneration and Nomination Committee of the Company and bearing in mind the opinion of the Board of Statutory Auditors, the framework and remuneration of the directors holding specific office pursuant to the Articles of Association (Chairperson, Deputy

Chairperson and Chief Executive Officer) and the remuneration for the participation of the Directors in the Committees established within such Board.

The Board of Directors also defines the objectives to which the variable annual short term component of the Chief Executive Officer's remuneration is related.

The Chief Executive Officer practically determines, bearing in mind the provisions of the remuneration policy, the remuneration of senior managers with strategic responsibilities and defines, in particular, the goals to which the variable annual short term component of the remuneration of senior managers with strategic responsibilities is related, with the support of the Remuneration and Nomination Committee.

The Remuneration and Nomination Committee of Iren SpA may avail of external consultants who are experts in retribution policies, checking in advance that they are not in situations which could jeopardise their independence of judgement. The names of any independent experts involved in preparing the remuneration policy must be indicated in the annual Remuneration Report. The definition of the Remuneration policy and that of the long term incentives plan took place with the assistance of external consultants who did not and do not have any other office in the Group companies.

In 2015 Iren's Board of Directors approved the "Guidelines on the remuneration policy of Executive Directors and Senior Managers with strategic responsibilities of the Group", the "Remuneration report " (which illustrates company policy on the remuneration of members of the administrative bodies and of Senior Managers with strategic responsibilities) and the Long term incentives plan for the Chief Executive Officer of the company and Senior Managers with Strategic responsibilities in the Group.

The remuneration of non-executive directors is not related to the economic results achieved but commensurate with the commitment required of each of them, bearing in mind their potential participation in one or more of the Committees within the Board of Directors.

For the Chairperson and Deputy Chairperson, a fixed remuneration has been established and no performance bonus is envisaged.

Generally speaking, no end of office/severance indemnity is provided for Iren directors.

For the Chief Executive Officer and Senior Managers with strategic responsibilities the variable part of their remuneration is divided into two parts; short-term and long-term. the first, which upon achievement of all the targets may be as high as 25% of the fixed retribution, is based on an MBO system which takes into consideration objectives of an economic-financial nature, Groupwide objectives and specific Organisational Area /Business Unit objectives, with a gate (preliminary to any disbursement) related to economic factors (EBITDA); the transversal and specific objectives include objectives of a non-financial nature, such as environmental organisational, relational and social objectives. The long term variable remuneration, introduced in 2015, is monetary, with annual amounts of up to 25% of the fixed remuneration (upon



achieving all the objectives). The objectives are related to achieving the economic parameters established in Group's Industrial Plan for the period 2015-2018, at the end of which such sums may be disbursed. In addition, the maintenance of the investment grade attributed by one of the three major rating agencies is provided for as a gate.

No entry bonuses or specific incentives at the moment of appointment / taking office are adopted.

Severance indemnities and supplementary pensions provided for Senior Managers with strategic responsibilities are those established by law and collective labour agreements.

Iren prepares (art. 123ter CLF and art. 84quater Consob Regulation no. 11971 of 14 May 1999 and subsequent amendments and supplements) an annual Remuneration Report which illustrates, among other things, the remuneration policy of members of the Board of Directors and of Senior Managers with strategic responsibilities. The Report, is, among other things, aimed at increasing the knowledge and awareness of shareholders and, in general, of market investors. Before approval by the Board of Directors, the annual Report is examined by the Remuneration and Nomination Committee.

At least twenty-one days prior to the date of the shareholder' meeting called to approve the financial statements, Iren makes the Report available to the public and shareholders.

The first section of the Remuneration Report is subject to voting (non-binding) by the Shareholders' meeting.

Iren's Code of Conduct requires that the Chairperson of the Remuneration and Nomination Committee or other member of the Committee be present at the annual shareholders' meeting for approval of the financial statement so as to refer to the shareholders on how the said Committee performs the functions assigned to it.

After the Meeting, the Remuneration and Nomination Committee analyses the results of voting on the annual Remuneration report, examines any concerns arising at the Shareholders' meeting and commences its assessments for reviewing the Remuneration Policy adopted by the Group.

In 2015, the Remuneration and Nomination Committee started its investigation relative to the adoption of long term incentives with the aim among others, of matching the interests of the management with the pursuit of the primary objective of creating value for shareholders in the medium to long term.

The investigation was concluded with the approval by the Board of Directors of a long term monetary incentive plan 2015-2018

#### CONTROL AND RISK COMMITTEE

The Control and Risk Committee is composed of three non-executive directors, the majority of whom independent. The Chairperson of the Committee is chosen from among the independent directors. At least one member of the Committee has

appropriate experience in accounting and finance or risk management (deemed adequate by the Board of Directors upon their appointment).

Pursuant to subsection 8.5 of the Company's Code of Conduct, the Control and Risk Committee, in assisting the Board of Directors:

- through suitable preliminary activities, supports the assessments and decisions of the Board relating to the internal control and risk management system, as well as those regarding the approval of the periodic financial reports;
- assesses, together with the Financial Reporting Manager and having consulted with the external auditor and the Board of Statutory Auditors, the proper use of the accounting principles and their consistency for the purpose of drafting the Consolidated Financial Statements;
- expresses opinions on specific aspects relative to Risk Policies, the identification of the main Company risks and the Audit Plan, as well as regards the guidelines of the internal control and risk management system;
- examines the periodic reports on the assessment of the internal control and risk management system and those of particular relevance drafted by the Internal Auditing department;
- monitors the independence, adequacy, effectiveness and efficiency of the Internal Auditing department;
- can request the Internal Auditing Department to carry out checks on specific operating areas, providing simultaneous communication to the Chairperson of the Board of Statutory Auditors:
- reports to the Board, at least every six months, on its activities and the adequacy of the internal control and risk management system;

The Risk Management Director and other risk control departments are called at least twice a year before the Control and Risk Committee which may request further information on specific matters and commission a detailed analysis of specific risks. In 2015 the Committee requested Risk Management to conduct a risk assessment of the Industrial Plan at 2020.

## COMMITTEE FOR TRANSACTIONS WITH RELATED PARTIES

The Committee for Transactions with Related Parties (CTRP) is made up of three non-executive directors in possession of the independence requirements pursuant to Articles 147 ter, subsection 4 and 148, subsection 3 of the Consolidated Law on Finance, and the further requirements provided for by Art. 3 of the current Code of Conduct of the Italian Stock Exchange. In order to ensure the dual requirement of independence and non-relation to the individual transaction to be analysed, it is provided for that the CTRP be completed with other independent directors present in the Board of Directors of the Company that are not related to the individual transaction to be analysed, attributing to the

Chairperson of the CTRP the task of identifying a sub-committee (the so-called designated members) made up of three independent directors not related to the individual transaction with the related party to be analysed.

With respect to transactions of lesser importance, pursuant to the Internal Regulation on Transactions with Related Parties, in the event that there is not even an independent and unrelated member of the CTRP, and in the Board of Directors there are no other directors meeting the necessary requirements to complete the composition of the CTRP, a non-binding supported opinion will be provided by an independent expert appointed by the Chairperson of the Committee, upon approval of the Chairperson of the Board of Statutory Auditors.

With respect to transactions of greater importance, identified as such pursuant to the Regulation, in the event that there are not at least three unrelated independent directors, the Chairperson of the Committee will designate one or, if possible, two unrelated independent directors; in the event that there are no independent and unrelated directors, such activities will be performed by the Board of Statutory Auditors or by an independent expert appointed by the Chairperson of the Committee, upon approval of the Chairperson of the Board of Statutory Auditors.

The Committee for Transactions with Related Parties expresses its opinion on the performance of transactions of lesser and greater importance with Related Parties and, in general, performs

all the other functions assigned to it regarding transactions with related parties, pursuant to the CONSOB Regulation on transactions with related parties.

#### **BOARD OF STATUTORY AUDITORS**

The Board of Statutory Auditors is composed of three standing auditors and two supplementary auditors, who remain in office for three financial years. Their office terminates on the date of the Shareholders' Meeting called to approve the financial statements relating to their last year of office. Statutory Auditors may be reelected.

Articles 28 and 29 of the Company Articles of Association regulate the appointment of the Board of Statutory Auditors through the submission of the lists in order to guarantee an adequate presence of the less-represented gender within the body, in implementation of Art. 3 of Italian Law 120/2011 and of Legislation Italian Presidential Decree 251/2012. Duties and functions are governed by current regulations.

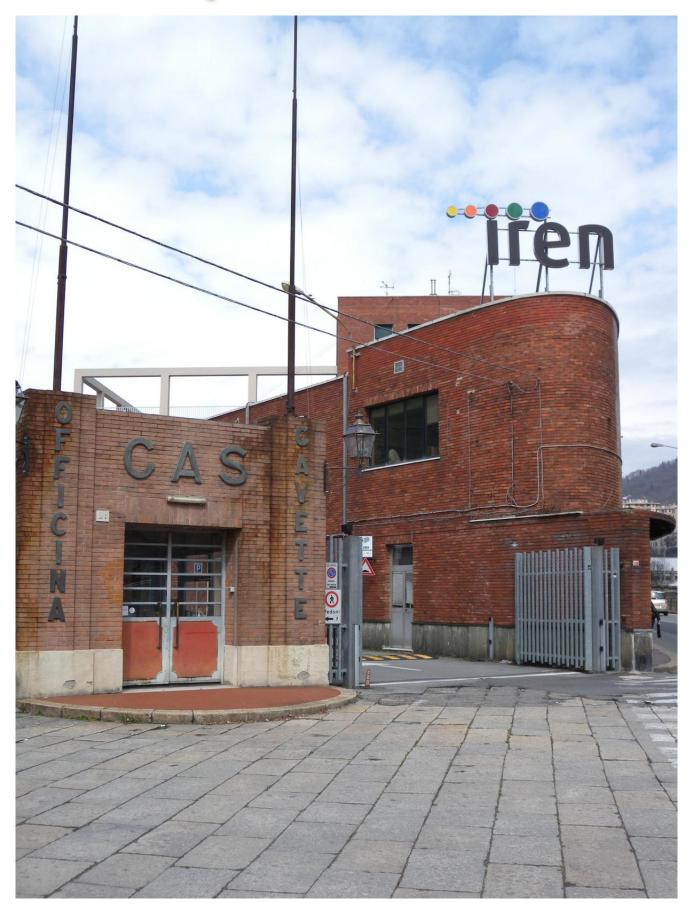
With approval of the financial statements at 31 December 2014 the term of office of the Board of Statutory Auditors previously in office occurred. The shareholders' meeting of 28 April 2015 therefore appointed the members of the auditing body, which will remain in office for the three-year period 2015/2016/2017 (until approval of the company's 2017 financial statements).

The composition of the Board's Committees and of the Board of Statutory Auditors in office at 31 December 2015 is shown below:

#### COMPOSITION OF THE BOARD OF STATUTORY AUDITORS

Remuneration and Appointments Committee	Control and Risk Committee	Committee for Transactions with Related Parties	Board of Statutory Auditors
Fabiola Mascardi (Chairwoman)	Franco Amato (Chairman)	Barbara Zanardi (Chairwoman)	Michele Rutigliano (Chairman)
Augusto Buscaglia	Alessandro Ghibellini	Fabiola Mascardi	Anna Maria Fellegara (Standing Auditor)
Moris Ferretti	Barbara Zanardi	Franco Amato	Emilio Gatto (Standing Auditor)
			Giordano Mingori (Supplementary Auditor)
			Giorgio Mosci (Supplementary Auditor)





# Strategies and policies for sustainability





#### MISSION, VISION AND VALUES THE STRATEGIC PLAN

Iren Group's mission is to offer its customers and residents service efficiency, effectiveness, economic convenience and high quality, operating with expertise and professionalism with full respect for the environment and safety in the energy, integrated water services and waste management sectors, and on behalf of local authorities, contributing to the well-being of its staff and of the community and guaranteeing its shareholders adequate profitability.

The values on which Iren Group bases its strategy, adopted in its integrated Quality-Environment-Safety system and in its Code of Ethics, are: customer satisfaction, health and safety, continuous improvement, respect and esteem of people, innovation and change, sustainable development, responsibility and cooperation with the community, efficiency of services, quality of the supplies and tenders, environmental protection and the rational use of energy.

The five pillars on which Iren Group bases its growth are:

#### customers



take us towards an organisation model with more 'pull' capacity, based on the experience of customers and residents, aimed at anticipating the needs of all clients of the Group:

innovation



enables the Group to provide fast and versatile answers through the continuous redesigning of operation processes, infrastructures and applications, supported by technologies and management of the data generated by automation systems and by customers;

#### responsibility



promote a new model of territorial development concentrated on process and product innovation as well as on social innovation in order to make a transition from traditional Corporate Social Responsibility to Corporate Social Innovative Responsibility;

efficiency



promote the continuous review of all corporate processes, aimed at obtaining synergies and to achieve quality and growth targets;

development



to be the catalyst in the process of territorial consolidation, for the development of service innovation, new customer and resident demand satisfaction and the maximisation of value generation for its assets.

# THE STRATEGIC PLAN 2015-2020

The 2020 Business Plan represents the "bridge" towards the new Iren that, through continuous innovation, rationalisation and efficiency of the internal processes, selection of investments base on profitability and attention towards new customer demands, aims at becoming an aggregator and motor of development in its territories of reference.

The 2015-2020 Plan defines the following strategic guidelines:

- integration and efficiency aimed at the achievement of important synergies. The Group launched a plan of intense renovation called "performance improvement", that covers all of the business areas that, through the optimisation of already identified processes, corporate restructuring and significant investments in infrastructures, systems and IT, will lead to the achievement of important cost synergies together with a more efficient, fast and focused business able to grasp future challenges with greater efficiency;
- centrality of the customer that frombeing a user becomes the protagonist of the service, through digital and innovative communication and customer care systems. The role of the customer in the business relationship is changing from passive to active. Iren uses innovative and participative instruments in order to create a more engaging and fulfilling customer-experience. The goal is that of transforming the supply of a commodity into a customisable high added value service, decreasing customer churn and increasing the appeal of the Group towards prospects;
- cross-innovation understood not as an element in itself but as a mentality that permeates all of the life and actions of the Group. Iren implements an open innovation model that wants to be: operational, applicable to all business and focused on the achievement of the objectives of efficiency, improvement of the service levels and the creation of new opportunities of development, in order to anticipate the new needs of residents, Customers and territories;
- sustainable development in environmental and financial terms that translate into choosing high added value investments for the Group and territory. The Group confirms and reinforces its "green" vision through an investment plan focused on eco-activities: expansion of the district heating networks, consolidation of systems relevant to the concept of "waste to material", implementation of smartmetering and smart-grid.

On the basis of such strategic guidelines, the Iren Group plans:

• a significant EBITDA growth: equal to about 860 million Euro in 2020, an increase of about 220 million Euro compared to 2014, with an annual growth rate of 5.1%;

- synergies equal to 75 million Euros, 80% of which achieved within 2018;
- net profit substantially doubled along the plan. This
  makes an increase of dividend per share possible,
  compatible with the deleveraging objectives pursued by the
  Group;
- overall investments for approximately 1.8 billion Euro, of which 630 million in development. On the overall investments, 450 million are characterised by innovation (technical, technological, process) or by environmental sustainability;
- reduction of debt for approximately 300 million Euro and below 2 billion in 2020. Ratio of net debt/EBITDA sharply down until reaching a 2.3 ratio in 2020;
- an added value, with important effects on the territories, amounting to approximately 1.5 billion Euro a year.

In practice, the strategic guidelines translate into important industrial projects that represent the Group's tangible commitment in terms of sustainability.

In the context of such initiatives and in order to communicate objectives, actions and results to its stakeholders, Iren Group annually publishes the Sustainability Report to provide information relevant to its performance in the environmental, social and economic context, and to transparently communicate compliance with the commitments undertaken, future commitments and the ability to meet stakeholders expectations. The Sustainability Report is also a management instrument that makes it possible to monitor compliance of operations with the Group CSR strategy. The Sustainability Report is the end result of a process involving a series of actions and initiatives based on Corporate Social Responsibility.

# INSTRUMENTS OF CORPORATE SOCIAL RESPONSIBILITY

The Board of Directors defines the strategic approach of Iren Group, approves the guidelines and business objectives, also with particular attention to the sustainability objectives.

The BoD is updated by the Deputy Chairperson, body appointed on the topic, on the status of the sustainability projects and stakeholder engagement activities.

The Board of Directors' Meeting analyses and acknowledges the Sustainability Report prepared annually.

The Sustainability Report is prepared by the Corporate Social Responsibility function and Local Committees, acting under the direct employment of the Deputy Chairperson of Iren Group, who is appointed with the proxies for this purpose.

The 2015 Sustainability Report was approved by the Board of Directors' Meeting held on 15 March 2016, when completeness and consistency with the topics reported in the materiality matrix were also evaluated. The consultations concerning aspects of sustainability between the interested parties and the highest

governing body are appointed to the Deputy Chairperson that, through Corporate Social Responsibility Management and Local Committees, is responsible to maintain an open dialogue with the internal and external stakeholders on these topics. The results of this dialogue generate project ideas for the improvement of environmental and social performances and are subsequently incorporated in the annual disclosure of the Sustainability Report.

The following tasks are attributed to Corporate Social Responsibility Management and Local Committees, which directly report to Iren Deputy Chairperson :

- preparation of the Sustainability Report;
- definition of the improvement plan relevant to the Group Corporate Responsibility;
- definition of the Engagement plan, management and analysis of the results from the dialogue with stakeholders;
- definition of the Guidelines for the balanced scorecard and management of the Group balanced scorecard;
- issue and update of the Code of Ethics, in collaboration with the Compliance function;
- establishment and management of the Local Committees and the on-line platform IrenCollabora.it;
- realisation of Group customer satisfaction surveys.

Consistent with the assigned functions, Management has carried out the following main activities:

- preparation and dissemination of the 2014 Sustainability Report version is subject to limited review pursuant to the criteria issued by the International Auditing and Assurance Standards Board criteria, and achieved an A+ rating from the GRI. A specific website was created for the Report (http://irensostenibilita.it/), also in English, and specific information brochures were created in both languages. For the preparation of the Sustainability Report 2015, the new GRI-G4 guidelines were implemented as well as the review of the reporting system, also through the training of approximately 65 persons. A materiality analysis was launched involving the company management and stakeholders;
- presentation of the Sustainability Report to the stakeholders
  of reference for the Group with information through the press,
  specific meetings with the Local Committees, the
  participation in seminars and conferences dedicated to the
  issues of sustainability and the previously described
  publications. A "Special" on the Sustainability Report was
  published on the company Intranet and the InvestIren
  newsletter;
- establishment and management of the Local Committees and the platform IrenCollabora.it;
- presentation to the stakeholders of the main sustainability issues in Iren through 24 short videos published on a weekly basis on the company Intranet through the newsletter Iren Informa, on the platform IrenCollabora.it and on the Group's website gruppoiren.it;
- participation in surveys/questionnaires such as, for example:
   Top Utility Award initiative aimed at promoting the excellence, reputation and knowledge of utilities through an



assessment of their performance -, Sustainable Development Award 2015 -sponsored by the Foundation for Sustainable Development in collaboration with Ecomondo - "Responsible Business Award 2015", sponsored by Unioncamere, in collaboration with Terzocanale and the Meeting place of the CSR and social innovation;

- participation in numerous initiatives aimed at the awareness on the CSR issues at various institutions (School of Management and Economics in Turin, University of Studies of Turin, University Cattolica of Piacenza, Meeting Place of the CSR, Italian Association of Engineering Management, CSR Management Network);
- participation in work tables on integrated reporting and CSR performance reporting (ALTIS - High school business and company, Utilitatis, Assonime).

## INTERNAL CONTROL SYSTEM AND RISK MANAGEMENT

Pursuant to the Code of Conduct and internal guidelines, Iren Group has an internal control and risk management system, which is configured as a cross process that involves, with different roles and within the context of the respective roles, the administrative bodies (Board of Directors, Control and Risk Committee, Appointed Bodies), the Director Appointed for the internal control and management of risks, the Internal Audit Manager, the Risk Management Manager, the Board of Statutory Auditors and the Financial Reporting Manager, as well as all of the personnel of Iren Group.

In particular, the Board of Directors of each Group company assesses the adequacy of the Internal Control and Risk Management System compared to the characteristics of the company and the indications expressed in the Guidelines. The Board of Directors of the Parent Company carries out the following tasks, subject to the opinion of the Control and Risk Committee:

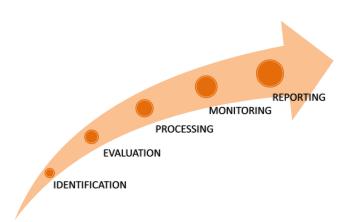
- define the guidelines of the internal control and risk management system so that the main risks relevant to the Group result as correctly identified, as well as adequately measured, managed and monitored, also determining the level of compatibility of such risks with business management consistent with the strategic objectives identified;
- at least once a year, assess the adequacy of the internal control and risk management system relevant to the characteristics of the business and the risk profile undertaken, as well as its efficacy;
- at least once a year, approve the work plan prepared by the Internal Audit function and submitted by the competent Appointed Body, subject to the opinion of the Board of Statutory Auditors and the director appointed by the internal control and risk management system (if not coincident with the competent delegated body);

- describe, in the corporate governance report, the main characteristics of the internal control and risk management system, expressing its opinion on the adequacy of the same;
- assess the results presented by the statutory auditor, subject to the opinion of the Board of Statutory Auditors, in the letter of suggestions and in the report of the crucial issues arising during the legal audit;
- appoint and dismiss, upon proposal of the competent Appointed Organ and the Chairperson, subject to the favourable opinion of the Control and Risk Committee and subject to the opinion of the Board of Statutory Auditors, the Internal Audit manager, ensuring that they are provided with the adequate resources for the fulfilment of their responsibilities.

As part of the report submitted pursuant to the Code of Conduct, periodically, as a rule every six months, by the Internal Audit Manager to the Control and Risk Committee, the results of the Internal Auditing audits are reported, as well as the follow-up with the progress of the actions carried out based on the audits from previous years. In turn the Committee, on the basis of information received, reports every six months to the BoD pointing out the critical areas identified and expressing its opinion of the Internal Control System.

#### RISK MANAGEMENT<sup>1</sup>

The Enterprise Risk Management operating model within Iren Group contains the methodological approach to the identification, assessment and integrated management of the risks for the Group, which are broken down into the following phases:



Each phase of the process is performed in accordance with standards and references defined at Group level.

The aim of the "Enterprise Risk Management" model is the integrated and synergistic management of risks

<sup>&</sup>lt;sup>1</sup> For further details please refer to the Consolidated Financial Statements as at 31 December 2015 of the Iren Group.

The Group's Enterprise Risk Management model regulates the roles of the various parties involved in the risk management process, which is under the responsibility of the Board of Directors, and envisages specific Committees that are responsible for the management of each type of risk.

The Enterprise Risk Management system particularly focuses on the management of Financial, Credit, Energy, Operational and Reputation risks.

Specific policies have been defined for each type of risk with the primary goal of meeting strategic guidelines, the organisational/managerial principles, the macro processes and techniques necessary for the active management of related risks.

The types of risk managed regard:

- financial risks (liquidity, interest rate, exchange rate,)
- credit risks;
- energetic risks, referable to the supply of gas for the thermoelectric generation and the commercialisation of electricity and gas, as well as the hedging derivatives markets;
- operational risks, referable to asset ownership, the exercise
  of business activities, the processes, to the procedures and
  flows of information. Also included are the rules and
  regulatory risks, whose impact on the business is monitored
  on an ongoing basis;
- reputational risks (associated with maintaining the confidence and the positive perception that stakeholders have of the Group)

The Group's Enterprise Risk Management (ERM) model takes account of climate change and the risks and opportunities - also strategically speaking - that this entails.

Among the effects of climate change there has been a growth of critical atmospheric phenomena such as droughts and floods; these events determine impacts on the systems and services, together with the associated economic implications, and require organisational attention in relation to the consequences for Group assets, service management and production and maintenance scheduling.

The Risk Management Department, that reports to the Deputy Chairperson, is responsible, inter alia, for the following activities:

- coordinating the integrated management process of the Group's risks;
- assessment of the insurance requirements of the Group, planning of the programs, stipulation and management of policies, with the collaboration of the Legal function.

A periodic monitoring process is also in place with regard to claims in the various sectors and across all the Group's areas of operation in order to establish and implement the most suitable methods of containment and reduction.

# ORGANISATIONAL MODEL PURSUANT TO ITALIAN LEGISLATIVE DECREE 231/2001

The Iren Group has adopted Organisational Models pursuant to Italian Legislative Decree 231/2001 which, with reference to company activities that are potentially at risk, define principles, codes of conduct, procedures and control instruments aimed at preventing the committing of major offences pursuant to the Decree. The implementation of the models is constantly monitored by the Supervisory Bodies of each company, which perform specific inspections and regularly report to their respective Boards of Directors on the activities conducted and on the results obtained.

In the Model of organisation, management and control of Iren SpA, specific mechanisms are provided for the reporting of problems relevant to the ethical conduct and the compliance with the Italian Legislative Decree 231/2001. Each Recipient of the Model is required to report any breaches or suspicions of breach of the Code of Ethics or the principles of control pursuant to such model (so-called "reporting").

Any reporting relevant to the following must be collected:

- the commission, or reasonable danger of committing, the crimes provided by Italian Legislative Decree 231/01;
- "practices" not in line with the regulations of conduct issued by the Company;
- threats, pressures, offers or promises of money or other benefits, received in order to induce persons not to make statements or to make false statements a person called before the court to make declarations usable in criminal procedures, when such person has the right to not respond;
- behaviour that, in any case, can determine a breach of the Model

An employee that intends to report a breach (or presumed breach) of the Model can contact their direct in line manager or, should the report not have results or should the employee feel uncomfortable speaking to their direct superior to provide feedback, the same can refer directly to the Supervisory Authority, in writing, using the e-mail address (iren\_odv231@gruppoiren.it).

No reports were received in 2015.

#### **CODE OF ETHICS**

Iren Group Code of Ethics, approved by the Board of Directors' Meeting held on 17 September 2013, is the instrument that defines the set of ethical values and responsibilities of the Iren Group.

The Code of Ethics also identifies the rules of behaviour that must guide the management as well as internal and external relations. Compliance with the Code of Ethics also makes it possible to prevent the risk of committing the crimes pursuant to Italian Legislative Decree 231/2001, in the scope of the specific activities



carried out within the Group. Observation of the content of the Code of Ethics by all who operate on behalf of Iren is of fundamental importance for the smooth operation, reliability and reputation of the Group.

Iren's Corporate Social Responsibility Department has the task of promoting the understanding, dissemination and updating of the provisions of the Code of Ethics and to ensure their interpretation and implementation. It receives reports of breaches and assesses whether to open, or not, a corresponding file. Iren ensures the verification of each notice of breach of the Code, received pursuant to the methods and through the channels specified by the Code of Ethics, the assessment of the facts and the application of appropriate sanctions in case of breaches. Mandatory acceptance of the Code of Ethics is required by all suppliers since the offer stage, without the possibility of exceptions or amendments. The Code of Ethics is also available on the Group's website in order to achieve the maximum dissemination and understanding.

In 2015, the Group received a report of breach relevant to the application of the TASI. This report was analysed in depth and, considering that accurate and truthful information had always been provided to the reporter, full compliance with the Code of Ethics of Iren SpA was proved, providing evidence to the reporter.

## INTEGRATED SYSTEM AND CERTIFICATION

The ongoing evolution of customers' expectations and requirements, strongly reinforced by the competitiveness of the market, requires flexible organisational models and lean management systems whose efficacy must be monitored in terms of expected results. To this end the Group has developed an Integrated System (Quality, Environment and Safety - QES), which is structured in such a way as to adequately monitor all operating processes that influence the service levels with the attention increasingly focused on the customer.

The key underlying principles of the Integrated System policy are:

- customer satisfaction;
- focus on social and environmental aspects;
- employee safety;
- efficient service performance;
- the quality of supplies and public tenders;
- · ongoing improvement;
- compliance with the Code of Ethics.

The Integrated System policy is common to all Group employees and has created strong synergies between the operating structures.

The Parent Company and all of the Subsidiaries have systems certified according to ISO 9001 (Quality).

The Parent Company, the companies in Turin and Genoa, Iren Ambiente and the main Subsidiaries are certified in compliance with international standard ISO 14001 (Environment).

The Parent Company, the companies in Turin and Genoa, Amiat, Tecnoborgo and the gas distribution service in Emilia hold the certification pursuant to the standard OHSAS 18001 (Safety).

Downstream of the reorganisation of the Iren Group that has centralised the staff functions into the Parent Company, Iren Spa has obtained the certifications ISO 9001, ISO 14001 and OHSAS 18001, with reference to the coordination and supply of all staff services to the Group companies. Monitoring of the Quality, Safety and Environment systems are guaranteed for each first-level Company by the Organisation and System Certificates Department of Iren.

On the environmental protection front, the Iren Group continued to pursue its commitments in the various sectors in which it operates. More specifically, this commitment entails close attention to the principles of quality and environmental protection, the streamlined use of natural resources and complete respect for regulations in force when carrying out its activities in its various business areas and in increasing its customers' and suppliers' awareness of environmental issues, and is evident from the achievement and maintenance of the above listed voluntary certifications.

In order to ensure sustainable company growth based on the principle of continuous improvement, resources were employed for the:

- development of the production of energy from renewable (hydroelectric) or similar (cogeneration) sources and the promotion of district heating, together with the adoption of the best systems technologies on the market, in order to guarantee a reduced environmental impact;
- improvement of the use of water resources, in terms of both its withdrawal and use and its discharge and drainage;
- renovation of the urban wastewater treatment systems and search for best technologies available, in order to improve the quality of effluents and minimizing odorous emissions;
- correct management of obligations concerning special waste, for the phases associated with its production, storage, transportation and disposal/final recovery;
- spread of information on the impact that company activities have on the external environment through specific publications such as this Sustainability Report and Environmental Declarations.

From a management point of view, to reduce the environmental impact of the Group's activities, particular importance was given to:

- the maintenance and development of certification systems on a voluntary basis with regard to the environmental management systems certified in accordance with UNI EN ISO 14001:2004 and EMAS standards:
- monitoring the environmental performance of activities through the use of special indicators for each significant environmental aspect;

- analytically testing the impact on the external environment, with particular reference to atmospheric emissions, air quality, water discharges, special waste, acoustic emissions and electromagnetic fields;
- conducting specific internal audits aimed at verifying the correct management of the environmental problems connected with company plants;
- fulfilling administrative obligations, with particular regard to the monitoring and control activities associated with the Integrated Environmental Authorisations (I.P.P.C. directive) and the emission of greenhouse gases (Emission Trading System), for the plants concerned;
- continually involving company personnel through the supply of specific annual training courses on environmental issues and best plant management practices for guaranteeing reduced environmental impact;
- the implementation, at the various Iren Group sites, of the steps gradually proposed by the new Waste Tracking Control System, known as SISTRI, launched by the Italian Environment Ministry, to guarantee the switchover, using technologically advanced solutions, to an innovative and more efficient management process for the entire waste chain.

Over the year the following projects were positively completed:

- integration into the Integrated Management System of Iren Energia of Turin district heating;
- extension of the ISO 9001/ISO 14001/OSHAS 18001
   Certifications in the hands of Iren Ambiente to the Integrated Environmental Centre in Parma;
- extension of the ISO 9001/ISO and 14001/OSHAS 18001 Certifications in the hands of Amiat to the material treatment plant in Collegno (TO);
- maintenance of the ISO 9001/ISO 14001/OSHAS 18001 Certifications in the hands of Iren Ambiente, Iren Emilia and AMIAT:
- maintenance of the ISO 9001/ISO 14001/OSHAS 18001/EMAS/SA8000 Certifications in the hands of Tecnoborgo;
- successfully passing the audit for the renewal of the accreditation pursuant to the EMAS Regulation in the hands of Iren Ambiente, for the Poiatica Landfill, and in the hands of Iren Energia, for the plants of Turbigo, Tusciano and Moncalieri, and validation of the related environmental declarations;
- positively passing the audit for the maintenance of the accreditation pursuant to UNI EN ISO/IEC 17025 and Accredia documents for the Laboratory of Amiat and the extension of the accreditation itself to various new parameters and activities. The extension involved 2 new analytical tests (hydrocarbons C10 C40 and polychlorinated biphenyls of waste, phenols and chlorophenols on waste water and aqueous liquid wastes) and the sampling activities (for the commodity analysis of waste and some parameters to be analysed on conveyed emissions compounds as methane and non-methane, oxygen, carbon dioxide, nitrogen

- oxides, carbon monoxide and water vapour). The extension of the accreditation is expected for year-end;
- positively passing the verification of compliance with the organism WEEELABEX on the treatment of durable goods plant (TDG) on Volpiano (TO). The positive outcome of this review is an essential condition for approval of the plant as a reference platform for WEEE consortiums;
- closing of renovation projects of the lims laboratory and adoption of the digital signature of test reports from the testing laboratory of Amiat;
- maintenance of the certification pursuant to the Reg. 303/2008/EC – FGAS certification for Iren Mercato subsidiaries operating in the heat management sector as regards the service provided for devices containing fluorinated greenhouse gases;
- renewal of Quality, Environment and Safety certificates for the companies Iren Energia, Iren Servizi e Innovazione and AEM Torino Distribuzione;
- maintenance of the certification for the sale of electricity produced solely from renewable sources, in compliance with the Certiquality Technical Document no. 66, by Iren Mercato.
- re-certification with transition to the new edition of the regulation UNI CEI 11352 by Iren Rinnovabili;
- achievement of the certification UNI 11352 by Iren Gestioni Energetiche;
- confirmation of the certification UNI 11352 by Iren Servizi e Innovazione;
- formalisation of the request for the LIAG Multi-site Accreditation relevant to the regulation UNI EN ISO/IEC 17025.

# CODE OF CONDUCT AND SERVICE CHARTERS

The Iren Group operates in full compliance with the Code of Business Conduct for the sale of electricity and natural gas and, in general, with the standards issued by AEEGSI.

The Management of the Integrated Water System and the Environmental Services is regulated by specific agreements signed with the consumers through the Charter of Services instrument, that regulates the action through the commitment to achieve high quality standards in terms of continuity and quality of relations with customers. A reimbursement system in the event of malfunctioning guarantees the operator's commitment to comply with the standards agreed upon.

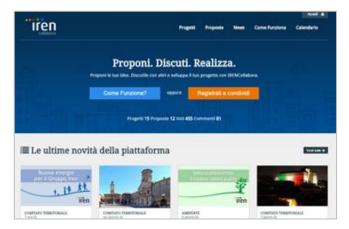


(1) It is also reported that the District Heating Service Charter is completed and being published.



# RELATIONS WITH STAKEHOLDERS

The Group provides a high and balanced level of care to its stakeholders and has created the Local Committees for listening, discussion and participatory planning with stakeholders



The Iren Group is constantly committed to create, strengthen and expand its relationships, guaranteeing its stakeholders an opportunity to air their views and to enter into dialogue.

The criteria used by Iren to involve their stakeholders are defined to be as inclusive as possible, and address transparency, fairness, sensitivity to ethical, environmental and social issues, and consistency with respect to the activities undertaken by the Group.

The dialogue with its stakeholders is based upon the principles of inclusiveness, materiality and compliance laid down in AccountAbility1000.

# **IREN LOCAL COMMITTEES**

In 2015, the Iren Local Committees of Reggio Emilia, Parma and Turin were set up, in addition to the Committee of Piacenza

established in 2014, while the Local Committee of Genoa was established in January 2016.

The Local Committees are designed to ensure a deeper-rooted presence in the local community, thanks to the participatory planning and moments of consultation on issues such as environmental and social sustainability, innovation and the quality of services provided.

In order to ensure and broaden the widespread involvement, the committees use the www.irencollabora.it on-line platform, the first of its kind on a national level, where citizens can participate directly in making proposals and suggestions on the issues dealt with by the Committees, with the aim of generating concrete and tangible projects.

Specific working groups have been established within the individual Committees aimed at the development of the projects presented within the Committee or on the Irencollabora.it platform. In 2015, the Committees met about every 45 days, 49 Committee and working group meetings were held and, in December 2015, there were 340 profiles registered, 268 subscribers, 15 projects and 15 proposals.

The preparation of this Sustainability Report, one of the Group's main communication instruments, saw the involvement of Iren Group stakeholders, represented by the Local Committees, in the preparation of the materiality analysis.

This analysis, that led to the identification of the topics of corporate, environmental and economic responsibility considered of particular importance, made it possible to compare the vision of the Iren Group with that of the stakeholders to receive their input to pass the self-referential.

The Chairperson and Deputy Chairperson of Iren, who are members of the Local Committees, report regularly to the BoD, on the trend of the activities and the discussion and planning activities carried our within the Committees.

The table below identifies the stakeholders, key topics, critical situations for each category of stakeholders and the projects and initiatives for the involvement of the same.

# ACTIVITIES AND TOPICS FOR THE ENGAGEMENT OF STAKEHOLDERS

Stakeholder	Main categories	Key topics	Projects, initiatives aimed at the stakeholders
Personnel	<ul> <li>Employees</li> <li>External staff (other than employees)</li> <li>Trade unions</li> </ul>	<ul> <li>Health and Safety</li> <li>Exploitation of skills</li> <li>Training</li> <li>Internal communication</li> <li>Welfare</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul> <li>Training initiatives</li> <li>Work Life Balance</li> <li>Internal mobility</li> <li>Code of Ethics</li> <li>Cardioteam Project</li> <li>Industrial Relations</li> <li>Meetings between the Management and employees</li> <li>Trade union agreements</li> <li>New portal "Irenfutura"</li> <li>Active participation project "Cambiare Insieme"</li> <li>"Linea Verde" Project for the insertion of new hires</li> <li>Flash video on sustainability</li> <li>Materiality analysis</li> <li>Local committees</li> </ul>
Customers	<ul> <li>Users of retail and business services</li> <li>Local Authorities</li> <li>Consumer associations</li> </ul>	<ul> <li>Service Levels</li> <li>On-line and mobile services</li> <li>Transparent Communications</li> <li>Tariffs</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul> <li>Front offices and call centres</li> <li>Transparent information on bills</li> <li>Website</li> <li>App for smartphone and tablet</li> <li>Social channels</li> <li>Customer Satisfaction surveys</li> <li>Projects and initiatives for the safety of customers</li> <li>Projects and initiatives to improve the quality of services</li> <li>Code of Ethics</li> <li>Meetings and framework agreements with Associations</li> <li>Social tariffs</li> <li>Materiality analysis</li> <li>Local committees</li> </ul>
Suppliers	<ul> <li>Suppliers of goods, services and works</li> <li>Qualified suppliers</li> <li>Local suppliers</li> <li>Trade associations</li> </ul>	<ul> <li>Management of the supply chain</li> <li>Transparent Communications</li> <li>Contractual conditions</li> <li>Payments</li> <li>Environmental, corporate and economic responsibility</li> </ul>	
Shareholders and Financial Backers	<ul> <li>Retail investors</li> <li>Public shareholders</li> <li>Institutional Investors</li> <li>Financial community</li> <li>Ethical Funds</li> </ul>	<ul> <li>Corporate Governance</li> <li>Transparent Communications</li> <li>Trend of the share</li> <li>Economic financial results</li> <li>Rating</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul> <li>Roadshows</li> <li>Webcasting service</li> <li>Communication of results and possible future risks</li> <li>Adoption of disclosure policies</li> <li>Inclusion in ethical indexes</li> <li>Participation in Carbon Disclosure Project</li> <li>InvestIren Newsletter</li> <li>Business Plan 2015-2020</li> <li>Shareholders' Meeting</li> <li>Calendar of corporate events</li> <li>Local committees</li> </ul>



Stakeholder	Main categories	Key topics	Projects, initiatives aimed at the stakeholders
Institutions and the Community	<ul> <li>Local Authorities</li> <li>Regulatory Authorities</li> <li>State</li> <li>Non-governmental organisations (NGO)</li> <li>Associations</li> <li>Media</li> <li>Local citizens</li> </ul>	<ul> <li>Attention to the local area</li> <li>Dialogue and involvement</li> <li>Creation of opportunities for local area growth</li> <li>Transparent Communications</li> <li>Investments in the local area</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul> <li>Notification of opinions and documents</li> <li>Participation in meetings with Institutions</li> <li>Surveys and questionnaires</li> <li>Conferences, seminars and workshops</li> <li>Participation in projects in cooperation with Institutions</li> <li>Opening of plants</li> <li>Local Committees and IrenCollabora platform</li> <li>Materiality analysis</li> <li>Local committees</li> <li>Facilitation plants for Communities affected by environmental emergencies</li> </ul>
Environment	<ul> <li>Associations</li> <li>Technicians and sector experts</li> <li>Representatives of authorities and institutions</li> </ul>	<ul> <li>Water network leaks</li> <li>Management of water treatment plants</li> <li>Efficiency of the gas distribution network</li> <li>Production of energy and atmospheric emissions</li> <li>Energy saving</li> <li>Waste management</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul> <li>Development of renewables</li> <li>Energy savings and efficiency projects</li> <li>District heating implementation</li> <li>Increase in the capacity to dispose of special waste</li> <li>Systems to increase the separated waste collection</li> <li>Reduction of water network leaks</li> <li>Containment of atmospheric emissions</li> <li>Projects and initiatives of awareness on environmental issues</li> <li>Local committees</li> </ul>
Future Generations	<ul><li>Schools</li><li>Universities</li><li>Research centres</li><li>Associations</li><li>Incubators</li></ul>	<ul> <li>Environmental protection</li> <li>Smart City</li> <li>Demand Side management programs</li> <li>Innovative services</li> <li>Reduction of environmental impacts</li> <li>Climate change</li> <li>Sustainable behaviours</li> <li>Environmental, corporate and economic responsibility</li> </ul>	<ul> <li>Educational programs in schools (Edu.Iren) and in universities</li> <li>Guided tours</li> <li>Projects and investments in research and innovation</li> <li>Partnership for research and innovation</li> <li>Framework agreements with Universities and research centres</li> <li>Local committees</li> </ul>

# ETHICAL INDEXES

The Group's decision to put sustainability at the heart of its strategic choices has also been rewarding from an economic point of view and this is an aspect particularly appreciated by investors. For example, in terms of environmental sustainability, the fact that most of the Group's thermal power plants are connected to district heating networks involves not only advantages in terms of air quality and reduction of emissions, but also protects the Group from the stronger turbulence on the electricity market. This twofold vision is genetically ingrained in Iren and is destined to have more and more importance for the financial markets.

The Group's commitment to sustainability is confirmed by the presence in ethical indices, based on ESG-Environmental Social and Governance criteria.



and Responsible Investments) Benchmark, which can be accessed by companies listed in the FTSE Italia All-Share that demonstrate specific ESG characteristics (first 100).

The Iren Group has participated for the fourth consecutive year to the Carbon Disclosure Project "CDP Italy 100 Climate Change Report 2015" survey, achieving an improvement of the results compared to the previous year, with a score of 97 points for the quality and completeness of the answers provided in the questionnaire, higher than the average of the leading 100 Italian companies (85 points). In relation to the evaluation of performance, the Group received a "C" rating.

# COMMITMENT TO IMPROVEMENT

# **ENVIRONMENT**

Objectives for 2015	Actions carried out in 2015	Future objectives
Consolidate the leadership of environmentally friendly sources	<ul> <li>Hydroelectric production of approximately 1,452 GWh (in line with that of 2014, +1%), strongly up (+38%) compared to the previous two-year period</li> <li>Increase in district heating volume (+1.74 million cubic metres compared to 2014)</li> </ul>	Development of plants powered by renewable sources and increase of the district heating volume     Redevelopment of the hydroelectric plants of Chiomonte and Susa
Reduce atmospheric emissions	<ul> <li>Installation of a catalytic reduction system of CO emissions at the Torino Nord Thermoelectric plant and technical interventions for the reduction of atmospheric emissions</li> <li>Substitution of burners at the BIT Thermal power station</li> </ul>	<ul> <li>Installation of heat exchangers and pumps for the heating of natural gas, with district heating fluid in place of the existing boilers powered by natural gas in the natural gas decompression station of the Moncalieri plant</li> <li>Installation of a catalytic reduction system of abatement of nitrogen oxides (DeNOx) and carbon monoxide (CO Catalyst) at the Turbigo plant</li> </ul>
Reduce emissions from electromagnetic fields (EMF): Monthly monitoring of electrical cabinets to keep the EMF values within the Quality value limits	Measurement of the EMF for 50% of the substations already in use	Continuation of the design and construction of the new MV/LV substations
Reduce the number of electrical devices containing PCB/PCT contaminated oil	Disposal of 34 devices containing PCB/PCT	Continuation of decommissioning and disposal of equipment containing oil contaminated with PCB/PCT
Reduce energy consumption and save energy	<ul> <li>Launch of the first phase of the Torino Led Project (Installation on the public street lighting network of about 23,400 Led lamps on a total of 55,000)</li> <li>Complete renewal of the thermal plants in 46 school buildings owned by the City of Turin</li> <li>The subscription by the City of Turin to the European Pro Lite project for the innovation of the public street lighting sector (building, street light, tunnel and subway lighting).</li> <li>Renovations of the electrical systems of two school buildings in Turin (design and execution for procurement of materials and services tenders)</li> <li>Subscription by the City of Turin to the project Probis for the creation of an Energy Management System (EnMS) for the energy management of municipal real estate assets</li> <li>Planning of the renovations of the electrical plants of an important building owned by the City of Turin</li> </ul>	Completion of the Project Torino Led Phase 1, with installation of the remaining 31,600 lamps Launch of the second phase of the Project Torino Led (replacement of approximately 860 high consumption lamps, redevelopment of the lighting systems of the main underpasses within the city and replace of approximately 12,500 traffic lights) Complete renewal of the thermal plants in 120 buildings owned by the City of Turin Start of renovations of electrical plants at two buildings owned by the City of Turin entered into the European Pro-Lite Project Start of tenders and works for the renovation of the electrical plants at the building owned by the City of Turin entered into the European Probis Project Presentation to the Municipalities of Genoa and Reggio Emilia of the energy efficiency project for the public street lighting network
Improve the waste collection, management and disposal systems and increase the percentage of separated waste collection	Over 65% of separated waste collection in the catchment of the provinces of Parma, Piacenza and Reggio Emilia (national average approximately 45%)  Development of the separated waste collection in Turin (objective 42.2%): full implementation of the door to door system in the Crocetta neighbourhood and start of the WEEE R4 collection trial in District 9  Purchase and use of e Mobile Environmental Centre	<ul> <li>Increase of the percentage of the separated waste collection as envisaged by the Regional Waste Management Plan of Emilia Romagna: objective of separated waste collection at 73% on a regional basis within 2020</li> <li>Development of the separated waste collection in the city of Turin</li> </ul>



#### **Objectives for 2015**

#### Actions carried out in 2015

Reduce the environmental impacts associated with the collection and management of urban and non-hazardous waste

- Replacement of old vehicles with new vehicles for the reduction of atmospheric emissions
- Improvement of waste storage conditions on stallages with particular reference to the discharges of this product
- Structural adaptation of various waste storage areas in Turin: transfer of activities to the collection centres of C.so Brescia in Via Ravina
- **Future objectives**
- Structural adaptation of various waste management areas in Turin: ending of activities at C.so Brescia and transfer of local area services to Via Ravina
- Transformation of the waste-to-energy plant in Piacenza into a cogeneration plant. Connection to the urban network of the district heating system within the winter season 2017/18 with related environmental benefits (replacement of domestic heating boilers for a heated volume of 1 million additional cubic meters and gas savings used primarily to supply the district heating network)

Improve the efficiency of the integrated water service:

- · minimise the environmental impact
- reduce network leaks
- Installation of flow-rate gauges and monitoring of tanks in Carpena, in the municipality of Chiavari
- Continuation of the study for the reduction of water losses in the Municipality of Chiavari
- Continuation of the works regarding compliance with atmospheric emissions regulations for the treatment plants of Chiavari and Sestri Levante.
- Installation of an additional flow meter in Carpena, in the municipality of Chiavari
- Analysis of the greater equipped aqueducts per capita (litres released per inhabitant per day) and scarcity of summer water allocation for leak detection
- Monitoring of the aqueducts supplied by mountain springs and the area of the Gulf of Tigullio
- Plant rationalisation and efficiency for the plants and aqueducts with higher energy unit absorption (kWh/mc)
- Energy recovery of 2-3% compared to 2015
- Continuation of the efficiency activities for the treatment plants of Lavagna, Sestri Levante and Moneglia
- Implementation of the automatic logics of air control supplied to the oxidisation sectors for the use of compressors and reduction of energy consumption

Build the new balancing tank for the Moneglia treatment plant

Build the air treatment plant for the treatment plant of Chiavari

- Implementation of the executive project of the new balancing tank for the Moneglia treatment plant obtaining the landscape authorisation
- Realisation of the air treatment system for the treatment plants of Chiavari and Lavagna
- Implementation of the executive project or the air treatment system of the treatment plant of Sestri Levante
- Stability of the energy consumption of the water treatment sector, despite the strengthening of the sectors of numerous plants and launching new infrastructure
- Reduction of energy absorption for the lifting in sewer systems also in relation to the lack of autumn rainfall
- Implementation of the automatic logics of air control supplied to the oxidisation sectors for the use of compressors and reduction of energy consumption on the treatment plants of Rubiera and San Martino (RE)
- Upgrading of the pumping systems of the lifting in sewer systems in Carpi (MO) and Bagnolo in Piano (RE)

Improve the efficiency of the gas distribution network in order to ensure high levels of safety and reduce the gas emitted into the atmosphere to a minimum

- Continuation of the upgrading of the network in order to reduce the leaks and emissions of gas into the atmosphere (decommissioning and adaptation to 11.88 km of cast iron pipelines with hemp and lead joints and 17.33 km of unprotected steel networks)
- Activity for the definitive commissioning of the substation RE.MI. in Genova Campi of the "EMMA" system
- · Inspection of over 80% of the gas network
- Continuation of the upgrading of the network in agreement with the provisions of AEEGSI
- Implementation of the network and cathodic protection system on the steel network as an integrated activity of the network renovation project and the safety measures in order to contain leaks

Objectives for 2015	Actions carried out in 2015	Future objectives
Implement the integrated Certification, Quality, Environment and Safety system	Submission of the application for accreditation to Accredia of the Multi-site in order to of uniform the operating practices of the different local areas in order to improve the performance of the Laboratories     Extension of the subject of the integrated Quality, Environment and Safety certification for the recovery of Materials in Collegno	<ul> <li>Preparation of the documentation for service processes carried out by Iren for Group companies Audit for the maintenance of the Quality, Environment and Safety Certification, with reference to the service processes</li> <li>Continuation of the activities aimed at obtaining the Multi-site Accreditation by Accredia, for the Laboratories</li> <li>Completion of the IRETI Quality, Environment and Safety certification</li> <li>Review and redesign of the IRETI processes, aimed at unifying and uniforming the operation practices and review all of the documentation of the Integrated System</li> <li>Adaptation of the Quality, Environment and Safety Management System to the new organisation of Iren Mercato</li> <li>Implementation of the plan of the activities aimed at uniforming the Iren Energia procedures in the context of the Quality, Environment and Safety Management System</li> <li>Maintenance of the certifications ISO 9001, ISO 14001, OHSAS 18001 and UNI 11352 of Iren Servizi Innovazione</li> <li>Maintenance of the certification UNI 11352 of Iren Rinnovabili</li> <li>Maintenance of the certifications Quality, Environment, Safety and EMAS of Iren Ambiente</li> <li>Maintenance of the certifications Quality, Environment, Safety and EMAS for Iren Ambiente with the integration of the documentation of Tecnoborgo in the system and the extension of the Amiat system to the plant of Borgaro and the location in Via Ravina</li> </ul>

# **PERSONNEL**

Objectives for 2015	Actions carried out in 2015	Future objectives
Use a single IT system for personnel management for the entire Group  Transfer the contents of the local Intranets to the Group Intranet  Analyse the corporate welfare and definition of a Group plan  Review of the current organisation of the health and safety management for the Group	Implementation of the personnel management IT system that is the same for the entire Group Implementation of the demographic rebalancing plan: management of resignations and hires Extension of telecommuting to the National Collective Labour Agreements for environmental services with the execution of a Union Agreement Implementation of a unique Intranet for the entire Group In-depth analysis relevant to Corporate welfare and definition of a Group plan for all employees Implementation of the provisions on the topic of fulfilment and implementation pursuant to Italian Legislative Decree 81/08, for the prevention and protection of workers from workplace health and safety risks	Completion of the demographic rebalancing plan: retirement, hires and assessment relevant to a possible new retirement incentive Introduction of a structured welfare system for all employees with a portal, provider and other instruments Realisation of alternating school-work courses Involvement and participation of the staff in a sharing of the policies and objectives for the maintenance of a quality, environment and safety management system in compliance with the standards ISO 9001, UNI ISO 14001 and BS OHSAS 18001



# **CUSTOMERS**

#### Objectives for 2015

Complete and enrich the loyalty program "Club Iren Mercato" reserved to free market customers

Define new offers that include innovative services for energy savings and efficiency, for the domestic and business segments

Increase accessibility to on-line services in order to improve communication with customers and render the same more independent in the management of the procedures

Complete the customer satisfaction survey started in 2014

Open new contact points with shopkeepers in the areas of development

#### Actions carried out in 2015

- Additional Customer Satisfaction Survey aimed at measuring the sales service levels provided by Iren Mercato and the front offices of the main locations in Genoa, Parma and Turin
- Continuous monitoring of the level of customer satisfaction through two telephone campaigns on specific clusters of customers, aimed at measuring the likeliness of the customer to leave or the portability
- Realisation of an on-line form for the forwarding via web of the request for subscription to specific offers for the supply of electricity and natural gas for domestic customers
- Increase of services available on the application ClickIren, in particular the possibility to independently waiver the bill in paper form, with the consequent increase of registered customers (approx. 60,000) and the subscription to the electronic bill service
- Campaign Bolletta Facile in order to promote choosing the digital bill and waiving the paper bill, with the objective of rising customer awareness relevant to the protection of the environment and new forms of savings
- Customer caring campaign, "Courtesy call" to increase the value of the relationship with the customer and promote a direct and bidirectional communication when communicating the new price of the expiring fixed price offers
- Definition and launch of the offer *Iren LED*, which envisages the sale of a low-energy light bulbs kit to customers with a contract for the supply of electricity on the free market, with the possibility for the customer to follow the delivery status of the kit on-line
- Enhancement of the Club Iren offer with additional advantages, such as discounts and facilitations, made possible thanks to new agreements with new partners in the local areas

### **Future objectives**

- Diversification and enrichment of the customer loyalty program, through new antichurn and customer caring campaigns, aimed at reducing the churn rate, increase customer retention and the in depth knowledge of the customers in order to program targeted actions and modulated offers for specific customer segments
- Increase the visibility of Iren Mercato and the services offered (brand awareness) through the realisation of new co-marketing projects, partnerships and agreements with national partners
- Definition of further offers with innovative services for energy savings and efficiency (new thermostats, new generation boilers, etc.), together with campaigns of awareness and education of the customer on energy savings
- Increase the potential of the App ClickIren, by increasing the number and types of operations available with the consequent higher number of registrations
- Increase of the subscription to the digital bill service during the activation stage of new contracts
- Increase of the number of customers subscribed to the loyalty program Club Iren Mercato and re-qualification of the customer profile from the basic level to the premium level and increase of the number of partners that have agreements with the Club
- Development of initiatives and instruments available to the customers to make a direct and constant control of their consumption possible, the possibility to make informed choices, adopt sustainable behaviour, rationalise their consumption

# **SUPPLIERS**

### **Objectives for 2015**

Start of the project for the integration of the management procedure of the Group for the supplies and the management of the purchase cycle for all Group companies

### Actions carried out in 2015

Completion of the integrated purchase management environment with the supply demands of the main Group companies

### **Future objectives**

Expansion of the integrated supplier control system at the stages of request for purchase and offer, invitation to participate in a tender (not open to public) or the issuing of an order to report the adequate qualification of the supplier required for critical or strategic supplies

## **COMMUNITY AND LOCAL AREA**

#### Objectives for 2015

Extension of the "Local Committees" to the other geographic areas of reference

Start in the Local Committee of Piacenza of shared and participated projects for the improvement of the environment and services to citizens

#### Actions carried out in 2015

- Activation of the Local Committees of Parma, Reggio Emilia and Turin
- Start of 16 shared and participated projects for the improvement of the environment and services to citizens in the scope of the Local Committees of Parma, Piacenza and Reggio Emilia
- Involvement of the residents in the suggestion of ideas, proposals and projects for the improvement of services and environmental and social impacts: more than 340 subscribers to the on-line platform IrenCollabora.it, with over 550 interactions

### **Future objectives**

- Completion of the activation of the "Local Committees" in all of the geographic areas (province of Genoa)
- Start in the scope of the Local Committees of the development of shared and participated projects for the improvement of the environment and services to citizens
- Enlargement of the user base for the platform Irencollabora.it

# SHAREHOLDERS AND FINANCIAL BACKERS

### **Objectives for 2015**

Monitor all of the levers of financial communication, with particular attention to roadshows which allow for direct contact with current and potential investors

Continue with the coverage activities of financial requirements to support the investments with a balanced relationship between short and medium/long term funds

Optimise the debt portfolio also with liability management activities aimed at reducing the cost of debt

#### Actions carried out in 2015

- Constant attention demonstrated by all management towards the financial community that made it possible to best communicate some of the most important moments of the life of the company: presentation of the business plan, achievement of the investment-grade rating. The support roadshows were crucial and visited the main European financial capitals
- Improvement and use of new medium/longterm loans for Euro 800 million, of which 500 million with a new public bond issue with a duration of 7 years
- Approval of a bond issue program (EMTN Program) up to a maximum amount of 1 billion Euro
- Activation of new committed lines (bank lines available but not used) for Euro 200 million at the end of 2015, in order to support the liquidity profile of the Group
- Achievement from the Fitch agency of the public rating Investment Grade equal to BBB- for Iren SpA and BBB for the bond issues
- Finalisation of liability management transactions (i.e. Tender Offer) aimed at reducing the cost of debt

### **Future objectives**

- Maintenance of a high level of interest by the investors towards the Group, also in the presence of a still unstable macroeconomic scenario. Particular attention will be paid towards US funds, whose contact will occur not only by means of a conference call but also through roadshows.
- Continuation with the coverage activities of financial requirements to support the investments with a balanced relationship between short and medium/long term funds
- Optimisation of the debt portfolio with liability management activities aimed at reducing the cost of debt
- · Maintenance of the Investment Grade rating

# **FUTURE GENERATIONS**

### **Objectives for 2015**

Capillary initiatives of disclosure and environmental education aimed at children and adults in the local areas of reference.

#### Actions carried out in 2015

- Development of specific and innovative initiatives relevant to sustainability and education, aimed at nursery schools and high
- Consolidation of relations with parties and institutions present within the local areas on topics of sustainable development
- Enrichment of Edu.Iren with new forms and educational packages and the first trials of online education with other parties (University)
- Trials for new codes and languages in order to inform the residents, in collaboration with volunteer structures

#### **Future objectives**

- Overall redefinition of the Edu.Iren catalogue with particular attention to the MIUR policies on topics of sustainability as a basis of new curriculum subjects
- Strengthening of relations with Regional School Offices and MIUR
- Trials of innovative forms of collaboration Company-School on topics of School-Work Alternation and professional training
- Pilot-project of on-line training for educators



# AWARDS AND RECOGNITION

In 2015, the Iren Group received the following recognitions relevant to corporate and environmental responsibility.



Smart Communities Award of Smau Torino 2015 for EDEN (Energy Data Engagement), a specific project linked to the use of digital technology to measure energy efficiency in

three schools in Turin in the Capitol District. A digital platform has been developed that, starting from the energy consumption data collected by sensors placed in schools and other buildings, generates awareness and encourages sustainable behaviour in students, families and residents. The EDEN project was also a finalist for the Smau Milan 2015 Award.



Finalist at the XI edition of the Egov 2015 Award with the EDEN Project. The Egov Award for years has recognised the best

innovation projects developed by Public Administrations, central and local, with the aim of creating a debate between public policy makers on digital agenda issues and contaminate the Public Administrations.



Mela Rosa Certification from the Marisa Bellisario Foundation, for their

commitment to the implementation of the provisions of the law on gender equality, valuing female talent at the top management level of the company.









Award for the Water for Life project, in the context of Vivaio Donne at Expo. The purpose of the project was to

carry out research on "Endocrine disruptors", heterogeneous group of substances in the environment. The innovation, heterogeneity of the partners involved and the majority participation of women are the three elements that have characterised the project.



AEM Torino Distribuzione (from 1 January 2016 merged into IRETI

companies) stood between the companies in the sector with the best performance in terms of service levels, based on the indicators published in 2015 by AEEGSI that led to awards and penalties for electricity distribution companies in the year 2014. As a result of the publication and validation of such indicators,

AEEGSI and AEM Torino Distribution have been awarded bonuses for approximately Euro 480,000.



The humanitarian organisation HUMANA People to People Italia assigned to the Iren

Group the Humana Eco Solidarity Award 2015, for the generosity demonstrated in the donation of used clothing for the year 2014.



Iren has participated in the thirteenth edition of the Sodalitas Social Award, and was included among the finalists

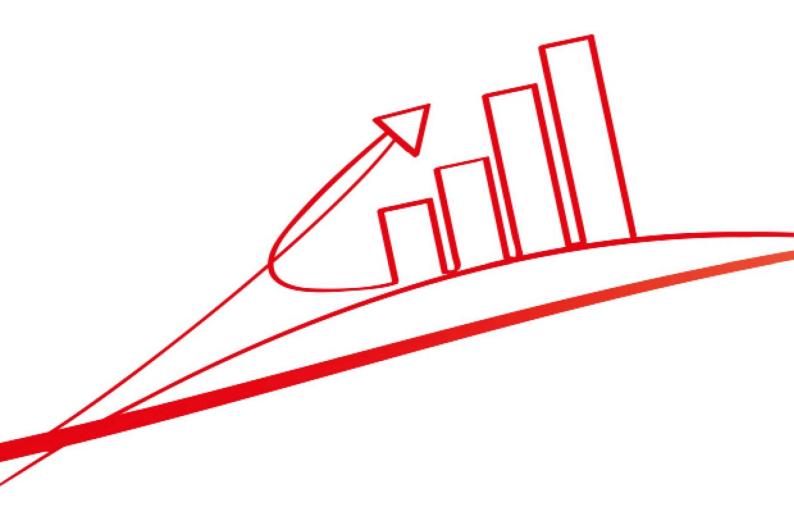
for the following 2 projects: "Demographic readjustment plan" and "Iren: schools on-line".



The Iren Group was nominated among the finalists of the fourth edition of the Top Utility Award, (annual award of Top Utility Analysis to Italian excellence in the management of water, energy and

environment) for the categories Top Utility Communication and Top Utility RSE Innovation & Technology.

# Iren's value



### **IMPORTANT TOPICS**

**Economic development:** is the main topic on which the strategy of the Iren Group is based, with the objective to guarantee the creation of value for the shareholders and for all stakeholders. Economic development is critical for the Group and is extremely important for the economic, social and environmental impacts that it can generate for the communities and territories in which the Group operates in.



# GROWTH, CREATION OF VALUE AND DISTRIBUTION OF WEALTH

In 2015 the Iren Group achieved economic results on the rise compared to the previous year: revenues +6.6%, EBITDA +8.8%, profit attributable to the Group +71.4%.

Economic indicators	unit of measure	2015	2014
Revenue	€/mln	3,094	2,902
Net Operating Margin	€/mln	678	623
Operating Result	€/mln	347	325
Profit attributable to the Group	€/mln	118	69
Total capitalisation	€/mln	1,902	1,161
Dividend per share	€	0.0550 (1)	0.0523

<sup>(1)</sup> Dividend proposed by the Board of Directors.

The net financial indebtedness at the end of 2015 amounts to 2,169 million Euro, down by 5.1% compared to 31 December 2014.

Investments made in 2015, exceeding 258 million Euro, maintain a trend in line with 2014 and are aimed at the development of the various sectors of activity, guaranteeing an important contribution to the infrastructural, economic and service development of the areas in which the group operates in.

Investments (millions of Euro)	2015	2014
Generation and district heating	36.2	66.0
Networks (electricity, gas, water cycle)	161.0	143.9
Market	14.2	10.2
Environmental services	21.4	18.5
Others	25.4	23.1
TOTAL	258.2	261.7

The strategic guidelines show constant attention to issues regarding sustainability and the environment, which influence the planning of multi-year investments to be made. These same issues are part of the principles of the Code of Ethics that the companies of the Group are required to comply with when making investments.

The Iren Group has a structured process of planning, budget and final accounts aimed at monitoring the short and medium to long term economic, equity and financial performance. In 2015, in order to render the planning and control process more efficient, an information system of Enterprise Performance Management was implemented.

In the planning processes, the Group pays particular attention to the variables, emerging from economic and industrial scenarios of the sector, able to guarantee the medium and long-term availability of energy.

The analysis of the scenarios occurs through a continuous monitoring of the industrial, economic and financial dynamics. Several times a year the short and medium-term energy scenario at the basis of the corporate strategies is re-analysed, also through a benchmarking analysis of the principals established by specialised research. Regarding thermal generation, the availability of energy is considered both for the areas already using district heating and for those newly acquired. In the first case the focus is on the reliability of the production, through the planning of the scheduled and unscheduled maintenance, and of the definition of the adequate redundancies in terms of capability of integration and reserve. In the areas where district heating has just been introduced, the entire thermal generation system is designed, both in terms of primary producers and in terms of back-up producers. The design of the electricity and thermal energy production systems focuses on the respect for the environment and energy efficiency through the use of the best technologies available. The energy generating facilities of the Iren Group are efficient and appropriate in terms of size, thanks to the significant investments in new production capacity and in rendering those already existing more efficient. In order to guarantee the maintenance of adequate production standards and reliability, Iren implements advanced management and maintenance policies (i.e. predictive and preventive maintenance).

The weak energy scenario and the recovery prospects in the medium/long term lead the Group to focus on innovation, increasing efficiency and flexibility of the plant and developing projects targeted at the energy efficiency of the system (flexibility of combined-cycle plants, management of waste-to-energy plants to seize opportunities of district heating development, installation of heat storage systems, the design of mini hydro plants).

In the analysis of the scenarios, the Group also considered the impact produced by the climate change trends: variations in the distribution of temperatures - that impact the consumer dynamics of heat and district heating, gas and electricity - and extremes of weather phenomena, such as droughts and floods. These determine, in particular, effects on the hydrology of the hydroelectric plants and water distribution systems, with the associated economic implications, and also constitute factors of attention given the consequences that these may have on the Group's assets and the impact on the planning of the availability and maintenance scheduled for thermoelectric power plants. For these reasons, the risks associated with climate change and natural phenomena occupy a significant position in the map of the Group's risks.

The financial implications that the Group constantly monitors are also those arising from the costs associated to the ETS (Emission Trading System) and from its regulatory evolution.

### CREATION OF ADDED VALUE

The Iren Group produces value, contributing to the economic growth of the social and environmental context in which it operates. Iren carries out its activities using factors of production effectively, with the objective of generating added value compared to the external resources used.

The Group carries out activities that produce important indirect effects in the areas of reference in particular in consideration of the investments undertaken and of employment.

The activities of the Group, other than economic effects, also have important environmental repercussions, through local development, development of the basic infrastructures (electricity, gas and water system networks, water treatment plants and sewage networks) and essential services (waste collection and disposal. Moreover, all of the business areas of the Group present significant opportunities for the development of innovative technologies and processes and, consequently, for territorial growth, also in terms of know-how.

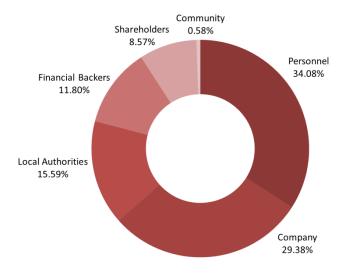
Iren contributes to the employment of the inhabitants of the area in which it operates in and generates value added through actions aimed at increasing professional skills and at consolidating the improvements reached in the level of education. The Group has no specific local recruitment policy but, due to the specific features of the Italian labour market, nearly all new recruits reside in the province where their place of work is located.

The Iren Group produces value, contributing to the economic growth of the social and environmental context in which it operates in

The indicator that highlights the ability of the Group to produce value within the area and, at the same time, satisfy the economic interests of its main stakeholders is represented by Added Value. This parameter measures both the economic performance of management and the ability of the Group to generate the conditions necessary to distribute wealth to the stakeholders of reference.

In 2015, the Iren Group generated a total gross Added Value of Euro 1,074 million, up by 9.6% compared with 2014.

# DISTRIBUTION OF TOTAL GROSS ADDED VALUE TO STAKEHOLDERS IN 2015



In 2015, the Added Value generated by the Iren Group was allocated as follows:

- 34.08% to Personnel (over Euro 366 million). This is the portion made up of salaries and wages, expenses and other personnel costs;
- 29.38% to the Company (approximately Euro 316 million).
   This portion is the share of wealth kept within the Group, inclusive of depreciation and undistributed profits;
- 15.59% to Local Authorities (over Euro 167 million). This is the portion distributed in the form of direct and indirect taxes, net of the grants received for the year;
- 11.80% to Financial Backers (almost Euro 127 million). This
  portion includes all the financial charges due by the Iren
  Group to its creditors;
- 8.57% to Shareholders (over Euro 92 million). This is the portion allocated to shareholders in the form of dividends;
- 0.58% to the Community (over Euro 6 million). This is the portion that the Group allocated to local communities through the participation in the development of social, cultural and sporting events.



Determination of Added Value (thousands of Euro)	2015
Revenues from goods and services	2,829,573
Change in work in progress, semi-finished products, finished products and goods	14,806
Other income	156,764
Production revenue	3,001,143
Raw materials, consumables, supplies and goods	-1,030,194
Cost for services	-904,880
Other expenses	-66,858
Internal work capitalised	22,891
Provisions for risks	-63,334
Intermediate production costs	-2,042,375
Gross added value from core business	958,768
Non-core and non-recurring items	115,468
Net profit from discontinued operations	-
Total gross added value	1,074,236

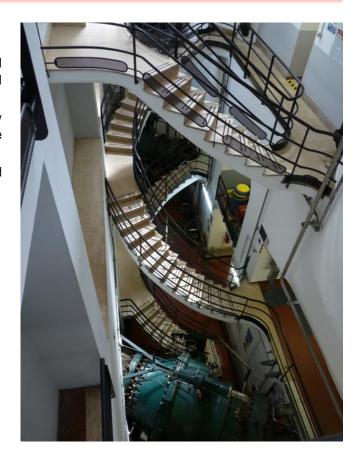
# TAXES AND DUTIES

Regarding the portion of added value distributed to Local Authorities, a significant item is represented by the taxes and duties paid by the Iren Group.

The income taxes for FY 2015 amount to 106 million, down by 17.6% compared to 2014, mainly due to the inapplicability of the Robin Tax starting from FY 2015. The nominal tax rate is 43%.

In 2015 the Group received almost Euro 3.2 million in benefits and grants from local authorities.

Taxes and duties paid (millions of Euro)	2015	2014
Government and Region	105.66	128.19
Total direct taxes and duties	105.66	128.19
ATO concession fees	1.93	5.11
Other concession fees	28.62	25.95
Connection, taxes and licences (connection fees and surtaxes)	15.62	13.79
Taxes and duties	25.06	24.22
Total indirect taxes and duties	71.23	69.07
TOTAL	176.89	197.26



# Environment



#### **IMPORTANT TOPICS**

Emissions: the Iren Group works to guarantee a steady reduction of its atmospheric emissions by developing productions using "clean sources" and by applying the best technologies available and the most controlled processes in the productive cycles. The Group is particularly focused on controlling CO<sub>2</sub>, through emission reduction and the increase of avoided emissions by using renewable sources and energy from waste.

Consumption and water discharges: the rational use of water resources and water protection are issues of great importance for the Iren Group both in its production process and in its management of the integrated water services for millions of residents. The company's constant attention to the amount of water resources withdrawn from the environment and the quality of waste returned to the same environment, are key factors for sustainable environmental management.

**Transport and logistical efficiency:** promotion of sustainable mobility is of particular interest for the environmental services sector where transport efficiency can represent an important element of differentiation for the Group and its stakeholders.

Energy efficiency, renewable sources and district heating: are the cornerstones of the Iren Group's energy policy, which constantly works to improve projects and initiatives in order to conserve natural resources, in particular energy resources. 80% of the Group's energy production derives from renewable sources. Moreover, thanks to the use of technologies and the implementation of innovative processes, Iren guarantees high levels of energy efficiency in the management of its activities and for the territories in which it operates.

Management, separated waste collection, and reuse of waste: responsible management allows using waste as a resource and in energy production, reducing the need for disposal, the consumption of natural resources and the production of emissions. The Iren Group manages its own waste and that of local communities following the principles of prevention, sustainability and safety in an approach aimed at ensuring effectiveness and at maintaining low costs. Dialogue and a constant flow of information on this topic with Institutions and residents is fundamental for the Group.

**Biodiversity:** the theme of protecting biodiversity and habitats is important for the Iren Group and in this regard it has activated processes of collaboration with Organisations, Institutions and Associations. The Group also operates in order to guarantee that the activities performed in protected areas are compatible and sustainable for the environment in which they are carried out and for the maintenance of its natural balance.



# PRODUCTION PROCESSES AND PRINCIPAL ENVIRONMENTAL IMPACT



The following Iren Group activities have a direct or indirect impact on the environment:

- production of electricity and heat (thermoelectric power plants with traditional and cogeneration machinery, integration and back-up thermal plants, hydroelectric and photovoltaic plants);
- distribution of electricity;
- distribution of natural gas;
- management of the integrated water service;
- waste collection, management and disposal services, and related activities;
- environmental practices of contractors, subcontractors and other suppliers of the Group.

Resources are used in the various operating areas in which the Group is active for the management of operating activities and outputs and impacts are generated as illustrated in the following table.

Use of resources	Operating environment	Output/environmental impact
<ul> <li>Consumption of energy and resources</li> <li>Withdrawal of water</li> <li>Use of raw materials</li> <li>Use and presence of chemical substances, lubricants, odorants</li> </ul>	Energy services	<ul> <li>Atmospheric emissions</li> <li>Production of waste</li> <li>Discharge into water bodies</li> <li>Acoustic emissions</li> <li>Impacts on biodiversity</li> <li>Electromagnetic fields</li> <li>Visual impact (plants and buildings)</li> </ul>
<ul> <li>Ground water</li> <li>Surface water</li> <li>Consumption of energy and resources</li> <li>Use of chemical substances (water treatment)</li> </ul>	Water services	<ul> <li>Atmospheric emissions</li> <li>Production of waste</li> <li>Discharge into water bodies</li> <li>Impacts on biodiversity</li> <li>Odorous emissions</li> </ul>
<ul> <li>Consumption of energy and resources</li> <li>Withdrawal of water</li> <li>Use of chemical substances, lubricants, odorants</li> </ul>	Environmental Services (Waste)	<ul> <li>Atmospheric emissions</li> <li>Production of waste</li> <li>Discharge into water bodies</li> <li>Acoustic emissions</li> <li>Visual impact (plants and buildings)</li> <li>Odorous emissions</li> </ul>

# DIRECT AND INDIRECT ENERGY CONSUMPTION

**Direct energy consumption** of the Group concerns the use of fuels, used for the production of electricity and heat at the plants (cogenerating, heating systems, boilers, waste-to-energy plants and landfills), as well as the non-renewable primary energy flows not directly associated with the production of energy (i.e. heating,

fuel for transport, etc.), used in carrying out its activities. **Indirect energy consumption** (electricity purchased and consumed by the Group) refers to the sites and production plants of the Group. The electricity used by the energy production plants is partially self-produced and the relevant figures are included in the direct fuel consumptions. If the electricity used exceeds the amount self-produced, electricity is purchased from third parties and accounted for under the indirect energy consumption of the Group, which, in 2015, amounted to 47,130 TOE.

Direct energy consumption by energy source	unit of measure	2015	2014	2013
Natural gas	m³/000	1,367,173	1,108,152	1,397,807
Natural gas	TOE	1,052,723	853,277	1,076,312
Diesel	t	738	722	355
Diesel	TOE	797	780	383
Landfill biogas	m <sup>3</sup> /000	31,798	14,044	14,218
Landfill biogas	TOE	10,811	4,775	4,834
Treatment plant biogas	m <sup>3</sup> /000	4,550	4,062	4,125
Treatment plant biogas	TOE	2,321	2,056	2,088
Fuel for motor vehicles	t	6,298	3,574	3,623
Fuel for motor vehicles	TOE	6,760	3,852	3,910

# WITHDRAWAL OF WATER

Water is supplied to the Group sites through the withdrawal of water from the following sources:

- aqueduct;
- groundwater pumped from wells;
- surface water bodies.

Water withdrawal by source (m³) (1)	2015	2014	2013
Drinking water	5,418,642	5,810,055	5,844,792
Untreated water	420,631,230	378,300,876	381,726,206
TOTAL	426,049,872	384,110,931	387,570,998

<sup>(1)</sup> The 2013 data does not include withdrawal of water from the hydroelectric area offices.

The Iren Group, aware of the value and scarcity of water resources, pays particular attention to the implementation of

initiatives to reduce water withdrawal for industrial and civil use as summarised in the table below.

Use	Water Source	Withdrawal reduction initiatives
Energy production	Surface water bodies: 3 withdrawals for the cooling of plants and 24 switches for hydroelectric production Groundwater: 16 withdrawals from wells for industrial use	In thermoelectric production (in particular at the Torino Nord plant) second-flush rainwater recovery systems are present as well as condensation from air refrigeration input to the gas turbine. The industrial water recovered is used for fire-fighting purposes, to supply the demineralised water production installation and for plant-related services.
Waste treatment and disposal	Groundwater: 5 withdrawals from wells Aqueduct: 1 withdrawal	At the waste-to-energy plant of Piacenza a project for improvement was launched that establishes a target of consumption below 11 m³ of drinking water and 1.30 m³ of industrial water per tonne waste disposed of. These indicators are constantly monitored.  Where possible groundwater not suitable for drinking is used and priority is given to the recovery and recycling of water used for other production purposes (i.e. in the IEC for the shut-down of slag water recovered from waste disposal is used).
Gas distribution	Aqueduct: 6 withdrawals	In order to reduce the water used for gas humidification for distribution, systems were introduced to lower the temperatures for the pre-heating of the gas in the distribution substations.
Integrated water service	Surface water bodies: 1,553 groups of sources, 95 superficial water captures and 7 reservoirs Groundwater: 478 well fields	Various optimisation systems are in place for water withdrawal necessary for the treatment and purification of drinking water, for the flushing of networks and wastewater treatment plants.



The main production sites of the Group have implemented a certified Environmental Management system (UNI EN ISO 14001) and are in possession of EMAS registrations; therefore, they have various procedures for the management of water resources, which represent an operating instrument to follow in dealing with issues related to water sources (withdrawals and discharges). The procedures are applicable:

- to the various types of production processes and/or supplies of services, which require the use of the natural resource "water", even for a secondary purpose;
- to water withdrawal of any type and purpose (surface, ground water, from aqueducts);
- to various treatments and various qualitative modifications of the natural resource "water" made for any reason;
- water discharges of any kind, purpose and origin (civil or industrial), to soil, subsoil, surface water bodies, sewers.

In energy production, each activity and operation regarding the use of water sources is regulated by the provisions of the law or authorisations with the responsibility lying in the hands of the Legal Representatives of the Company or Managers, provided with specific powers of attorney and proxies, who have the task to

manage and supervise the correct performance of the activities and, consequently, the correct application of the procedures. Moreover, the "environmental analysis" document, prepared for each site/plant, allows for the identification of the environmental aspects related to water resources and the obligations foreseen by the environmental legislations. The analysis also identifies the applicability of the legislation to Iren plants as well as the compliance with the regulations in force.

### WATER DISCHARGES

The activities carried out at the production sites of the Iren Group generate water discharges of industrial and domestic wastewater. Below are the most important water discharges, resulting from:

- industrial discharges (including water used for the cooling of plants);
- water treatment;
- waste management and treatment.

Water discharges (m³)	2015	2014	2013
Cogeneration plants and boilers	206,777,737	219,068,349	319,765,716
Thermoelectric power plants	208,761,474	157,412,472	58,104,502
Waste-to-energy plants	131,521	131,982	N/A
Chemical physical treatment plant	287,887	N/A	N/A
Waste compacting plant	2,727	2,933	3,309
Self-wash	32,483	31,351	28,300
Treatment plants	183,478,219	208,240,402	208,797,814

### **WASTE PRODUCTION**

Environmental protection is also achieved through responsible management of waste produced by the Group during its activities.

The figures refer to the quantities communicated on a yearly basis to the Chamber of Commerce through the MUD declaration.

As far as methods of disposal are concerned, most of the waste produced is treated and recovered (treatment, recycling, reuse, composting and recovery of material).

The Group's production of waste comes mainly from management activities and ordinary and extraordinary maintenance of:

- energy production plants and waste-to-energy plants;
- electricity, gas and water distribution networks;
- offices.

Waste management and disposal occurs in compliance with the laws in force.

Systems of separated waste collection, aiming to increase material recycling, have been installed in all Group sites. Policies limiting the use of paper have also been drawn up and implemented through dematerialisation projects and computerisation of processes. Moreover, the Group is continually reducing the use of newspapers and magazines in paper form, preferring digital versions.

Waste produced	20	15	201	4	20 <sup>-</sup>	13
	t	%	t	%	t	%
Hazardous waste	15,259	4.71	10,795	5	8,313	4.76
Non-hazardous waste	308,738	95.29	205,165	95	166,373	95.24
TOTAL	323,997	100	215,960	100	174,686	100

Waste disposed of	201	5	201	14	201	13
	t	%	t	%	t	%
Disposal/treatment	132,177	40.8	59,861	27.7	56,282	31.6
Incineration	10,921	3.4	1,186	0.6	242	0.1
Recovery/recycling	180,899	55.8	154,913	71.7	121,499	68.3
TOTAL	323,997	100	215,960	100	178,023	100

### ATMOSPHERIC EMISSIONS

The activities of the Iren Group generate atmospheric emissions both directly, from production, and indirectly, from the supply of electricity from third parties. Reporting will therefore consider:

- scope 1: all direct greenhouse gas emissions from sources owned by the Group; i.e. CO<sub>2</sub> emissions generated from fuels burned at the plants for the production of electricity and heat and for district heating and those originating from the company fleet/owned vehicles;
- **scope 2**: CO<sub>2</sub> emissions from indirect consumption of the Group; i.e. emissions generated from the purchase of electricity, consumed in Iren plants and offices, from third party suppliers;
- scope 3: all of the emissions that, although connected to the specific activity and business, are not directly controlled by the Group. Specifically, Iren reported the emissions generated from the transport of waste produced by the Group and sent for recovery/recycling.

Direct CO <sub>2</sub> emissions – Scope 1 (t)	2015	2014	2013
Direct emissions from production plants	2,955,703	2,374,068	2,839,926
- of which from cogeneration, heating and thermoelectric power plants	2,667,544	2,128,549	2,701,237
- of which from waste-to-energy plants and landfills	288,023	245,494	138,020
- of which other combustion reactions for process uses, or general services	136	25	669
Other direct emissions	5,315	6,607	7,113
Emissions from company vehicles	12,418	9,301	9,274
TOTAL	2,973,436	2,389,976	2,856,313

Total emissions of CO <sub>2</sub> (t)	2015	2014	2013
SCOPE 1 (1)	2,973,436	2,389,976	2,856,313
SCOPE 2 (2)	107,817	119,448	119,737
SCOPE 3 (3)	724	620	470
TOTAL	3,081,977	2,510,044	2,976,520

<sup>(1)</sup> Calculated by multiplying the fuel consumption for emission coefficients, for example: natural gas 1.96 tCO<sub>2</sub>/1000 SCM, diesel 3.16 tCO<sub>2</sub>/t (source: national standards for the inventory of CO<sub>2</sub> in the national inventory UNFCC).

Further atmospheric emissions from production plants concern sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>) and particulate:

Atmospheric emissions (t)	2015	2014	2013
SO <sub>x</sub> emissions	5.35	7.45	15.09
NO <sub>X</sub> emissions	613.37	619.34	846.05
Particulate emissions	9.88	11.72	28.59

# EMISSIONS OF SUBSTANCES THAT DEPLETE THE OZONE LAYER

Substances harmful to the ozone layer are normally present in the coolants used in air conditioning and refrigeration systems. The only harmful substance used by the Iren Group is R22 (chlorofluoromethane), which is present in plants either owned by the Group or managed for third parties (e.g. air-conditioner cooling circuits).

Emissions of this substance are monitored on the basis of the quantities of coolant added following periodic maintenance checks (topping up).

<sup>(2)</sup> Calculated by multiplying the electricity purchased from third parties (MWh) for the emission factor of electricity (MWh/TOE) amounting to 528.4 kg of CO<sub>2</sub>/MWh for 2015, elaborated n the basis of data from Terna and PNI.

<sup>(3)</sup> Calculated by multiplying the tons of waste sent for recovery/recycling for the emission factor (4 tCO<sub>2</sub>/t).



To prevent the release of substances harmful to the ozone layer from the Group's air-conditioning systems, all the measures laid down by Italian Presidential Decree no. 147/06 have been implemented. All equipment was therefore registered, indicating the gases they contain and the respective quantities. Equipment is subjected to periodic checks to ensure that there are no leakages, as well as to check its correct functioning and cleanliness. For equipment containing over 3 kg of the aforementioned gases, a special plant log is kept to monitor potential leaks.

Ozone depleting substances are periodically monitored by specialised technicians of the Group

# MANAGEMENT OF EQUIPMENT CONTAINING PCB

Polychlorobiphenyls (PCBs) are a group of persistent and bioaccumulable toxic substances used as insulators in transformers and other electrical devices.

In the Iren Group, the data regarding the number of devices and the quantity of insulating oil contained in them are recorded and catalogued. Such data is then periodically updated also when the devices are dismantled or decontaminated, in accordance with the company's current electrical equipment management procedures. The environmental performance improvement programme, in the field of electricity distribution, includes the objective of gradually reducing the number of electrical devices containing PCB/PCT contaminated oil. The goal is to keep the annual trend of steady disposal until the elimination of all of the devices contaminated by PCB/PCT.

The PCB quantities contained in electrical devices are constantly updated. We are gradually divesting all the equipment polluted by PCB/PCT substances.

Oil containing PCB disposed of (kg) (1)	2015	2014	2013
with PCB content of over 0.05%	0	0	0
with PCB content between 0.005% and 0.05%	8,605	3,487	2,185
TOTAL	8,605	3,487	2,185

 $^{(1)}$  It is noted that the total amount of oil containing PCB in the transformers and other equipment as at 31/12/2015 is equal to about 65,000 kg.

In 2015, 34 devices containing oil contaminated with PCBs at a concentration between 50 and 500 parts per million (ppm) were decommissioned and sent for disposal.

### SIGNIFICANT SPILLS

There were no significant accidental spills in 2015. However, reports were made to the control Authorities subsequent to the malfunction of the treatment plants, for an amount of 493,799 m³ of water, which did not guarantee the normal degree of reduction for incoming pollutants. These malfunctions were also affected by the flooding that occurred in the Piacenza territory.

# NOISE AND MEASURES TAKEN TO REDUCE THE ACOUSTIC IMPACT

The most significant acoustic impacts are generated by: thermoelectric power plants, hydroelectric plants and HV/MV transformer stations; natural gas receiving stations, drinking water purification plants, wastewater treatment plants and drinking water and wastewater pumping stations, waste collection systems, street sweeping and collection centres.

The Iren Group employs skilled technicians to carry out activities of monitoring, assessment and mitigation of noise emissions for the entire life cycle of their installations and infrastructures. Acoustic pollution is, in fact, a very sensitive issue and subject to attention by citizens. Also for this reason, the Group devotes its efforts and resources to the noise reduction of its activities related to the functioning of its plants and infrastructures through the development of acoustic mitigation works (i.e. soundproof panels and silencers).

At each individual production site, specific Acoustic Impact assessments were carried out on the local population to check that the limits laid down by current legislation are respected. In cases where the specified limits were exceeded, acoustic decontamination measures were taken on the most significant sources to bring the noise emitted below the legal limit.

Periodic phonometric tests are also carried out at the perimeters of the sites or in proximity of the sensitive receptors; moreover, in presence of reports or complaints from citizens, we implement appropriate measurements to assess the need for specific mitigation measures.

In 2015, following campaigns to measure the impact of the noise produced on the surrounding environment for the **gas distribution** plants, no critical areas were identified.

Measurements performed inside of various natural gas reception substations identified a significant noise level for the operators and led to the purchase, where necessary, of silencers to be installed on various pressure reducers. Concerning the **distribution of electricity** there were no critical situations of exceeding the allowable noise limits.

The subject of reducing the acoustic impact is normally not particularly relevant for the **integrated water cycle**. Despite the above, during the unscheduled maintenance interventions for machinery and equipment (compressors, grills, etc.), these are replaced with others having a lower acoustic impact or a greater degree of soundproofing.

Lastly, regarding **environmental services**, phonometric tests are periodically carried out on waste collection, street sweeping and collection centres. In 2015 the assessment involved:

- the mechanical street sweeping and waste collection in Piacenza and Reggio Emilia;
- street waste and glass collection services in Parma;
- the collection centre of via Mazzacurati in Reggio Emilia.

The measured average data did not reveal any problems for the collection centre, while it was found that the acoustic impact of the sweeping activities fall slightly short of the limits for compliance with the regulation in the acoustic areas I, II and III during the day and exceeds them more obviously during the night. It should be also noted that, annually, a plan is prepared for the improvement of the acoustic impact relevant to environmental services in the territory of Turin, which is submitted to and discussed with the City of Turin.

## **ELECTROMAGNETIC FIELDS**

The electromagnetic field measurements carried out by the Group in recent years have concerned:

- primary electricity power plants and stations;
- overhead and underground HV power lines;

- MV/MV and MV/LV electricity substations installed in schools, hospitals, parks, or with specific load characteristics;
- MV/LV electricity substations with a higher capacity;
- office buildings of Group Companies.

In order to limit the emissions specific methods have been introduced regarding the correct installation of electric equipment at MV/LV substations.

From 2014, the Iren Group performed a study for the design, construction and installation of MV/LV substations with electromagnetic emissions (buffer zone) equal to zero. Therefore, the new substations are designed and built pursuant to the above mentioned criteria. Considering that Iren does not handle full load substations but normally ones with a load reduced to half, the substations installed using this method guarantee a level of electromagnetic emissions well below the quality limit set by DPCM of 8 July 2003.

Moreover, sample measurements are taken at over 50% of the newly-constructed or renovated substations on a monthly basis in order to assess the correct installation of the electric machinery and the relevant containment of field values.

In 2015, on 16 new substations installed or renovated 13 inspections were performed that identified two critical situations that were resolved.

In the context of the risk assessment, the Group has determined the levels of the electromagnetic fields to which workers are occupationally exposed; this evaluation indicates that the limits set by law were never exceeded.





# REDUCTION OF EMISSIONS AND ENVIRONMENTAL IMPACTS

# INVESTMENTS FOR THE ENVIRONMENT

Investing to reduce the impacts and protect the environment is a commitment that the Iren Group undertakes with responsibility and with the use of human and economic resources. Expenses were sustained and investments made in 2015 for environmental protection by all of the business units of the Group for an amount of almost 230 million Euro.

For **energy production** the main investments have regarded the improvement of plant performance (replacement of the burners of the BIT plant, catalytic reduction system of CO emissions for the Torino Nord plant) and for energy efficiency (installation of 23,000 lights and led lamps on the public street lighting network of Turin and complete overhaul of the thermal plants of 46 school buildings).

In the **environmental services** field, investments and expenses for the year were consistent and aimed to optimise and render more effective the separated waste collection systems to pursue the waste recovery objectives defined in the territorial area plans.

In the **integrated water cycle** the investments made regarded the renovation of the water and sewage network, the water park metres, smart metering activities ("intelligent" water metres), the efficiency of the treatment plants and the attainment of hydroelectric green certificates.

In the **distribution of electricity** investments were made for the renovations, with the consequent reduction of the impacts, of the substations and LV/MV networks.

Activities relevant to **gas distribution** produced investments for cathodic protection, renovation and network improvement projects (smart city and EMMA).

The business unit **Market** purchased 153,147 green certificates.

### REDUCTION OF EMISSIONS

The Group carefully monitors atmospheric emissions (measurements on chimneys, indirect calculations, number of leaks, etc.) implementing specific measures to reduce them and verify the results achieved on an annual basis.

The production of electricity from renewable sources creates significant positive effects on the reduction of emissions;

moreover, the Group's thermoelectric plants are mainly cogeneration (production of electricity and thermal energy that feeds the district heating networks in different cities) and that makes it possible to contain specific emissions and greenhouse gases.

The increase of renewable sources and cogeneration over the last year has made it possible to reduce atmospheric emissions by over 2 million tonnes of CO<sub>2</sub>

In order to reduce pollution, only natural gas is used to supply the energy production plants and both low emission combustion systems and pollutant reduction systems downstream of combustion are installed (catalysts for the reduction of CO and  $NO_X$ ).

Cogeneration plants, larger thermal plants and waste-to-energy plants are equipped with systems that continuously monitor the atmospheric emissions that make it possible to detect in real time the main pollutants and the improvement of the efficiency of the combustion process. The waste-to-energy plants of the Group are also required, pursuant to the relevant Integrated Environmental Authorisations, to comply with stricter emission limits than those contained in national legislation.

It is mandatory for electricity and/or heat production plants with a capacity exceeding 50 MW, pursuant to the environmental legislation IPPC and relevant Integrated Environmental Authorisations, to continually improve the environmental services, with updating to the best technology available in order to continually reduce the pollution for the different environmental compartments, including atmospheric emissions.

Regarding ozone depleting substances, we are progressively replacing these at our corporate sites with substances having a lesser impact.

The total combustion of the biogas produced in landfills produces the maximum reduction of methane and other greenhouse gas emissions, although its conversion into  $CO_2$  has a potential greenhouse effect 21 times lower than natural gas (Source: UNI ISO 14064).

The table below illustrates the reductions of  $CO_2$  achieved from the production of energy from the machinery of the Group. In 2015 more than 2.1 million tonnes of  $CO_2$  were avoided, an increase of over 17% compared to 2014. This increase is due, in particular, to the production of electricity by the cogeneration fleet, which has grown significantly, going from 3.9 million MWh in 2014 to 4.7 million MWh in 2015.

Reduction in CO <sub>2</sub> emissions obtained <sup>(1)</sup> (t)	2015	2014	2013
District heating from cogeneration plants and heating systems	1,042,883	863,895	1,256,944
Traditional thermoelectric power plants	245,649	126,080	44,922
Hydroelectric power plants	765,224	772,468	701,431
Waste-to-energy plants (2)	47,727	38,075	23,844
Landfills (2)	13,566	5,095	4,740
Treatment plants	5,337	4,767	4,871
Photovoltaic plants	10,359	10,485	7,179
TOTAL	2,130,745	1,820,865	2,043,931

<sup>(1)</sup> The calculation of CO<sub>2</sub> avoided considers as a parameter of reference the emissions of the domestic electric system equal to 528.365 kgCO<sub>2</sub>/MWh (data elaborated by Terna and PNA) and the performance of the national electric system 1,872 kcal/kWh (datum Terna).

In the case of the IEC, that also produces thermal energy, the emissions of CO<sub>2</sub> avoided are calculated by converting thermal energy into electricity (for IEC=1/7.88) and applying the above-mentioned formula.

Reduction of emissions of NO <sub>X</sub> and SO <sub>X</sub> obtained <sup>(1)</sup> (t)	2015	2014	2013
Nitrogen oxides (NO <sub>X</sub> )	2,103	1,457	2,303
Sulphur oxides (SO <sub>X</sub> )	1,940	1,459	2,592

<sup>(1)</sup> The atmospheric emissions of NO<sub>X</sub> and SO<sub>X</sub> avoided with district heating were calculated considering the emissions that with equal thermal energy and electricity would have been produced by building boilers and the electricity production of the domestic electric system from which the emissions produced by the cogeneration plants and the supplementary and reserve boilers of the Iren Group were subtracted.

# INITIATIVES AIMED AT MITIGATING THE ENVIRONMENTAL IMPACTS

The initiatives that the Group has undertaken to reduce the environmental impacts of the main activities carried out are many and regard the various businesses in which the Group operates.

#### **ENVIRONMENTAL SERVICES**

At the waste-to-energy plant of Piacenza, in relation to the improvement of energy performance, an automatic washing system of the air-cooled condenser was installed, which made an improvement of approximately 10% (580 kWh/t compared to the previous 528 kWh/t) of the energy performance possible. Moreover, through an energy audit, various interventions were identified that will be implemented in 2016, consistent with business needs. As for the waste collection in the city of Turin, the impacts considered most significant and initiatives for their reduction are:

- water discharges relevant to treatment of durable goods (TDG) plants: the operating procedure has been updated on the description of the products present for the correct regulation of the water, integration of the maintenance interventions and the relevant registrations;
- biogas emissions of the landfills: cycles of internal control are carried out for the regulation of the valves at the top of the biogas collector wells with measurement of the captation efficiency of the plant;
- reduction of fire risks for the material recovery plant and environmental accidents: new leachate collector wells in the landfill were created, the outside line of fire hydrants was

- extended and the sprinkler networks were improved for the material recovery plant;
- a greater quantity of waste stored in the Treatment of Durable Goods plant (the plant suffers from the emergency management of incoming and outgoing waste from other plants): the storage areas of Volpiano were expanded.

Other initiatives carried out in the sector of environmental services are listed below:

**Electricity consumption Collection Centres:** actions were carried out in order to raise the awareness of the custodial personnel concerning the limitation of the hours of operation of the air conditioning and heating plants to only the hours in which the centres are open. In the centres in which the electric utility bill is assigned to Iren, consumptions were recorded on the rise by 6% compared to the previous year. This increase is to be considered coherent bearing in mind the climatic conditions of the summer of 2015 that led to an increase in the use of air conditioning systems.

	2015	2014	2013
Electricity (kW)	425,525	401,628	408,220

Water consumption of car wash plants in Piacenza and Reggio Emilia: consumption remains substantially constant, improvements are currently not deemed necessary taking into account the low level of significance of the impact.

	2015	2014	2013
Water (m³)	32,483	31,351	28,300

<sup>&</sup>lt;sup>(2)</sup> The calculation of CO<sub>2</sub> avoided by WTE and Landfills is performed bearing in mind the quota of production of the electricity referable to renewable sources, for 51% (source GSE) of total production, multiplied by the conversion factor 528.365 kg of CO<sub>2</sub>/MWhe (national energy mix data).



Consumption of chemical products for washing and sanitising vehicles and containers: the significant reduction of the quantities of product for washing and sanitizing, is due to the increase of the door-to-door services, where the management of the cleaning of the containers is in most cases the responsibility of the users.

	2015	2014	2013
Chemical products (I)	8,147	32,100	42,643

Replacing motor blowers for sanitation activities: The 2015-2016 program includes, in light of the advances in technology (power, durability and weight of the batteries), the gradual replacement of motor blowers used in refuse collection activities with similar electrically powered equipment.

	2015	2014	2013
Blowers substituted (%)	35.30	12.90	1.20

**Replacement of roll on/off compactors:** the programme in progress provides for the partial replacement, where possible to provide the connector, of roll on/off compactors powered by diesel with similar electrical equipment.

	2015	2014	2013
Compactors substituted (%)	49.00	41.90	18.60

### INTEGRATED WATER SERVICE

Concerning the integrated water service, the initiatives aimed at reducing the environmental impact mainly concern:

- reducing water supplies through the reduction of aqueduct leaks;
- improving the quality of the water that leaves the treatment plants;
- reduction and containment of odorous emissions at treatment plants.

Thanks to the public water dispensers over 2,000 tonnes of CO<sub>2</sub> were avoided, equal to over 1,500 Toe

The installation of public water dispensers for the free distribution of drinking water (chilled or sparkling) to the residents, made it possible to considerably reduce the use of plastic bottles (over 22.6 million 1.5 litre bottles) and, therefore, the production of waste. Considering the volumes of water distributed, one can estimate a savings of water and  $CO_2$  for the production of the bottles. The  $CO_2$  not emitted in 2015 is equal to 2,062.9 tonnes due to the non-consumption of 1,505.8 Toe.

#### **GAS DISTRIBUTION**

The objective of reducing the humidification rate of the gas in the area of Genoa has as its expected effects the reduction of gas consumption for the production of heat, the reduction of water consumption for humidification and, consequently, the reduction of the quantity of water to dispose collected in the recovery wells.

### MOBILITY MANAGEMENT

The Group is committed to reducing the air emissions from the use of company vehicles through the systematic renewal of the vehicle fleet and the promotion of initiatives for employees, aimed at encouraging the use of public transport and alternative transport methods to arrive at the workplace.

In 2015 there was a considerable increase of the vehicle fleet, arising from the consolidation of Amiat, which results in an increase of emissions due to company vehicles compared to previous years.

Emissions are calculated by multiplying the distances travelled by the vehicles, broken down by type of fuel, vehicle and for Euro category, by the emission coefficients of the pollutant substances.

The distances are measured, with the management software used (ECOS and Archibus), from the final data of the companies supplying the fuel with relevant controls on evident anomalies.

The missing data is calculated using the averages provided by the vehicle manufacturer and by similarity with corresponding vehicles.

By 2016, with the unification of the databases and the use of black boxes the estimation factors will be reduced.

Company vehicles: atmospheric emissions (t) (1) (2)	2015	2014	2013
Atmospheric emissions of NO <sub>x</sub>	61.16	40.42	41.50
Atmospheric emissions of VOC	2.32	1.79	1.90
Atmospheric emissions of CO	40.61	22.82	22.51
Atmospheric emissions of PM10	3.55	2.70	2.75
Atmospheric emissions of CO <sub>2</sub> from company vehicles	12,417.76	9,301.07	9,274.36

<sup>(1)</sup> The emissions are calculated multiplying the km travelled by the vehicles (broken down into different Euro categories, type of fuel and vehicle and divided by territory) by the emission coefficients of NO<sub>X</sub>, VOC, CO, PM10, CO<sub>2</sub> (source ARPA).

<sup>(2)</sup> CO<sub>2</sub> emissions connected to vehicle traffic for the transport of waste by suppliers is not yet available for 2015. In the new special tender specifications the design improvements are also assessed in terms of the use of E4 or E5 vehicles or with a low environmental impact.

Company vehicles as at 31/12/2015 (n.) <sup>(t)</sup>	2015	2014	2013
Number of hired or owned company vehicles	3,907	2,674	2,592
of which electric company vehicles	164	43	42
of which LPG company vehicles	35	35	35
of which methane company vehicles	267	207	302

<sup>(1)</sup> The considerable increase of the company vehicles is due to the expansion of the corporate perimeter with the acquisition of Amiat.

The management activities of vehicles are performed pursuant to the corporate guidelines that define levels of safety, maximum distances travelled and levels of replacement of company vehicles.

Indicators for the replacement of the vehicles are the distances travelled, the age of the vehicle and level of wear and tear, together with the changing operating needs or the management synergies between the different territories of operation. Very few vehicles remain with a Euro classification lower than level 2, of the "heavy" type, equipped with specific and special equipment that have a minimal street use given that they are only used for platform areas.

Particular attention is paid to the monitoring and sharing of the fleet of company vehicles: the introduction of message boards for the management of the car park and the creation of car pools are actions aimed at the reduction of the fleet and a more rational and efficient use. The management of the reservations through Intranet for the vehicles, for travel in regional territories, makes it possible, in fact, to also program car pools, hence reducing distances travelled without organisational inconveniences. Subject to recent assessment are the remote monitoring devices of data on the use of the vehicle, with the objective of improving maintenance levels, also predictive, of efficiency, and safety of the employees that use the vehicles.

Also in the process of evaluation is the introduction of the technology for the reservation and pick-up of vehicles for the new formulas of car sharing, also in this case to improve the availability of vehicles and their use by employees.

The Group promotes various initiatives to reduce these movements and encourage the use of less polluting means of transport:

 it is possible for employees working in Genoa to purchase passes for public transport at discounted prices and also on instalments, thanks to a special partnership with the local

- public transport Company. In Turin it is possible to purchase public transport passes on instalments charged on salary;
- the "EcoViaggio" project successfully continues in the Emilia area, which offers employees the possibility of organizing transfers and business trips by "car-pooling", thus encouraging a common ground between the necessity for similar travel by destination and time. Thanks to EcoViaggio it was possible to save approximately 19 t of CO<sub>2</sub> equal to 9 Toe, contributing to the reduction of environmental pollution;
- telecommuting makes the diversification of work hours possible with the reduction of vehicles circulating during rush hour and a significant energy savings thanks to the reduction of movements. Savings obtained in 2015 were equal to 33 t of CO<sub>2</sub>, equivalent to approximately 16 Toe.

For its positive impacts on the reduction of commuting, the use of self-learning continues to become more important (on-line courses that can be accessed from personal computers) as well as the development of teleconferences.

Thanks to the Ecoviaggio project and employees' telecommuting during 2015 the emission of over 52 t of CO<sub>2</sub>, was avoided, which is equal to over 25 TOE saved

The Group also promotes the distribution of electric mobility within the Emilia area, thanks to the agreement with Enel Distribuzione, the Region of Emilia Romagna and the municipality of Parma for the development of a network infrastructure for recharging electric vehicles. In 2015, another five recharging columns were installed for electric vehicles, placed in strategic areas for the urban mobility of the city of Parma. It represents the first part of a larger project that provides for a total of 12 columns in the urban area.



# INTEGRATED WATER SERVICE

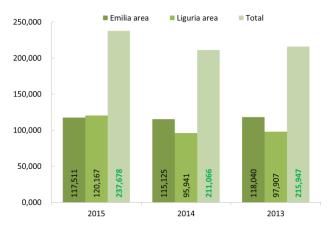
# WATER PRODUCTION AND DISTRIBUTION

The water supply plan is elaborated on the basis of effectiveness and efficiency criteria and in compliance with the law and resulting concessions. The criteria for the use of the resources take account of: authorised quantities, the size of the reserves in the main reservoirs, the quality of the surface water available, the hydrological features of the basins, the data relating to the previous year and data relating to the current year. The supply plan can be modified, reviewed or updated on a monthly basis following an analysis of the data collected during the measurement and monitoring activities in the phases of the process.

Modern automation and remote control devices optimise the operation of the water capture, treatment and pumping systems.

The total volume of water supplied to the network in 2015 amounted to 237.7 million m³ (49.5% Emilia area, 50.5% Liguria area), on the rise compared to 2014 due to the change of perimeter arising from the consolidation of Acquedotto di Savona.

### WATER FED INTO THE NETWORK (THOUSANDS OF M<sup>3</sup>)



The increase of the water fed into the network in 2015 is substantial due to the inclusion within the perimeter of the area of Savona, not previously managed. The percentage of leaks (for 54.9 million m³) stands at 21%, compared to the national average of 37.4% (last figure available Istat Report 2014).

# SEWERAGE AND THE QUALITY OF WATER TREATMENT

Urban wastewater from public sewers is treated at 1,085 treatment plants of various types and capacities. The following operations are carried out at the main plants:

 the water is pre-treated to remove large particles, sand and oil;

- primary treatment for the removal of sedimentation solids;
- traditional secondary and tertiary treatments with nitrification and denitrification to remove the nitrogen and with both chemical and biological dephosphatation systems.

The Group also manages some phytotreatment plants, which exploit the plants' ability to absorb contaminants. These systems are used both to treat sewage (subsurface flow system), and to purify water treated in traditional treatment plants (surface-flow systems).

Wastewater treated in 2015 dropped by 20% compared to 2014, by virtue of the decline in flow rates of all major treatment plants due to the particularly dry year. Moreover, the figure for the Darsena plant is related only to the period of full operation.

Wastewater treated (thousands of m³)	2015	2014	2013
Emilia Area	66,280	75,833	73,685
Liguria Area (1)	52,567	72,931	71,528
TOTAL	118,847	148,764	145,213

(1) For the Liguria area, the Group does not handle sewage and treatment in the Sayona area.

# WATER BODIES RECEIVING TREATED WASTEWATER

All the water bodies receiving wastewater treated by the Group in Emilia lie in the basin of the Po River. The land lies in an area declared as sensitive so the plants, depending on their size, are subject to the application of the strictest nitrogen and phosphorus limits

The wastewater treated by the treatment plants situated in the city of Genoa is drained into the sea off the coast of the Ligurian Sea (Gulf of Genoa).

The conditions of water bodies such as rivers, torrents and seas have improved due to the presence of the wastewater treatment plants.

The water body receiving the wastewater treated by the coastal treatment plants is the Ligurian Sea (Gulf of Tigullio), with exception for the treatment plant of Monleone di Cicagna which flows into the Lavagna river.

# **ENVIRONMENTAL SERVICES**

### WASTE COLLECTION

In 2015, the Group managed the urban waste collection service in 123 Municipalities in the provinces of Parma, Piacenza, Reggio Emilia and Turin, serving a catchment of approximately 2 million inhabitants in which approximately 1.2 tonnes of urban waste were collected.

## SEPARATED WASTE COLLECTION

Of the 1,171,182 tonnes of urban waste managed, more than 664,000 tonnes were collected separately.

Alongside the traditional roadside collection systems, the implementation of the door-to-door collection service continued across the entire area and allowed for the achievement of this important result.

Of particular importance, in the separated waste collection system provided for residents, is the presence of 144 Waste Collection Points where it is possible to freely deposit waste in large containers. The range of services is completed by the domestic collection of bulky waste and the services for companies operating in this field.

The separately collected waste is sent for recovery through specialised platforms on the basis of agreements made between the Iren Group and the members of Conai (National Packaging Consortium), or private operators if the materials are different from those managed by the members of the consortium.

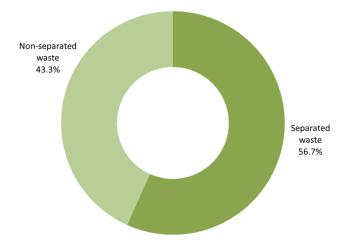
In 2015, over 664,000 t of waste were collected separately

The results achieved in 2015 highlight a continuous increase in separated waste collection. In particular:

- in the province of Parma the results on the Municipalities served went from 70.8% in 2014 to 73.5% in 2015;
- in the **province of Piacenza** the figure rose from 57.3% in 2014 to 58.0% in 2015;
- in the **province of Reggio Emilia** the figure went from 64.6% in 2014 to 65.8% in 2015;
- Turin stands at 42.8% of separated waste collection in 2015<sup>(1)</sup> compared to 42.2% in 2014.







The average on the overall area served is 56.7%, against a national figure for separated waste collection of 45.2%. In line with the directives of the sector and the local programs (Environment Plans, Provincial Waste Management Plan, etc.), the Group is committed to achieving a further increase of the percentage of separated waste collection, introducing new home collection services and aiming at an even greater promotion of environmental awareness among citizens. In terms of quality goals, plans are in place to further develop the collection of paper and cardboard, from the organic fraction and the vegetable fraction.

### WASTE FROM SEPARATED WASTE COLLECTION BY METHOD (T)



### WASTE TREATMENT AND DISPOSAL

The Group, in order to guarantee an effective management of the entire cycle, is also committed to the treatment and disposal of waste and its exploitation for the generation of heat and electricity and the production of biogas, through:

- 11 treatment, selection and storage plants
- 2 waste-to-energy plants
- 5 chemical, physical and biological treatment plants
- 1 treatment plant for soil from street sweeping
- 1 WEEE recovery treatment plant
- 1 compost plant

In addition to these plants there are 3 landfills in the postoperating phase.



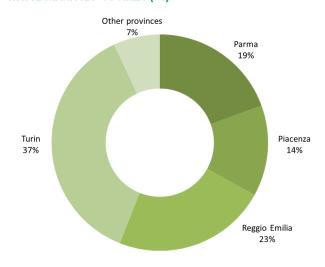
In 2015 a total of 1,753,559 tonnes of waste were managed.

### **WASTE MANAGED (T)**

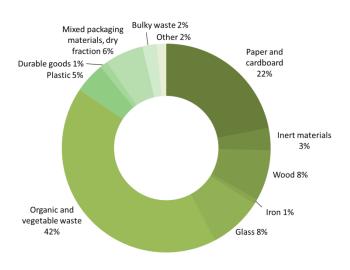


The non-separated waste is disposed of in several different ways in order to make the most of the waste as a resource, on the basis of a hierarchical structure which first sees energy recovered through the waste-to-energy process and the capturing of biogas, and the waste then dumped at the landfill site. Aware of the impact of dumping waste in landfills, in some cases the Group carries out a preventive mechanical sorting process with the goal of intercepting a wet fraction rich in organic material that can be stabilised biologically.

### WASTE MANAGED BY AREA (%)



### **WASTE SENT FOR RECOVERY BY TYPE (t)**



The separated waste can be sent directly for recovery or via the Group's storage plants or points where it is sorted and/ or treated before reaching its final destination.



# ENERGY PRODUCTION AND SERVICES

The topic of efficiency is at the heart of the energy strategies of the Iren Group. This focus is aimed both at external services and internal consumption. With reference to the latter, the technologies introduced in the Group from the design stage are aimed at maximizing energy savings by using Pareto logic. In addition to this focus on design, in order to take account of technological and regulatory innovations, periodic analyses are performed in order to identify areas of improvement for energy efficiency in domestic consumption. For this purpose, in 2015, an update of the areas of improvement was carried out, following which subsequent actions were introduced to improve energy efficiency.

Regarding the services of the company's core business, energy efficiency is intrinsic in the competitiveness of the service (district heating, electricity, energy efficiency solutions), without which the service would lose the sustainability characteristics at the heart of Iren's strategies.

The energy performances were subject to continuous monitoring both through internal reporting and through communications to the various control and regulation Authorities.

### RENEWABLE AND SIMILAR SOURCES

The Group's energy production plants are powered almost totally by renewable (water, photovoltaic, etc.) or similar (cogeneration) sources. In both cases, Iren Group's virtuous production processes result in significant energy savings in terms of TOE and, consequently,  $CO_2$  emissions avoided, which came to 2,130,745 t.

The production of energy from hydroelectric and photovoltaic plants reduces the use of other production methods with a higher environmental impact

With regard to its **hydroelectric production**, in 2015, the Group developed the following projects:

redevelopment of the Chiomonte and Susa plants - the project originated from the opportunity to use the water available downstream of the hydroelectric power plant of Venaus (origin Pont Ventoux - Susa) and involves a series of unscheduled maintenance measures and the replacement of five existing hydroelectric units with a total output of 27 MW. with three new hydroelectric units with a lower total output of 15 MW (8.7 MW at Chiomonte and 4.8 MW plus 1.5 MW at Susa). Overall production is expected to be about 30.4 GWh/year. In June 2015, the Services Conference was held that resulted in the request for integrations (increase of releases, management of sediments area

compensation) submitted in October 2015 to the Metropolitan City of Turin. The preliminary proceedings will continue in 2016:

- new La Loggia plant the initiative involved the development of an artificial course for the fish population equipped with a 0.6 MW mini hydroelectric power unit alongside the diversion weir of the existing hydroelectric plant located on the Po River in the municipality of La Loggia (Turin). Expected production is approximately 3.5 GWh/year and will fully benefit from the incentives provided for renewable sources. The plant went into service in 2014 and in 2015 the works for completion of the external areas were completed. On 7 October 2015, the plant was inaugurated and at the same time the Edulren teaching classroom was launched, where school children can carry out the educational activities proposed by Iren and aimed at understanding, other than the utility of the plant for the hydroelectric and thermoelectric production, also the delicate balance between energy production and respect for the river ecosystem;
- new Noasca plant the project involves the development of a new 1.2 MW hydroelectric plant in the municipality of Noasca (Turin), through the reactivation of an old plant built in the twenties and decommissioned in the sixties. The authorisation process is being completed in order to receive the final approval including the hydroelectric concession, expected in 2016. Expected production is approximately 3 GWh/year and will fully benefit from the incentives provided for renewable sources;
- new Dres plant the project consists of the construction of a new 1.2 MW hydroelectric plant in the municipality of Ceresole Reale (TO). Expected production is approximately 4 GWh/year and will fully benefit from the incentives provided for renewable sources. In 2015, the authorisation process continued with the preliminary visit and the first services conference during which the first requests for further information and documentary integrations have been expressed;
- reactivation of the Giffoni plant in the second half of 2015, the design and preparation of the administrative documentation was started for the request to reactivate the central Vassi-Giffoni plant located in the Municipality of the same name in the province of Salerno, aimed at the preliminary process of concession and the unique authorisation (Italian Legislative Decree. 387/03);
- service lane along the shunt channel La Loggia-Moncalieriin November 2015 work has started for the building of a
  service landing along the left bank of the shunt channel La
  Loggia-Moncalieri. The work, of the development of
  approximately 3 kilometres, will ensure easier maintainability
  and channel supervision in the future.

The constant commitment of the Iren Group, furthermore, is to increase the efficiency of its plants, particularly the cogeneration plant connected to the continuously expanding **district heating** networks.



In 2015 the following development projects were defined:

- saturation of the Turin network the project provides for the connection of a further 8 million cubic metres, achieving a total connected volume of 64 million cubic metres in the area of Turin that will lead to the saturation of the capacity of the integrated district heating system, without the development of new production sites. The development period is scheduled between 2013 and 2018. In 2015, approximately 0.8 million cubic metres of volume was connected and approximately 3 km of network was laid:
- extension Torino Nord phase 1 the project involves the connection, in two phases, of about 5 million cubic meters of volumes. Phase 1, for which the connections are expected over 2016-2017, makes it possible to bring to saturation the residual capacity of the integrated district heating system, through the optimisation of the storage systems. In 2015, projects were developed and authorisation procedures were set up. The extension of the main transport network was also started for approximately 630 m and the secondary distribution network for approximately 830 m;
- connection of the TRM waste-to-energy plant to the district heating networks of Beinasco and Grugliasco - the project involves the connection of the TRM waste-to-energy plant to the district heating networks of the municipalities of Grugliasco and Beinasco and the development of the plant interface at the TRM. The development period is scheduled between the years 2016-2017. In 2014 the authorisation procedure was carried out for the development of the plant by ATOR (Turin Environment Association for waste management) that was concluded with the approval of the project in 2015. A first part of the connecting backbone was also built in the vicinity of the Municipality of Grugliasco;
- district heating in the municipality of Asti the project involves the development, in collaboration with local operators, of a district heating network and an energy production plant at the service of the connected customers (80-100 MWt). It is planned to connect a volume of approximately 2 million cubic metres, beyond the hospital complex. The development period is scheduled between 2015 and 2019. In 2015, the first steps were taken for the issue of the authorisations for the building of the plant, whose process is in the final stage;
- increase district heating volume in Parma the project involves the connection of new customers in the city of Parma following the connection of the city network with the IEC waste-to-energy plant, as provided in the Integrated Environmental Authorisation. The connection with the plant will allow the increase of production efficiency thanks to the use of cogenerated heat in substitution of heat from boilers. In 2015 approximately 220,000 cubic metres of volume were connected;
- connection of the waste-to-energy plant in Piacenza and development of the district heating network - this project involves the connection of the city district heating network to the Piacenza waste-to-energy plant. The increase of the

- connected volumes will be approximately 1 million cubic metres, which will bring further environmental benefits due to the substitution of the domestic heat boilers and the gas savings currently used primarily to power the network. The expansion of the network is connected to the renewal of the authorisation for operation of the waste-to-energy plant. The development period is scheduled between 2016 and 2017. In 2015, the investigatory process continued for the issue of the authorisations and works started for the transformation of the waste-to-energy plant into a cogeneration plant;
- district heating Genoa the project plans to connect approximately 1 million cubic metres of buildings located in areas already served by the network in newly expanding neighbourhood areas. It is planned to carry out the work in the period 2016-2017. In 2015, the project was prepared and the business campaign started.

The timely management of the photovoltaic plants, moreover, continued with the latter representing an important asset considering the commitment of the Group to produce clean energy.

In 2015, IEC energy production significantly increased reaching almost 83,000 MWh of electricity and over 103,000 MWh of thermal energy. It was, in fact, the first year of full operations of the plant that made the waste-to-energy of approximately 127,314 t of waste possible (approximately 10,000 t more than 2014).



# **EFFICIENCY AND ENERGY SAVING**

On the **energy efficiency** front, thanks to the high-efficiency cogeneration plant of Torino Nord, 119,000 energy efficiency bonds (EEB) are expected for the year 2015 (equivalent to 119,000 TOE of energy savings). The Iren Group, furthermore, has implemented projects over the years recognised and promoted by the Authority for Electricity and Gas, which also resulted in the attainment of various EEB certificates in 2015. The exact number of certificates is still being calculated but a reliable estimate puts the number at around 23 (equivalent to an energy saving of 23 TOE).

The requirement to produce (or purchase on the market) and supply energy efficient bonds to the ESO is the sole responsibility of AEM Torino Distribuzione (distributor) and is valid for 2015 (with maturity 31 May 2016) 74,388 EEB.

The hydroelectric green certificates, generated in 2015 and requested from the GSE (Electricity Services Provider) relate to the Bardonetto (31,326), Pont Ventoux (288,391), Villa (26,793), Telessio-Eugio-Rosone (59,612), Telessio (5,474), Ceresole-Rosone (175,200) Brugneto (2,422), Canate (18,811) plants and the hydraulic rod of Tusciano (in total 98,872) for a total of 710.804 GC's.

In 2015 the Iren Group obtained energy efficiency bonds equivalent to over 119,000 TOE in energy savings

In 2015, 32 energy audits were performed on various plants (hydroelectric and thermoelectric plants, waste-to-energy plants and treatment plants) and networks (electricity and district heating) and for various Group sites, in order to fulfil the requirement provided by Italian Legislative Decree

102/2014. The above are being processed in order to present an energy efficiency plan aimed in particular at the reduction of energy consumption of the auxiliary systems. Expected savings are in progress of being calculated.

The Iren Group also activated energy efficiency services for the partner Municipalities of the province of Reggio Emilia, offered free of charge through four different types: the granting on a free loan basis of an electric vehicle for the services of municipal mobility, the realisation of an energy audit on a building owned by the Municipality, the preparation of a municipal lighting plan, the improvement of the efficiency of the internal lighting of a municipal building. Also offered at favourable prices was a service to various apartment buildings that included thermal engineering planning. necessary for the installation of equipment for the thermal energy metering used within individual units.

Energy production and saving (1)	unit of measure	2015	2014	2013
Production from hydroelectric plants				
Electricity produced	GWh	1,479	1,494	1,423
Energy saved	TOE/000	277	274	265
Energy saved	GJ	11,591,871	11,484,584	11,073,083
Production from cogeneration plants and boilers				
Electricity produced	GWh	4,746	3,960	6,069
Thermal energy produced	GWh	2,769	2,559	3,079
Energy saved	TOE/000	286	222	346
Energy saved	GJ	11,980,290	9,288,258	14,463,504
Production from traditional thermoelectric plants				
Electricity produced	GWh	1,665	1,005	363
Energy saved	TOE/000	47	18	8
Energy saved	GJ	1,954,736	762,257	353,489
Production from waste-to-energy plants				
Electricity produced	GWh	164	144	92
Thermal energy produced	GWh	103	72	1
Energy saved	TOE/000	33	27	16
Energy saved	GJ	1,382,050	1,114,358	688,120
Production from landfills				
Electricity produced	GWh	50	19	18
Energy saved	TOE/000	9	4	3
Energy saved	GJ	396,037	151,270	143,382
Biogas plant production				
Electricity produced	GWh	0.88	1.15	0.91
Energy saved	TOE/000	2.10	1.88	1.91
Energy saved	GJ	87,990	78,560	79,775
Production from photovoltaic plants				
Electricity produced	GWh	19.78	20.28	14.15
Energy saved	TOE/000	3.70	3.72	2.63
Energy saved  (1) The figures for 2014 and 2013 differ from those reported in the Sustainability R	GJ	154,966	155,879	110,095

<sup>(1)</sup> The figures for 2014 and 2013 differ from those reported in the Sustainability Report 2014, given that they were subject to restatement. The calculation of the energy

• for the production of thermal electric power, the consumption that the national electricity grid would have recorded to produce the same quantities of electricity;

saved is performed comparing:

• for cogeneration and district heating, the gross production and actual fuel consumption of the Group with the consumption that the national electricity grid and the 'national average" heat production system would have recorded to produce the same quantities of electricity and heat;

<sup>•</sup> for hydroelectric and photovoltaic energy production, the calculation was based on the assumption that there was zero fuel consumption and compared the consumption recorded by the national electricity grid for the production of the same quantities of electricity.

In some cases the energy saved may result as increased compared to previous years, despite a decrease in production, due to an increase of specific consumptions used for calculations.



The Iren Group, through projects launched in 2015, achieved an energy saving of approximately 4,700 TOE/year

On the **energy savings** front, the Group developed:

projects that have an impact outside of the Group; have allowed an annual energy saving of 1,606 TOE and are listed in the table below:

Project	Description	Savings achieved/expected
LED Lighting	<ul> <li>Torino LED Project for the replacement of approximately 54,000 lights with new LED lamps. The project is fully financed by Iren in the scope of ESCO. At the end of 2015 almost 23,000 light bulbs were replaced, making a reduction of emissions possible for 1,492 t of CO<sub>2</sub>, for 417 TOE.</li> <li>Building of 3 high-efficiency Led lighting plants at private third party buildings that in 2015 made it possible to save 21 TOE.</li> </ul>	438 TOE
Energy efficiency of buildings	<ul> <li>Proposal to the municipality of Turin for the modernisation and improvement in terms of efficiency of the plants managed by the Group (thermal and electric plants for municipal buildings, public street lighting and traffic light systems) (expected saving of 3,500 TOE/year).</li> <li>Grant from the Piedmont Region to the City of Turin of a loan for an energy sustainability program relevant to the renovation of thermal plants in buildings owned by the Municipality. Iren carried out the redevelopment and improvement of energy efficiency works in 46 municipal schools and in 2016 the program will be completed with interventions at another 118 buildings. The savings obtained from the project will be quantified at the end of the 2015/2016 thermal season.</li> </ul>	3,500 TOE/year at the end of the interventions
Technological redevelopment of buildings	<ul> <li>Cogeneration group for the combined production of electricity, thermal and refrigerated energy at the headquarters of the Civil Defence of Turin. The plant, which has an installed capacity of 115 kWhe and 190 kWht, makes it possible to contain the request for heating to heat the building and reduce the electricity requirement for air-conditioning. The savings generated in 55 TOE/year of primary energy.</li> <li>Substitution of 40 obsolete boilers in the buildings of the Municipality of Turin that result in an annual savings of 208,000 m³/year of natural gas, equal to 172 TOE/year.</li> <li>Interventions to increase the energy efficiency of private buildings: 31 energy efficient boilers were installed, which made it possible to save 123 TOE, and thermostatic valves and heat allocator systems in 48 buildings (approx. 1,250 housing units), for a savings of 115 TOE.</li> </ul>	465 TOE
Photovoltaic plants	<ul> <li>96 photovoltaic plants (total output 5MW) installed on the roofs of the buildings owned or available to the Municipalities of the province of Reggio Emilia. The project was implemented in 2015, producing a yearly quantity of 3,760 MWh.</li> </ul>	703 TOE

• projects that generate impacts within the Group and that allowed an annual energy saving of 3,071 TOE, are

described in the table below.

Project	Description	Savings obtained
Optimisation of the energy performance of the aqueducts	<ul> <li>Measures aimed at reducing the energy consumption of the water supply network of the City of Genoa: new connections, greater use of existing connections and construction of new sections of network to enable a greater exploitation of the resources at a high altitude and optimisation of the existing pumping systems. The results obtained showed an important reduction of electricity consumption per cubic metre of water distributed (for a total of 2,283 TOE) and enable the achievement of approximately 7,000 EEB (energy efficiency bonds) for 5 years (2012-2016).</li> <li>Energy optimisation of the aqueducts of Quattro Castella, Reggio Emilia and Parma: installation of a new inverter station, new wells with self-activated valves and electric pumps, installation of new energy efficient machines. 35 TOE were saved in Quattro Castella, 144 TOE in the aqueduct of Reggio Emilia and 160 TOE in Parma.</li> <li>Energy optimisation of the water capture plants servicing the City of Parma: energy efficiency analysis of each water capture plant in Parma and the municipalities of Montechiarugolo, Langhirano and Noceto and installation of more efficient electric pumps with a savings of 48 TOE.</li> </ul>	2,670 TOE
Measures to improve efficiency for water treatment plant in Parma	<ul> <li>Measures to improve the efficiency of the denitrification plant of the water station in Marore (PR): replacement of the pressurisation unit and 91 membranes, significantly reducing the energy consumption index.</li> </ul>	26 TOE
Connection of new district heating sites	<ul> <li>Connection of district heating at the site of Via Germagnano (TO) with a plant powered by renewable sources. The project was completed in March 2015, and enabled a savings of natural gas for heat and hot water.</li> </ul>	374.24 TOE
Measures to improve efficiency of the waste transfer station	<ul> <li>Installation of the inverter at the waste transfer station of the via Germagnano (TO) site. The project, which ended in 2015, allows a full saving of electricity from 2016.</li> </ul>	54.40 TOE



# PROTECTING NATURAL HERITAGE

The continuing deterioration of natural habitats and threats to certain species, are among the main issues considered by the European Union in its environmental policies to ensure biodiversity within the territory of member states. For this purpose an ecological network was created within the European Community of special protected areas, called "Natura 2000", which also involves various territories and areas of Italian regions, including environments transformed by man over time that are important areas for the survival of numerous species of plants and animals. Protection of the Natura 2000 sites is mandatory pursuant to the applicable laws in force that provide that the territorial planning and scheduling must take into account the naturalistic-environmental importance of the Sites of Community Importance (SCI) and the Special Protection Areas (SPA). It also stipulates that any plan or project, internal or external to the sites, which could in any way affect the conservation of habitats or species, should be subjected to an appropriate impact assessment. Therefore, prior to the implementation stage of new projects/measures, development of new networks and significant maintenance activities (revamping and repowering), it is necessary to submit the project/measure for prior assessment in order to protect the areas in which the aforementioned are to be carried out. It is also necessary to verify that machinery, plants and equipment subject to the measures possess the environmental requirements necessary and to assess the potential impacts resulting from the use of hazardous substances and the adoption of appropriate management measures.

The Ministry for the Environment, Land and Sea publishes, with its decrees, the lists of Italian SCI, for each biogeographical region, which is regularly updated once a year by the European Commission on the basis of the submitted databases by Member

States. For Italy the SIC become official upon the transmission to the European Commission of the national databases.

# ACTIVITIES IN PROTECTED AREAS OR OTHER AREAS OF ENVIRONMENTAL INTEREST

Regarding the **production of electricity** no natural habitats were offset during the reporting period.

For all managed reservoirs Management Plans (pursuant to Italian Ministerial Decree 152) were prepared with the relative impact assessments for those that involve Sites of Community Importance.

The measures to improve efficiency of hydroelectric plants, carried out by the Group over the decade 2003-2012, had positive repercussions on the system in general and, in particular, reduced the need to produce energy from fossil sources and consequently also reduces atmospheric emissions. For all of the redevelopment work carried out, the plant IAFR certification (certifying that it is powered by renewable sources) was obtained, which identifies the environmental benefits expected in terms of reductions in  $SO_2$ ,  $CO_2$ ,  $NO_x$ , particulate and natural gas emissions.

The development of the **electricity distribution network** in the city of Turin, can directly involve or be in the immediate vicinity of various Sites of Community Importance and Special Protected Areas only for that which concerns the area of Turin and, in particular: Collina di Superga (802 hectare SCI), Meisino (245 hectare SPA) and Stupinigi (1,727 hectare SCI).

The following table lists the main SCI and SPA in the vicinity of which are plants and/or networks managed by the Iren Group.

# **Gran Paradiso National Park**

Several hydroelectric plants in Valle Orco are present inside or in the immediate vicinity of the Gran Paradiso National Park, the first Italian protected area (established in 1922), between Piedmont and Val d'Aosta, in the heart of Graian Alps. The Park has an area of 33,973 hectares and involves the municipalities of Ceresole Reale, Locana, Noasca, Ribordone, Ronco Canavese and Valprato Soana. The site protects areas with a high level of naturalness, flora and fauna that represent the high-alpine environment. The Iren Group works with the Commission for the Gran Paradiso National Park, granting free use of a number of buildings and paying an annual contribution to funding environmental improvement and tourism initiatives. Moreover, since 2002 the Iren Group has been engaged in a programme to dismantle existing infrastructure in the Park and to redevelop decontaminated areas.

### Valle Orco

In the Valle Orco there are 5 hydroelectric plants (Villa, Telessio, Rosone, Bardonetto, Pont) with their relative high voltage electricity substations, and 6 dams (Agnel, Serrù, Ceresole, Valsoera, Telessio, Eugio), with relative hydraulic works. As part of the redevelopment programme for the hydroelectric plants of Valle Orco, major energy and environmental redevelopment works have been carried out on the power plants of Villa, Telessio, Rosone and Bardonetto with generally positive impacts on the system.

### Oasi Xerotermica di Oulx - Auberge

Oasi Xerotermica di Oulx - Auberge (area of 963 hectares) occupies part of the left mountain slope of the Dora di Bardonecchia and is located approximately between the valley floor and an altitude of 2,200 meters. An Iren Group hydroelectric plant is located in the area (weir and intake works of Pont Ventoux, Val Clarea reservoir, Venaus site and the Susa Gorge Dam).

### Po River Park

In the highly environmentally sensitive areas that characterise the Po River, the maintenance of the Moncalieri and San Mauro hydroelectric plants is planned in agreement with the Management Authority for the Protected Areas of the Po and the Collina Torinese. In the same way, the reservoirs are emptied during periods that do not interfere with the reproductive activities of the fauna present. In 2014, at the La Loggia plant, on the Turin stretch of the Po River Park, just south of the town of Moncalieri, an upstream ladder was built that benefits from the favourable contribution of the hydroelectric power plant drain, which represents an extremely important protection in order to guarantee the hydraulic continuity of the entire Po River. The natural landscape is characterised by the river and riparian environment, with the presence of some lake basins and re-naturalized areas of the oxbow around which are areas of herbaceous vegetation.

The hydroelectric plant at San Mauro is totally within the Meisino SCI and SPA (area of 245 hectares), which is characterized by the considerable presence of waterfowl, both wintering and nesting; one of the few European colonies in an urban environment. Upstream of the reservoir is a roost of several hundreds of cormorants, while the Isolone Bertolla hosts a large colony of grey herons. The site is a regional protected area (special nature reserve of Meisino and Isolone Bertolla).

### Valle del Ticino Nature Park

The Turbigo plant is located 260 metres from the SPA "Ticino Forests" in Lombardy. The area is characterised by fragments of crucial habitat areas for the reproduction of nesting bird species, a rest stop for migrating birds and for the survival of wintering populations. Moreover, at the same distance is the site "Turbigaccio, Boschi di Castelletto e Lanca di Bernate", a habitat of great naturalistic interest with high environmental level forest areas, a wealth of flora and fauna, presence of species of importance to the EC, rare species or those contained on the Red Lists, as well as species typical to wetlands. The plant is located 1,300 metres from the "Ticino Valley", in Piedmont, characterised by the presence of riparian forests, wide shores and various well-preserved current and stagnant aquatic environments.

### Picentini Regional Park

The Tusciano plant, the Santa Maria Avigliano plant and the Picentino plant are located within the Picentini Regional Park that, covered with forests, from the high valleys of Calore and Tusciano, is divided into several massifs. The Picentini Regional Park is located in the heart of the Campania Apennines, in an area that includes the provinces of Avellino and Salerno, a geographical area of great strategic importance from an environmental, geological, geographical viewpoint, not only for the mentioned provinces, but for the entire Campania Region and neighbouring regions.

### National Park of Cilento and Vallo di Diano

The Bussento, Tanagro and Grotta dell'Angelo plants are within the National Park of Cilento and Vallo di Diano, a protected natural area of over 180,000 hectares that extends from the Tyrrhenian coast to the foot of the Campania-Lucania Apennines. The flora of the park is made up of about 1,800 different species of native plants and the animal life is rich and varied, throughout the different types of environments in the area.

### Antola Regional Park

Antola Park is one of the most enchanting inland areas of Genoa and the Ligurian Apennines. The hilly-mountainous area borders with Piedmont to the north, with Emilia Romagna to the east and comprises two valleys (the Upper Scrivia Valley and the Upper Trebbia Valley). In the Park area there are two different geomorphological aspects, the rocky formation known as the Savignone conglomerate and the marly limestone of the Antola. Mount Antola (1,597 m), the highest peak in the Park, is located on the ridge linking the Upper Scrivia Valley to the Upper Trebbia Valley. In addition to the copious amounts of narcissus, flowers that have become rare in Liguria, various species of orchids, gentians, lilies, ranunculus, columbines and many rare, protected alpine species can be admired. The fauna includes numerous endemic species as well as more common animals (fallow deer, roe deer, foxes) and amphibians (including the rare spectacled salamander and Ambrosi's cave salamander), reptiles, birds and 780 marvellous species of butterfly that have earned Antola Park a reputation as a "Butterfly Park".

Lake Brugneto, located in the Park, represents an important resting place for numerous migratory birds; also present are crayfish and the Jersey tiger moth. A species of crayfish originating from the Northwest of the United States, better known as the signal crayfish (Pacifastacus leniusculus), has also been found.

### Aveto Regional Park

Aveto Park, situated in the inland area of Tigullio, protects one of the most beautiful and significant areas in the Ligurian Apennines. The protected area of just over 3,000 hectares, comprises three valleys, Val d'Aveto, Val Graveglia and Valle Sturla, each of which presents peculiar types of landscapes: high mountains, pasture land and beechwood in Aveto valley; pasture land, chestnut and hazelnut trees, orchards and olive groves in Sturla valley and a wide variety of rocks and minerals, witnessed by the presence of quarries and mines, in Graveglia valley. The landscape of the Park is the fruit of major tectonic movements and glacier-related events that took place in these areas a long time ago. The highest peaks in the Park (Aiona and Penna) are made up of rocks belonging to the group of the ophiolites, commonly known as "green rocks", a series of rocks of various kinds and origins. Aveto Park has an enormous floral wealth and "monumental trees," classified as such pursuant to R.L. 4/1999, such as, i.e., the gigantic beech trees in the Lame Forest. Also pronounced is the presence of fauna, among which the wolf, which has recently returned in a slow but relentless process of recolonisation of the Apennines by the species.



National Park in the Apennines of Tuscany and Emilia Inside the Apennine National Park of Tuscany and Emilia, in the province of Reggio Emilia, there is a surface water capture point on the Riarbero torrent. A modular upstream ladder for safeguarding the Freshwater trout (Salmo trutta), one of the most precious species in the area, has been built at the intake works serving the withdrawal point.

Val Noci

The Val Noci reservoir offers a convenient resting place for migratory birds; other species reported include several protected amphibians such as newts, the spectacled salamander, cave salamander and invertebrates such as the crayfish and the vulda doderoi beetle. For the reservoir the relative Management Plans pursuant to MD 152 have been prepared with the relative impact assessments for those concerned by Sites of Community Importance.

Capanne di Marcarolo Regional Park The artificial reservoirs of the Gorzente torrent are situated in the Regional Park of Capanne di Marcarolo, on the border between Piedmont and Liguria and their fauna comprises many reptiles and amphibians including, in the old mines, the Italian cave newt, which lives in total darkness.

Portofino Marine Natural Park In the Province of Genoa, the wastewater drains situated in sensitive areas (lakes or watercourses that must be protected against the risk of nitrate or phosphate-induced eutrophication) are not considered to be at risk. In particular improvements are planned for the treatment process, and therefore the safeguarding of the marine ecosystem, are planned through the commissioning of the new treatment plant in Santa Margherita Ligure and the development of new treatment plants serving the coastal municipalities. The aqueduct network in Portofino provides support, acting as a woodland fire prevention network.



For the activities of construction, maintenance and operation of the **gas networks**, we comply with the regulatory framework relevant to environmental impact. The control activity of vegetation and pests is carried out in proportion to the need for continuity of service, for example mowing the weeds in the RE.MI substations.

**Environmental service** activities do not have particular impacts on biodiversity. Plants with greater capacity (waste-to-energy plants and landfills) are equipped with a green system, in harmony

with the vegetation climax in which they are situated, with visual and environmental mitigation functions.

Regarding the **integrated water service**, the wastewater is drained mainly into the sea on the coast, which receives over 99% of the volume produced, through offshore pipes. In the sea duct projects, interference with protected marine areas is assessed and minimised: even outside of protected areas, attempts are made to minimise environmental impact on habitats considered to be of particular interest and value, such as Posidonia oceanic

seagrass. Screening and environmental impact assessments are carried out as required by applicable law, for treatment plants and withdrawal of water. In Liguria, improvements were made in the treatment process and, therefore, the preservation of the marine water ecosystem with the new treatment plant in Santa Margherita Ligure. Future improvements are expected thanks to the construction of new treatment plants serving the coastal municipalities (Rapallo and Entella).



There are almost 200 protected species listed in the national and international IUCN Red List, (2) that live in the areas where the Group operates. Species that live in the land/sea or river areas (National and Regional Parks, lakes and rivers) in the vicinity of where the company manages its business were taken into consideration. Among these, 15 are endangered, including 4 critically endangered, 29 vulnerable, 28 near-threatened, while the rest belong to the categories of lesser concern. In particular, species in critical danger of extinction are the bearded vulture, sea lamprey and two species of sturgeon, while among those vulnerable are the Italian wolves, ptarmigan, rock partridge and several species of freshwater fish, birds and amphibians.

<sup>(2)</sup> The extinction risk assessment is based on the categories and criteria of the IUCN Red List. There are 11 risk categories from Extinct (EX), applied to the species for which it is certain that the last individual has died, and Extinct in the Wild (EW), up to the category Least Concern (LC), adopted for those species that do not risk extinction in the short or medium term.

Among the categories of extinction and that of Least Concern are the categories of threat, identifying species that are at increasing risk of extinction in the short or medium term: VU, Vulnerable, EN, Endangered and CR, Critically Endangered. These species represent a priority with regards to conservation, since without specific interventions to neutralize threats against them and in some cases to increase their populations, their extinction is a real prospect.

The Italian red lists include assessments of all species of freshwater fish, amphibians, reptiles, breeding birds, mammals, cartilaginous fish, dragonflies, corals and saproxylic beetles, native or possibly native in Italy, as well as those naturalized in Italy in prehistoric times.

## COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS AND MECHANISMS FOR REPORTING VIOLATIONS

Iren adopts an Environmental Management System in compliance with UNI EN ISO 140001: all employees of the Iren Group are required, as part of their duties, to participate in the process of risk prevention, protection of the environment and of their own, and that of their colleagues and third parties, health and safety. Iren activities are managed in compliance with the regulations relevant to the prevention and protection from accidents and safety at work

For Iren, environmental protection represents a basic value in order to satisfy one of the primary needs of the individual citizen and the entire community. All of the processes are carried out in full compliance with applicable environmental legislations. Moreover, the Group contributes to the research and development of advanced technologies aimed at protecting the resources and at reducing the environmental impact of the activities and their related risks.

There are many instruments at the disposal of the stakeholders to report a breach: these methods range from written communications via mail, e-mail, fax, social media channels. All communications are considered and each stakeholder receives a response regarding what it has reported. Written reports received by traditional mail are logged and forwarded to the relevant departments, which provide to undertake the appropriate investigations.

For internal workers (employees, secondment, collaborators and contractor employees) an "environmental suggestions" book is available, in which each worker can record reports, ideas, improvements and/or suggestions to further improve the environmental management of the processes and/or his/her duties, implementing a comprehensive system of attention to environmental issues at every level. The book is available to everybody and is periodically viewed by Management. According to the internal procedure, any worker that discovers an anomaly must communicate the same to the Management or the Quality. Environment Safety Representative. In order to make such communications the employees or other interested parties can use the form "internal communication and reporting of noncompliance" or verbally communicate what has been discovered, where necessary a non-conformity report shall be opened. Should the event discovered configure an environmental emergency for the safety of the workers, immediate action shall be necessary. specifically pursuant to the provisions in the procedure "Emergencies and ability to respond".

The production and distribution of electricity services are certified by standards of quality and environmental management, and are, therefore, subject to internal and external audits with regard to the processes and the obligations relevant to



environmental legislation. Any environmental incidents can be reported to the Supervisory Body of AEM Torino Distribuzione.



With regards to environmental services an environmental contact centre is available to residents, public authorities, etc., where it is possible to report any breaches and/or critical situations pertinent to the environment. Moreover, "Environmental Inspectors", active in the provinces of Piacenza and Parma, patrol the areas of competence in order to identify illegal landfills and abandoned waste, including those hazardous to the environment (i.e. asbestos cement, spills, etc.). Reports are taken on at a local level in order to organise the verification activities and the necessary treatment for the resolution of the identified problems, pursuant to the proper procedures. In order to raise awareness among internal operators regarding the correct behaviour towards environmental impacts when performing collection and sweeping activities, in 2015 procedures were prepared for the management of environmental emergencies and technical operating instructions. Such instructions provide the guidelines for the processes to be carried out for the solution and/or limitation of any environmental emergencies that may arise during the performance of services. For 2016 emergency simulation drills will be carried out.

Towards suppliers, for new special tender specifications, references were included relevant to the operating methods aimed at limiting the environmental impacts of the entrusted activities. These specifications also provide for specific sanctions for failure to comply with such provisions: sanctions that range from the application of contractual penalties to contractual termination and the reporting to the pertinent supervisory authorities.



Regarding the **integrated water service** the entire cycle is subject to the constant monitoring of operating parameters, including by means of remote control systems for important plants, and provides for the execution of tens of thousands of analytical laboratory calculations. The water service is also subject to controls pursuant to the law by local regulatory authorities. The optimization of the corrective measures put in place to minimize possible negative effects of problems identified, is often carried out through the involvement of other agencies, including through specific operational protocols.



For **gas distribution service** the main element that impacts the environment is the leakage of methane gas into the atmosphere. The containment and resolution of the gas leaks represent the main objective behind the safety, quality and continuity of service. The main systems of monitoring distributed are remote controlls that monitor the main parameters of the distribution system and intrusion detection systems that discourage or warn of relevant malicious facts and risks. The planned research and ordinary and extraordinary maintenance of the networks is also carried out regularly.

In 2015 the Group received various fines and penalties related to the environment. The above refer to minutes of assessment and administrative disputes for alleged violations of discharges and sewage treatment (art. 29 quattordecies subsection 2 of Italian Legislative Decree 152/2006) and for breaches related to waste management.

Moreover, an out-of-court settlement was paid for the settlement of criminal proceedings for the alleged breach of art. 674 of the Italian Criminal Code and an administrative sanction as a result of compliance with an ARPA provision.

## Customers



#### **IMPORTANT TOPICS**

Marketing policies: this topic is important for Iren Group because the promotion of innovative offers and services increases customer satisfaction levels, reinforcing loyalty.

Service levels: the topic is important tor Iren Group not only because service level is one of the key elements to satisfy, and therefore, retain customers, and to successfully compete on the market, but, above all, because the ability to deliver high quality levels and innovative services to respond to new and emerging customer demands, represents a guarantee for long-term development.

**Service efficiency:** improving the efficiency of all services is an important issue to ensure proper use of resources, efficiency and energy saving, reduction of environmental impacts and the containment of operating costs of Iren Group.

**Human rights:** Iren Group guarantees equal and impartial treatment to all residents served, pursuant to the principles established in the service charter.

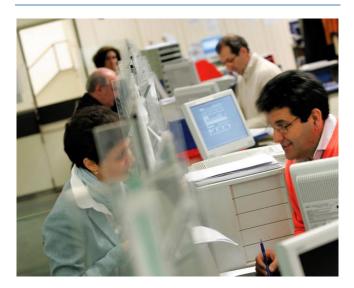
Access to services: for Iren Group, guaranteeing access to services means guaranteeing the continuity of providing the same and the impartiality of treatment for all customers so that they can use Iren's services overcoming any cultural, language, age, disability, health or other barriers.

Responsible management of business segments: guarantees the safety, continuity, health, social and environmental sustainability of the activities, that the Group places at the centre of its actions, aware of the responsibility that managing energy and environmental services involves for the present and future of customers, residents and local areas.

Information services for customers: completeness, quality and transparency of information and listening to their needs, are crucial in order to guarantee a correct relationship with customers and involve them in a continuous process of improvement and innovation of the services.



## RELATIONS WITH CUSTOMERS



## POLICIES AND PRACTICES INDIVIDUAL RIGHTS

The attention to and respect of individuals are central issues for the Iren Group, both for its growth and for the sustainable development of the community and local area. They are also issues that the current economic and social situation make topical news.

For these reasons, Iren condemns any type of discrimination, as confirmed by the Code of Ethics and by the values expressed in the service charter, and adopts tools and practices to promote accessibility and use of the services it provides, with particular attention to people with disabilities, vulnerable groups and foreign-speaking residents. At the same time, the Group has placed non-discrimination at the heart of its criteria for conduct towards workers.

The data protection Management System, currently being implemented, has been the subject of a radical process of adjustment to the new organisation of the Group. The System has been designed and organised for the complete and integrated implementation in all Group companies, in compliance with the provisions of the law and consistent with the new European Regulation that is expected to be definitively approved in the first half of 2016. A single data protection Representative has been identified and appointed within the Iren Group, who reports to the Internal Audit and Compliance Department, just as the new Internal Regulation has been prepared for Group employees, with the purpose of better informing the staff of its duties and obligations with reference to personal data, for which the Company is the only Data Controller.

#### **BUSINESS CONDUCT**

In carrying out its activities, the Iren Group fully complies with the guidelines of the Code of Business Conduct prepared by the Authority for Electricity, Gas and Water Service (AEEGSI).

Communications to acquired and potential customers comply with the principles of clarity and transparency provided by the Code of Ethics and Code of Business Conduct, with the objective of placing the customer in a position to be able to make an informed choice, providing the necessary information relevant to the economic offer and to the corporate strategy.

Also regarding electricity and gas sales agencies, the subsidiary Iren Mercato carries out a meticulous selection, including through a trial and control period, that in turn must comply with the Code of Business Conduct of AEEGSI, the Code of Ethics, Model 231 and the quality policies of the Group.

All agency collaborators receive adequate training on the regulations governing the sector and the codes of conduct to adopt. The control systems relevant to the activity of contract promotion are also stricter compared to the sector regulations. The controls, in fact, provide for check calls (confirmation letters or calls) in order to verify the effective willingness of the customer and receive feedback on the work of the agents, and courtesy calls, which are random phone calls to verify the work carried out by the individual agents.

With the same intention, in the execution of orders subscribed by means of door-to-door or telephone sales, a phone call has become mandatory for customers over 75 years of age and the exercise of the cooling off period by the customer is accepted beyond the 10 days provided by law (at least 30 days).

The organisation of the Iren Group also provides for a structure dedicated to the analysis of customer complaints, also relevant to external channels of sale, that can result in the charging of penalties and, in more serious cases, the dismissal of the agent, who is added to a black list, until the possible closure of the agency mandate.

In the event of withdrawals subsequent to a contract signature obtained through agents, Iren Mercato does not pay out any agency commission.

#### **HEALTH AND SAFETY OF CUSTOMERS**

The Iren Group has put together a series of operational procedures, in compliance with the law and on a voluntary basis, in order to minimise the impacts that their activities have on the health and safety of customers:

in the environment sector phonometric studies were carried out in the municipalities of Parma and Reggio Emilia for the assessment of the noise released into the environment. The figures recorded made it possible to change the scheduling of various particularly noisy services (for which a reduction of decibels released is not possible), varying the operating hours, in order to reduce the inconvenience to residents. Containers for waste collection are manufactured in compliance with the legal and regulatory requirements that guarantee safety during use by residents and operators. Health supervision campaigns are activated for most critical plants in terms of potential environmental impact (i.e.: the project of supervision on the direct and indirect health effects of the waste treatment plant IEC of Parma, performed through an agreement with Iren, Municipality of Parma, Province, LHA and coordinated by the latter). The waste-to-energy plant in Piacenza implements a certified system (OHSAS 18001/2007), which requires an accurate assessment of the impacts on health and safety during planning of the stocking, supply, use, maintenance and disposal activities.

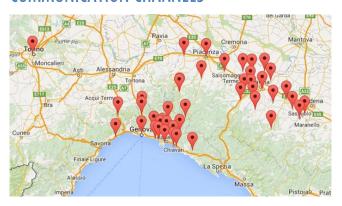
- in the **energy sector**, that manages the services of electric, thermal and district heating generation, a management model was implemented that brings together and rationalises the operating methods during the construction or renovation stage of plants, and that includes the assessment and verification of the project safety, on top of the analysis and measurement of risk. The environmental and safety aspects are kept under control during the entire development and implementation process of the project. In the event of activities for the unscheduled maintenance of plants, procedures are provided for regulating the monitoring and control activities of safety aspects.
- In the integrated water service health and safety are at the basis of all phases of the drinking water supply process. In order to ensure customer safety, analyses are carried out on supply sources, plants, distribution networks and supply points. Similar attention and analytical monitoring are in place for all waste water treatment and disposal stages of sewage sludge;
- in the gas distribution sector, the customer health and safety is a management issue of paramount importance. The main instruments to ensure safety are preventive actions (planned odorisation and search for leaks) and continuous monitoring (remote control), the collection of information/warnings communicated by the customer (24h service for breakdowns and interruptions) and the implementation of operating procedures in order to minimise risk.
- in the electricity distribution sector, activities are carried out for the measurement and containment of emissions from electromagnetic fields described in depth in the chapter "Environment" (page 57) that involve buildings of the Group Companies, plants and aerial and underground electricity cables. Random checks are also performed on a yearly basis on 48% of the electric substations, as well as technical inspections.

The corporate values reported in the Code of Ethics, the policies pursued and the codes of conduct adopted guarantee that Iren Group would not commit breaches in the scope of discriminatory practices against customers, of supplies and use of products and services, of marketing activities, promotion and sponsorships.

The only dispute relevant to competition practices became res giudicata in 2015 with a reduced monetary sanction for events occurring in 2002.

## COMMUNICATION AND RELATIONS WITH CUSTOMERS

#### **COMMUNICATION CHANNELS**



The Iren Group considers dialogue, transparency and cooperation with customers to be crucial values for its activities. For the same reasons, the Group is deeply rooted with a widespread presence within the area through various communication channels with customers:

- customer help desks. In order to promote easy accessibility, Iren offers a network of 33 customer help desks distributed across the area that in 2015 managed approximately 240,000 customers. Furthermore, a web desk is active with dedicated menus for each type of customers. In the Liguria area there is also a by appointment only desk, a service that makes it possible for customers to plan a meeting in order to settle a matter, with the certainty of a date and time, without waiting. For older customers or those with language difficulties, service personnel is present in order to assist them while the matters are being handled, and for use of automatic pay stations;
- remote help desk. Three help desks were created on a trial basis to allow the customer to be in touch with an operator by using a computer installed at customer meeting places in Reggio Emilia, Parma and Piacenza, which reduce waiting times. The challenge is to set up a welcoming, convenient and attractive workstation that requires no specific skills, as at a normal front office;
- call centre. Currently there are 3 call centres that offer help and support, by also managing cases over the phone. Over the year more than 1.3 million calls were received by commercial call centres, for problems relevant to electricity and gas services; they obtained a response with an averagewaiting time of 86 seconds.

The environmental services calls centres, that also incorporated the toll free number of Amiat, handled 558,322





calls, of which 307,823 received a response with an average waiting time of 66 seconds;

- courtesy call. In order to strengthen the direct link between
  the company and its customers, in occasions where the
  usual repricing activity is necessary, a written
  communication is sent to the customer. In addition to this a
  new phone activity was started in order to communicate to
  the customer, owner of expiring offers, the new energy price
  established, with the aim of effectively informing them of the
  change occurred;
- account. Iren Mercato currently has an internal account network, dedicated to the various customer segments.

Help desk activities	2015	2014	2013
Customers served (no.)	236,449	240,292	225,257
Mean waiting time (min.)	16.89	17.40	17.87

#### **DIGITAL CHANNELS**

- On-line Bill. The service, that provides for an email notifying the publication of the billing documents on the Iren Mercato portal, is active to date for over 70,000 customers;
- IrenCollabora.it platform. In the context of the Local Consultation Committees (in this regard see page 38), established as an innovative channel of dialogue, discussion and planning between Iren Group and the local community stakeholders, the www.irencollabora.it platform was activated, a true work instrument to gather ideas, proposals, comments and observations with the aim of improving the services offered by Iren;
- ClickIren. To encourage greater accessibility to on-line services by customers, new services were added to this App, available both on computers and mobile devices. ClickIren offers the possibility to view in one place all of the contractual relations in force with Group companies: electricity, gas, water and urban environmental services. By using ClickIren, customers can also directly manage the on-line bill service through a few simple steps, in total autonomy;



created for improving waste management by citizens in the provinces of Reggio Emilia. It can be downloaded for free on IOS and Android mobile phones and devices and provides useful information relevant to environmental services and on the closest Acquapubblica distributors. Among the direct messaging functions, a photographic signalling system is available that may be used to take instantaneous photographs of abandoned waste, damaged bins and other anomalous situations, sending the images, with text and geographical coordinates;

 web contract. During the year an on-line document was activated in order to forward requests via web for the subscription to specific offers of electricity and natural gas supply for household customers.

## INSTRUMENTS AND ACTIVITIES OF COMMUNICATION TO THE CUSTOMER

The Iren Group offers to its customers a variety of communication tools and develops a number of information activities.

In addition to traditional forms of communication attached to the bill, information leaflets, public billboard campaigns and press advertisements, environmental education projects (see page 132), various specific activities were put in place, among which, we would like to highlight:

- Social network. Iren has officially entered into the world of social networks: in spring 2015 with Facebook (7,000 "like"), Twitter and Youtube, while in the fall Instagram and LinkedIn were activated. For a company like Iren who chose innovation to track its growth, it was a critical step to expand the customer base for information and interaction purposes;
- Internet websites. A project for the restructuring of the Internet websites of the Group is currently in progressand it will be implemented in 2016. The improvement of usability by disadvantaged categories is also among the objectives. In particular, attention was paid to compliance with the provisions of the legislation in force (Law 4/2004 and Legislative Decree 179/2012) and the general directives of the Agenzia per l'Italia Digitale and the Web Content Accessibility Guidelines (WCAG). Moreover, websites will be in the Italian and English languages;
- "Iren Informa" newsmagazine. All citizens can receive the news magazine in digital format, allowing for a wider dissemination in real time of the news published.

#### **CUSTOMER SATISFACTION**

Communication with customers and local communities is crucial for Iren Group, which manages services of paramount importance for the quality of life.

Similarly, customer assessment of the quality of the services provided is crucial in order to identify communication and operational measures for continuous improvement.

Therefore, Iren Group regularly carries out customer satisfaction surveys with the aim of obtaining the basis for a clear and comprehensive diagnosis of the factors that cause satisfaction and dissatisfaction and that influence customer behaviour, as well as to produce indicators to monitor the effectiveness of actions taken to improve customer satisfaction.

**Overall survey**. Customer satisfaction surveys management is carried out by the Corporate Social Responsibility function, that deals with various business units for the definition of the survey areas and sharing the results achieved.

The surveys show the gap between perception and expectations of customers relevant to both the technical and relational aspects, and make it possible to perform a comparison over time with internal and external quality indicators relevant to the sector of reference, allowing the business units to identify factors that potentially require improvement.

The last customer satisfaction survey, referred to 2014, was carried out in the beginning of 2015. Similarly, currently we are collecting the data relevant to 2015.

The most recent results can be summarised as follows:

- the satisfaction index of Iren Mercato (CSI) is 90/100, with an overall satisfaction, that incorporates elements of company image and reputation, of 94%;
- in the areas of Emilia, the satisfaction index for the environmental health service is 88/100, while the overall satisfaction is 92%. For the gas distribution service the CSI is 96.6/100 with an overall satisfaction of 96%, while for the integrated water service the CSI is 92.2/100 and the overall satisfaction stands at 93%. The reputation of the Group sees figures exceeding 90%, while 86% of the customers consider the Group to be serious, efficient, technologically advanced and attentive to the environment.

Iren Mercato Survey. The commercial company of the group conducted a survey at various help desks in the main historic offices (Genoa, Turin, Parma), in order to highlight any areas of intervention and improve the quality level perceived by customers. The survey involved 250 customers interviewed at the end of the operations. The results showed an overall satisfaction level of 89.9%, with higher peaks for relational and tangible aspects. The "overall in mind" satisfaction figure that, for its nature, also includes image and elements relevant to the offer, stood at similar levels (90%)

Surveys and market research were also carried out to identify customer satisfaction relevant to the acquisition phase and, in particular, the following factors were assessed: clarity of the commercial conditions, clarity of the offer and correspondence between description of the offer and actual conditions applied. The satisfaction index identified (CSI) resulted as being 90.1/100, the indicator relevant to the commercial communication in the acquisition phase stood at 94.2/100, and that relevant to product/contractual conditions stood at 89.9/100. These indicators were on average assessed as higher compared to the market standards in 2015.

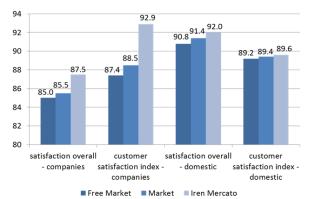
Iren Mercato also launched a continuous customer care project, aimed at verifying the level of customer satisfaction and at proposing improved conditions to the cluster of customers identified as at risk of leaving, as well as at testing new offers in the launch stage.

Independent Survey Energy Observatory. The company Databank - Cerved Group performed, as usual, a sector survey, aimed at comparing the leading operators in terms of customer satisfaction. The monitored indicators and the customer satisfaction index, which measures the opinion of customers on the operational aspects relevant to the sale of the service, and the satisfaction overall, which measures the overall perception and image that the customer had of the company. As in previous years, also for 2015, the Iren Mercato indicators result as higher than market averages and in a good position compared to the main competitors. The data is available by market sector (natural gas/electricity) and type of customer (household/non-household).

#### SATISFACTION GAS CUSTOMERS 2015



#### SATISFACTION CUSTOMERS ELECTRICITY 2015



#### **COMPLAINT MANAGEMENT**

Complaints relevant to the commercial standards are constantly monitored with the objective of identifying critical areas, defining corrective actions and checking that the latter are implemented. Over the year, 7,121 complaints overall were handled relevant to gas and electricity services and district heating, constantly declining over the recent years.

Iren Mercato	2015	2014	2013
Complaints handled (no.)	7,121	7,325	7,521



## **CUSTOMERS IN NUMBERS**

	2015	2014
Electricity customers	732,000	712,000
Gas customers	770,000	726,000
Residents served by the district heating service	820,000	802,000
Integrated water service inhabitants	2,623,000	2,400,000
Integrated water service municipalities	191	177
Urban environmental services residents served	2,050,000	1,139,000
Urban environmental services municipalities served	123	116

## **ELECTRICITY**

### **COMMERCIAL ACTIVITIES**

Iren Mercato distributes electricity on the domestic market to end customers (business and retail), wholesalers and on the Stock Market.

As part of the commercial campaign for FY 2016, Iren Mercato was awarded the tender called by Consip S.p.A. for the thirteenth edition of the convention relevant to the supply of electricity, Batch 1 (Piedmont and Valle d'Aosta), Batch 2 (Lombardy and Liguria), Batch 3 (Emilia Romagna and Trentino Alto Adige).

In the retail segment, commercial activities were oriented principally in two directions: to win customers loyalty in areas where the Group has operated for a long time, and to develop customers in the reference areas of the Group through the combined dual-fuel offer (electricity and gas).

The Group in 2015, continued the promotion of the "green offers", i.e. proposals for the supply of electricity fully produced from renewable sources, aimed both at retail and/or mid-business customers and the business segment, with the possibility for non-domestic customers to demonstrate and make visible their environmental commitment through the use of the brand "Iren Verde" and the relevant certificate issued by Iren Mercato.



Moreover in order to expand the range of offers, and to respond more timely to the demands and requests of customers, in 2015 Iren Mercato offered new products or services linked to energy efficiency. In particular, the "Iren LED" offer was launched, foreseeing the sale of a low-energy light bulbs kit, with deferred payment instalments in the bill, to customers on the free market with an Iren Mercato electricity contract.

In 2015, the launch of other offers for energy savings were scheduled, including the sale of sector products combined with gas bundle offers, with instalments in the bill and direct debt from current accounts, as well as the launch of offers combined with insurance products.

### **ELECTRICITY TARIFF**

Since 1 July 2007, with the launch of complete liberalisation of the electricity market, customers have been classified into 3 categories:

- free market customers, or customers choosing an offer from any electricity supplier;
- protected customers, including domestic customers and low-voltage small business customers that have not chosen any free market supplier;
- safeguarded customers, or customers that have not chosen a free market electricity supplier and are not included in the above category of protected customers.

Electricity tariffs consist of costs relevant to the portion of energy (supply and commercialisation), network and measurement costs, general system charges and taxes.

On the free market, the difference between tariffs offered by competing suppliers is determined by procurement and sale costs, since the other cost items have to comply with the fixed national tariffs defined by AEEGSI and the Government. In 2015, the proportion of energy on which providers can compete amounted to about 45% of the total amount of the bill. 2015 saw a further increase in the proportion of the bill attributable to general system charges (incentives for renewable sources, nuclear disposal costs, subsidies for energy-intensive enterprises, social bonus) which rose from 23.24% in the 1st quarter to 25.28% in the 4th quarter of the year. Among the system charges, the most burdensome (over 82%) is due to the A3 component dedicated to public financing of renewable sources. The overall cost in 2015 per average family (3kW - 2700 kWh/year) served under protection was 0.187 €/KWh.

### **ELECTRICITY SOCIAL BONUS**

The electricity social bonus is an instrument introduced by the Government and made operational by the Authority for Electricity and Gas Water System (AEEGSI), in collaboration with Municipalities, in order to guarantee savings on electricity costs to financially burdened and large families.

The bonus is also granted to customers with a physical disability, i.e. for cases in which a serious disease entails the use of electrical medical equipment to keep them alive.

In order to access the bonus, families that fall within the income and/or social/health parameters, shall submit a request to the Municipality of residence.

The bonus is equivalent, on average, to about 20% of the total amount of the bill.

The amounts for 2015 were:

- Euro 71 for a family of 1 or 2 members;
- Euro 90 for a family of 3 or 4 members;
- Euro 153 for a family of more than 4 members.

### **ELECTRICITY SERVICE LEVELS**

## QUALITY STANDARDS FOR THE SALE OF ELECTRICITY

Commercial quality standards are set out by Resolution AEEGSI 164/08 (Amalgamated Law on the Quality of Sales Services - TIQV) and subsequent amendments. The commercial quality of electricity sales services is determined by measuring how promptly the seller provides the services requested by customers (replies to written complaints and requests for information, corrections of bills, etc.). The seller must observe specific standards (beyond which, customers are entitled to automatic compensation) and general standards (for which the standard must be respected in the form of a given percentage and for which there is no automatic compensation). Data relevant to the individual companies are published in order to allow customers to compare the service levels offered.

Below are the quality indicators relevant to answers to written complaints.

Electricity sector - Iren Mercato (1)	Max time laid	20	)15	20	)14	20	)13
Average time for detailed reply to written complaints	down by AEEGSI	Free market	Protected market	Free market	Protected market	Free market	Protected market
Written complaints falling under the seller's responsibility							
Domestic LV customers	40 calendar days	29	28	29	27	28	21
Non-domestic LV customers	40 calendar days	29	29	30	28	25	24
MV Customers	40 calendar days	28	N/A	16	N/A	19	N/A
Written complaints for which technical data had to be requested from the distributor							
Domestic LV customers	40 calendar days	30	30	29	29	26	24
Non-domestic LV customers	40 calendar days	28	29	29	30	26	28
MV Customers	40 calendar days	35	N/A	27	N/A	_(2)	N/A

<sup>(1)</sup> The data refer to the weighted average for the first and second half of 2015.

In order to facilitate constant monitoring of the commercial quality of the electricity service, Iren Group regards customers satisfaction monitoring as strategic (in this regard, see page 78).

QUALITY STANDARDS FOR THE DISTRIBUTION OF FLECTRICITY

In the field of electricity distribution , for the 2012-2015 period technical and commercial quality standards have been regulated by AEEGSI (resolution ARG/elt 198/11) , that provides mandatory minimum standards and a number of indicators that are divided into specific and general commercial quality standards.

In the areas where Iren Group manages the electricity distribution service, given it is the only operator, it serves the entire population.



 $<sup>\</sup>sp(2)$  No cases were recorded during the period in question.



In the following table we break down some of the indicators measuring service levels and having an impact on end customers.

The "Mean number of outages per LV customer" (N1) is an indicator that measures the average number of interruptions per low voltage customers relevant to unexpected long or short-term outages (less than 3 minutes but more than 1 second) attributable to the Distributor. For the Iren Group (AEM Torino Distribuzione), the target set by the AEEG is 1 outage per year (this target is similar to that set for the other companies in the sector operating in municipalities with more than 50,000 inhabitants); This target is to be reached by 2019.

Average number of outages per LV customer - N1 (1)	2015	2014	2013
Turin high-density	1.36	1.17	1.17
Parma high-density	0.67	0.72	0.99
Parma low-density	3.30	2.47	2.98

(1) High-density: municipalities with a population of above 50,000 inhabitants. Medium-density: municipalities with a population of above 5,000 inhabitants. Low-density: municipalities with a population of less than 5,000 inhabitants.

The "Cumulative downtime" (D1) is an indicator that measures the average number of minutes of downtime per low voltage customer relevant to long-lasting outages without notice, attributable to the distributor. For the Iren Group (AEM Torino Distribuzione), the target set by the AEEG is 25 minutes per year (this target is similar to that set for the other companies in the sector operating in municipalities with more than 50,000 inhabitants).

Cumulative downtime - D1 (minutes/user) (1)	2015	2014	2013
Turin high-density	19.81	21.50	20.50
Parma high-density	14	15.75	18.32
Parma low-density	53.13	33.55	66.70

<sup>(1)</sup> For Turin the figure is estimated gross of disturbed periods.

Mean time of arrival at the place of the call of the electricity emergency team is intended to mean the time lapse between the call made by the customer, or the alarm activation for remotely controlled plants, and the arrival of staff at the site where action is required.

Mean time of arrival at the place of the call of the electricity emergency team (minutes) (1)	2015
Turin	74.00
Parma	47.00

<sup>(1)</sup> The amount is calculated considering the gap between the time when the call was received and the start time of the intervention.

The national electricity system is broken down into three stages: production, transmission and distribution of electricity.

Electricity, produced mainly at large power plants, is fed into the high and very high voltage transport and transmission network in order to be transformed into medium and low voltage to reach the intake points of the end customers. Over the last decade the Italian electricity production park was subject to a major operation of modernisation with a strong increase in distributed generation. These elements, together with the networks renovation plan, led to a more efficient system, with a consequent decline of network leaks. This term, in fact, refers to electricity leaks occuring during the transport and distribution of electricity from the plant to the place of supply, based on voltage. Standard leaks are conventionally set by the AuthorityAEEGSI, which defined a percentage amount of the energy withdrawn, always in function of voltage.

The system sponsored by AEEGSI has always had as its purpose that of encouraging the reduction of network leaks, creating a mechanism that compares standard leaks with actual leaks.

Electricity network leaks	2015	2014	2013
Iren Group	5.87%	6.08%	7.08%
National average (1)	7.22%	N/A	6.20%

(1) Source: Tema 2014, ratio between losses and total net domestic production of energy.

Iren Group, in the context of credit control, monitors the network disconnects of customers due to non-payment of bills, but does not consider it appropriate to report it, considering it as being sensitive data.



#### **ELECTRICITY DISTRIBUTION NETWORK RENOVATION PLAN**

Iren Group manages the electricity distribution network plants in the Municipality of Parma, the City of Turin, as well as some sections of network in some municipalities in the metropolitan area, Valle Orco and Valle Dora.

The size of plants owned by the Group at 31/12/2015 is summed up in the tables below:

		20	2015		14	20	13
Distribution network plants	unit of measure	Turin	Parma	Turin	Parma	Turin	Parma
HV/MV stations	no.	9	5	8	5	9	5
HV lines	km	22	-	22	-	22	-
HV/MV transformers	no.	22	12	19	12	23	12
HV/MV transformation power	MVA	1,224	565	1,124	565	1,287	565
MV Cables	km	2,170	644	1,951	627	2,080	617
MV Overhead power lines	km	33	220	28	222	129	224
MV/MV primary substations	no.	21	-	25	-	25	-
MV/LV secondary substations	no.	3,206	1,126	3,222	1,122	3,262	1,112
MV delivery substations	no.	348	140	348	142	348	137
Tramway power supply conversion substations	no.	18	-	18	-	18	-
MV/LV secondary substation transformers	no.	3,436	1,327	3,412	1,363	3,583	1,349
MV/LV installed transformation power	MVA	1,109	355	1,105	352	1,162	346
LV Cables	km	2,493	1,528	2,113	1,510	2,124	1,494
LV Overhead power lines	km	392	53	727	53	730	54
Low voltage concentrators (LVC)	no.	3,565	1,343	3,318	1,320	3,423	1,302
Electronic meters	no.	607,319	132,953	570,637	130,625	567,653	129,526

In addition to the plants listed in the table above, mention should be made of the remote control system, connected to a control panel room attended 24 hours a day. At present, in addition to the HV/MV stations, the MV/MV primary substations and the conversion substations, more than 500 secondary transformation substations are remotely controlled. Also available are two mobile generator sets (with capacities of 505 kVA and 400 kVA) and three troubleshooting tools.

The activities carried out at plants can be classified into customerrequested activities and internally-established activities that are achieved using internal personnel and external companies.

Activities required by customers mainly consist of:

- investments for the electrification of new urban areas, connections of new customers, increases in contractual power, subdivision of existing supplies, centralization of meters in place of the rising main, particularly important temporary supplies, movement of plants at the customer's request with a change in the registered asset value;
- operational activities such as shifts of plants at the customers' request, without a change in the registered asset value , temporary supplies, disconnections and reconnections due to arrears, termination of the supply, change of user.

When these operations, which must meet quality standards established by the AEEGSI, are performed, customers shall pay some amounts (connection fees, fixed charges, etc.) that, according to the type of operation, are regulated or are fixed on the basis of an estimate elaborated by technicians.

These activities normally entail filling in an estimate that is to be written in compliance with the provisions issued by the AEEGSI and then accepted by the customer, after which the contract for the supply of electricity is signed. The operation is then planned

within the term laid down by the AEEGSI, creating a complex set of associated activities such as: authorizations for the use of public land, the design and construction of works by the customer, material management, issue of work orders to the contracting companies and planning of internal labour.

Internal initiative works mainly consist of investments for upgrading plants, for adapting the network to the load, or renovation to improve the service levels, to comply with safety and environmental standards, or for technical innovation; and of plant operation and maintenance activities, inspection of substations, emergency operations and elimination of faults.

Renovation works continued in 2015 on the Turin network, which involved the insertion of 20 MV/LV substations and the renovation of 49 substations.

The installation of new backbones for the new HV/MV stations continued on the Parma network. At the main substation of Valeria a new prefabricated building was built with the HV/MV control panel room, protections and remote control.





### GAS



### **COMMERCIAL ACTIVITIES**

Also in 2015, Iren Group consolidated its orientation towards the definition of combined gas and electricity offers, exploiting the opportunity of a customer base in metropolitan areas. Furthermore, in relation to the development on the retail market, activities were consolidated through direct channels, the activity channels were increased and the promotion and dissemination of new offers was reinforced. In order to monitor the commercial quality of gas sale, Iren Group periodically detects the satisfaction of its customers (see page 78).

#### **GAS TARIFF**

The gas tariff, regulated by AEEGSI and the Government, is made up of an energy related component, the commercial activities in the hands of a sales company, and a component relevant to costs for gas transport in domestic networks and local distribution networks that cover the costs of the national transporter and the company that manages the local network.

To this domestic taxes, additional regional taxes, as well as VAT are added.

#### GAS SOCIAL BONUS

The gas social bonus is a discount in the bill, introduced by the Italian Government (Law 2/2009) and made operational by AEEGSI, in order to guarantee a saving to financially burdened and large families.

The bonus, that involves gas distribution and sales companies, is generated from a request submitted by the final end customer to the Municipality of reference certifying its condition of financial burden using the EESI form.

The amounts accredited are established by resolution of the AEEGSI and are different in function according to the type of gas use and the climatic area in which the user resides.

## GAS SERVICE LEVELS QUALITY STANDARDS FOR THE SALE OF GAS

As for electricity (see page 81), the quality standards for the sale of gas are set out by Resolution AEEGSI 164/08 (Amalgamated Law on the Quality of Sales Services - TIQV) and subsequent amendments.

Below are data relevant to the quality indicators relevant to answers to written complaints.

Gas sector - Iren Mercato (1) Mean time for detailed reply to written complaints	Max time laid down by AEEGSI	2015	2014	2013
Written complaints falling under the seller's responsibility	-			
Gas customers (low pressure) free market	40 calendar days	27	31	N/A
Gas customers (low pressure) protected	40 calendar days	25	30	N/A
Multi-site gas customers (2)	40 calendar days	20	31	N/A
Dual fuel customers (3)	40 calendar days	20	25	N/A
Written complaints for which technical data had to be requested from the distributor				
Gas customers (low pressure) free market	40 calendar days	28	34	N/A
Gas customers (low pressure) protected	40 calendar days	30	36	N/A
Multi-site gas customers (2)	40 calendar days	24	28	N/A
Dual fuel customers (3)	40 calendar days	27	27	N/A

<sup>(1)</sup> The data refer to the weighted average for the first and second half of 2015.

(2) End customer with various intake/return points that stipulated with the same seller one or more supply contracts.

<sup>(3)</sup> Natural gas end customers (low pressure) and electricity (domestic/non-domestic low voltage or medium voltage) with one contract only (dual fuel).

## QUALITY STANDARDS FOR THE DISTRIBUTION OF GAS

The natural gas distribution service consists in transporting the gas through the local gas pipeline networks for delivery to the end users and is carried out in two phases: withdrawal of gas from the Snam Rete Gas pipelines, by means of first-stage withdrawal points and transport and supply to the users.

A gas distribution system is typically composed of:

- one or more points of interconnection with the national or regional network of transmission pipelines, through which the distribution network is powered; delivery, filtration, preheating (necessary in order to prevent the freezing of the equipment due to the reduction of pressure), pressure regulation, measurement and gas odorants is carried out at these points (RE.MI. substations);
- the gas distribution network;
- the user connection plants for the delivery of gas to the final loads, where the gas is measured using appropriate metering groups.

Gas distribution activities are carried out by Iren Group in compliance with the rules of functional separation for companies vertically integrated into the sector, in compliance with the principles of cost-effectiveness, profitability and confidentiality of company data with the aim of promoting competition, efficiency and adequate levels of guality in the delivery of service.

In relation to the commercial quality parameters, the gas distribution service refers to the standards laid down by AEEGSI. Although at the date of preparation of this Report, the processing of the parameters relevant to 2015 were not yet completed (due date 31 March 2016), it can be said that, on the basis of what emerged during the year under scrutiny and from a first assessment of the data collected, the quality levels achieved are satisfactory and in line with previous years.

In the Emilia area, Iren Group also manages the distribution service and sale of LPG, through reduction plants and channelled networks, in 6 municipalities in the province of Reggio Emilia. LPG distribution is carried out through 14 centralised delivery plants located in mountain areas not yet served by natural gas networks.

The suppliers deliver already odorised LPG tanks, and Iren Group distributes it to customers at a pressure of 30 mbar. Safety is ensured by means of remote control of the plants.



#### SERVICE OUTAGES AND LEAKS ON THE GAS NETWORK

Gas service interruptions occur mainly during network renovation works when the user connections are switched from old to new pipelines. To limit the number of outages the Group intervenes, whenever possible and always to a greater extent, using a device that allows switching without interrupting the gas supply.

Service interruptions on the gas network are divided into outages with notice, if works are planned and the customer can be informed promptly of the outage, and outages without notice, that is, those that cannot be communicated at least one day beforehand to all customers.

Gas outages in 2015, overall, show a slight decrease compared to 2014.

Gas outages (no.)	2015	2014	2013
Outage without notice	1,195	1,112	816
Outage with notice	1,712	1,809	1,552
TOTAL	2,907	2,921	2,368

As over the last two years, also in 2015, the most significant gas leaks numerically come from the group of measurement.

Leaks from the network register a decrease compared to the previous two years, while gas leaks on the "overground part of user connections" remain substantially in line with those of 2014.

Even the gas leaks on the "underground part of user connection" registered a significant improvement compared to the previous year (-30.3%).

Gas leaks (no.)	2015	2014	2013
on network	246	680	668
on underground part of user connections	262	376	526
on overground part of user connections	1,363	1,365	1,983
on measuring unit	3,023	3,944	5,077
TOTAL	4,894	6,365	8,254

In compliance with the AEEGSI provisions, the main initiatives to reduce the number of network gas leaks are:

- gradual elimination/application of cathodic protection of the unprotected steel network;
- gradual elimination of the cast iron pipelines with hemp and lead joints.





Total gas network composition (km)	2015	2014	2013
Steel	6,085	6,096	6,588
Polyethylene	1,187	1,119	1,584
Cast iron	362	373	768
Other material	0	2	3
TOTAL	7,634	7,590	8,943

SAFETY OF THE GAS NETWORK

Network inspection, an effective emergency service and an adequate concentration of odorant are fundamentally important elements in the operation of a gas distribution system, together with a continuous modernisation of the network.

The Authority for Electricity, Gas and Water Service (resolution 574/14) establishes that gas distribution companies are obliged to respect safety service obligations, which include the yearly inspection of at least 20% of low pressure gas distribution network and at least 30% of medium-high pressure network. In 2015, the Iren Group inspected more than 84% of the 7,618 km of the gas network managed, that is to say 6,423 km.

The scheduled inspection of gas networks also has the effect of a greater control of leaks.

The mean time of arrival at the place of the call in 2015 was 32.77 minutes, slightly up compared to 2014 (31.85 minutes).

In 2015 over 84% of the gas networks were inspected: more than twice than what is requested by AEEGSI

## **DISTRICT HEATING**

### **COMMERCIAL ACTIVITIES**

Iren Group offers the service of district heating, that is the distribution of heat for heating and hot water purposes, in the municipalities of Turin, Nichelino, Genoa, Reggio Emilia, Piacenza and Parma. Heat is produced by the Group cogeneration plants.

In 2015 the company continued to build up their customer base in North Turin, together with the extension of the district heating network, as well as its saturation in the areas already reached by the service.

The consolidation and increase of the volumes connected continued also in the Emilia area.

Preparatory stages were started for the development of district heating in the city of Parma, that will continue until 2017, thanks to the connection of the public network to the waste-to-energy plant (IEC). The extension project forthe public network and that of connection of the waste-to-energy plant of Tecnoborgo were

developed in Piacenza, in order to start the provincial authorisation process.



The new Charter of Quality was defined relevant to the district heating service, which includes the Code of business conduct. The new document is valid for all areas served.

New Charter of Quality and Code of Business Conduct for district heating

The service level indicators are monitored on a monthly basis both for distribution and sales in order to ensure compliance with the Service Charter.

### DISTRICT HEATING TARIFFS

The district heating tariff, to date not governed by national regulations, is expressed in Euro/kWh and is based on the logic of "avoided cost", that is the cost that the customer would have paid using the natural gas service (expressed in Euro/Scm), as defined by the AEEGSI regulation and the applicable tax laws in force.

Since the tariff and tax structure of natural gas provides for different rates by type of use and level of consumption, the national rate of district heating is articulated to use (residential, full tax tertiary, tax subsidised tertiary) and by size of the plant (parameter that expresses the installed potential and consumption potential).

The district heating tariff also partially takes into account the cost of the non-core services connected to the energy supply of a natural gas plant (costs of operation, maintenance and periodic verification of functionality and efficiency, etc.).

Tariffs are updated on a quarterly basis and, since the price of district heating is connected to that of natural gas, all of the tariff variations established by AEEGSI (either increases or decreases) and tax rates pursuant to the Law, are reflected in the district heating tariff. In particular, the quarterly variations relevant to the

raw material component natural gas, which are usually the most important, are implemented with the same effective dates to the district heating tariffs.

## **NETWORK SUBJECT TO INSPECTION**

The district heating network managed by Iren Group, in the municipalities of Turin, Nichelino, Genoa, Reggio Emilia, Piacenza and Parma extends to over 883 km and in 2015 448 were inspected, equal to 50.76% of the network, in line with 50.34% in 2014.

## INTEGRATED WATER SERVICE

#### INTEGRATED WATER SYSTEM TARIFF

The organisation of the Integrated Water Service in A.T.O.s (Water and waste regulation areas) has led to new rules for setting tariffs, which must completely cover investment and operating costs. The tariffs are approved by the Environmental Authority and AEEGSI and calculated, for 2014 and 2015, based on the AEEGSI Resolution 643/2013/R/IDR. Such resolution provides, among other things, that the territorial tariffs are differentiated by the user group (with favourable conditions for basic domestic consumers and categories suffering from economic hardship, where provided) and are proportionate to the investments made by operators.

In general, the water service tariff consists of one **fixed portion of service**, due irrespective of consumption, and a **variable portion**, based on the consumption of water and wastewater treatment services.

To discourage waste, the tariff is divided into bands and increases as consumption rises. The types of use contemplated by the tariff articulation in Genoa and Emilia, each with its own structure, are the following: Domestic Resident, Domestic Non Resident, Zootechnics, Commercial, Industrial, Craft, Other, Non-Drinking, Temporary, Building Sites, Agricultural and Oil mills.

The actual mean tariff applied for 2015 varies according to the reference catchment area, ranging from Euro 1.83 per m³ for Piacenza to Euro 2.42 per m³ for Reggio Emilia (2.33 Euro/m³ for Genoa and 2.40 Euro/m³ for Parma).

The mean tariff for the integrated water service for 2015 is between 1.83 Euro/m³ and 2.42 Euro/m³, depending on catchment areas

### **SOCIAL FUNDS FOR WATER**

In Emilia ATERSIR (Territorial Agency of Emilia Romagna for Water and Waste Services) approved a social fund for families in situations of economic hardship. In 2015 the amount established for 2014 was confirmed, that is Euro 205,000 for Parma, Euro 102,000 for Reggio Emilia and Euro 168,000 for Piacenza.

An annual social fund was established in Genoa, resolved by the Mayors' Assembly, distributed by the municipalities to families suffering economic hardship. The amount of Euro 800,000 was confirmed also for 2015, for the financing of tariff reductions on social grounds. For Savona, instead, no forms of support are foreseen for resources of the integrated water service.



## QUALITY OF THE INTEGRATED WATER SERVICE

The Integrated Water Service Charter (I.W.S.) is the document that defines commitments that operators, such as the Iren Group, must take towards their Customers, with the aim of improving both the quality of the services provided and the relationship between customers and the supplier. There is a specific Water Service Charter prepared or approved by each ATO for every territory managed, the indicators and relevant standards to comply with are, therefore, different. The basic principles are equality and impartiality, in all management areas the indicators are monitored and substantial compliance with the standards was observed.

The Integrated Water Service Charter is delivered to each customer upon signing the contract, it can be requested at any time at the company's help desks, and it is, furthermore, published on the Group's websites.

It is reviewed every year by the operators and any necessary changes are submitted to the Environmental Authority for approval. 2016 will see the entry into force of the resolution 655/2015/R/IDR of AEEGSI, that sets out the Regulation new obligations and requirements on the contractual quality of the integrated water service.

In order to constantly monitor the quality of their services, the Iren Group regards customer satisfaction monitoring as of fundamental importance.



The periodic collection of these surveys was included as an integral and essential part of the operators' quality system.

The Integrated Water Service Charter is the document that defines the commitments towards our customers

#### WATER QUALITY

Water quality control activities consist of analysing the main parameters laid down by Italian Legislative Decree 31/2001 at the various sampling points established by the organisation responsible for the control (LHU) along the distribution network to the users and at the outlet of the large purification plants, according to the sampling Plan. If the water withdrawn contains levels of harmful substances that exceed the limits specified by law, it will be subject to treatment prior to distribution. The treatments most frequently used for deep water are normally designed to remove iron, manganese and ammonia, elements naturally present in the groundwater captured.

The quality of the water supplied is guaranteed by a control on the entire water process: from water sources to the treatment, filtration and purification processes and the time it goes through the distribution network, up to actual delivery to customers, always in compliance with the limits set by current legislation.

Quality requirements of water are monitored constantly through samples taken from all the catchment sources, during the various steps of the purification process, at the water power stations and at numerous significant points along the distribution network. The samples taken, in a number that exceeds the minimum number indicated in the applicable laws in force, are analysed at internal laboratories to determine their chemical and microbiological characteristics. In the treatment sector, analytical tests are carried out on the wastewater flowing into and out of the plants, and on the intermediate treatment steps, the sludge produced and the drains from the production user plants into the sewer. The internal tests exceed the minimum number required by law and the protocols stipulated with ATO, ARPA and Provincial Authorities.

More than 52 thousand analyses were conducted on drinking water and wastewater in 2015

Analysis of drinking water and wastewater (no.)	2015	2014	2013
Genoa Area	16,090	16,957	18,847
Emilia Area	36,435	38,208	39,720
TOTAL	52,525	55,165	58,567

Parameters analysed in drinking water and wastewater (no.)	2015	2014	2013
Genoa Area	162,204	151,107	171,256
Emilia Area	400,727	401,606	404,807
TOTAL	562,931	552,713	576,063

#### WATER DISTRIBUTION

television channels.

Following the necessary tests to establish compliance with the requirements of drinking water, the water withdrawn at various sources is fed into the distribution network that reaches all points of use. Control, extension and maintenance activities are carried out on the networks with a view to minimising inconvenience for the public as far as possible. A priority, in fact, is the attention to the protection of the urban environment and the sustainability of everyday life, in particular with regard to the impact on city streets.

Service interruptions can be due to faults or planned interventions, in both cases the interventions are carried out according to the provisions of the territorial Service Charters. In 2015, there were 285 planned interventions in the areas managed by the Group. Should planned works for the substitution or laying of new piping involve a significant part of the population, the public is informed of the length of the interruptions in service via the press or local

In other cases, notices are posted in the areas concerned to inform the public of the interruption date. For emergency interventions, for example, to repair a burst pipe, all of the necessary measures are taken in order to restore the water supply in the shortest possible time, in accordance with the provisions of the Integrated Water Service Charter.

During the year, due to low rainfall levels, there was an increase in network breaks that amounted to 6,292 overall.

The mean time of arrival at the place of call for Iren Group is 43.77 minutes.

Water network composition (km)	2015	2014	2013
Plastic material	8,624	8,551	8,492
Asbestos cement	1,566	1,576	1,600
Steel	2,946	2,971	2,971
Cast iron	1,693	1,692	1,692
Unregistered material	1,577	579	581
Other material	61	60	34
TOTAL	16,467	15,429	15,370

In 2015, on approximately 16,467 km of water network about 2,698 km were controlled, equal to 16.4%.

## **ENVIRONMENTAL SERVICES**

### TARIFF SYSTEM

The 2014 stability Law introduced the TARI tax, consisting of a **fixed part**, determined by costs of sweeping, general costs, part of the personnel costs and other essential components of the cost of service, referring in particular to depreciations and administration costs, and of a **variable part**, proportionate to the quantity of waste delivered, to the service supplied and the entity of management costs.



The TARI is applied to utilities in part relative to the surface area occupied and, for domestic utilities, relative to the number of family members.

With the TARI, the Iren Group invoices its service to the Municipality and the latter issues payment notices to the users. In calculating the TARI, the Municipal Authority takes account of the VAT that it has to pay, which is why, in the tax applied to users, the VAT is not expressed but included in the tax itself.

Social tariffs are not provided for by the general legislation. At a regulatory level, municipalities may include favourable conditions or reduction clauses in favour of certain groups or users.

In 2015 Iren Group issued the TARI in the name of and on behalf of the municipalities, applying the regulatory provisions in force to the utilities, including those relevant to any reductions or favourable conditions/social exemptions, if expressly approved by the individual municipalities.

The table below indicates the 2015 environmental health service tariffs for each of the municipalities in which the Group operates.

Year 2015	Mean Tari by provincial capital				
Type of domestic users	Municipality of Parma	Municipality of Reggio Emilia	Municipality of Piacenza	Municipality of Turin	
	Euro/year	Euro/year	Euro/year	Euro/year	
1 member families	132.73	163.57	115.77	134.71	
2 member families	219.92	249.31	200.30	242.83	
3 member families	256.35	321.64	248.98	289.22	
4 member families	295.26	369.81	278.42	320.05	
5 member families	349.89	417.18	337.98	373.33	
≥ 6 member families	403.00	440.68	373.13	420.04	

## ENERGY MANAGEMENT AND EFFICIENCY

The Iren Group carries out management and maintenance of heating, air conditioning and general technology, plants and currently manages approximately 1,200 facilities in private apartment buildings, public buildings, sports centres, hospitals, shopping centres and tertiary.

The Group provides energy services to civil and industrial realities aimed at maximising efficiency and rationalizing consumption with maximum environmental comfort.





For this purpose the Group uses an advanced remote control system that provides continuous supervision and monitoring of all potential functional plant parameters..

The Group carried out various technical interventions aimed at the containment of costs.

This also included the redevelopment of thermal power stations with the installation of condensing boilers (savings of 10% to 30% depending on the age of the previous plant) and the installation of thermostatic valves and heat allocators incentralised systems (savings from 10% to 20% compared to the previous solution).

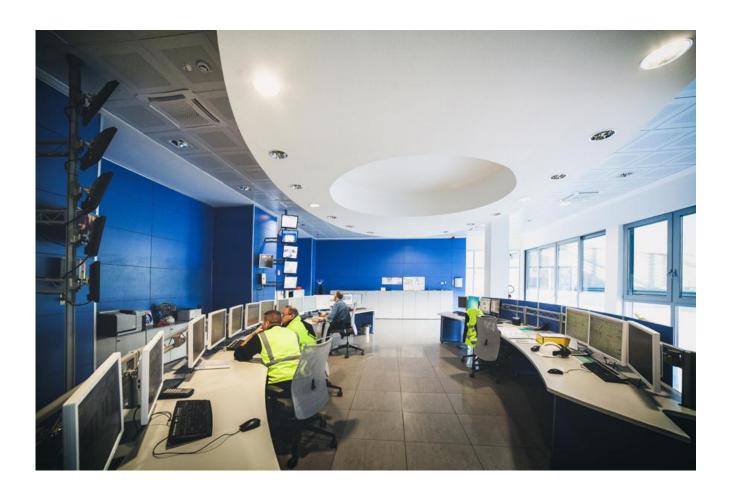
In terms of energy renovation of buildings, the Group performed about 100 energy audits of just as many apartment buildings. Similar initiatives are being implemented in the cities of Parma and Piacenza, energy audits are carried out by Iren Rinnovabili in collaboration with Studio Alfa.

The purpose is to place the apartment buildings in a condition to make informed choices regarding the reduction of energy waste.

## **TELECOMMUNICATIONS**

The Group intensified its sales activities of the integrated remote services with some important achievements in the Province of Turin. The standard services portfolio remained unchanged and were generally reviewed to offer higher capacity levels. Preparations are still in progress in order to offer new fibre optics connectivity service at 10Gbps and to support the extension of mobile services in LTE (Long Term Evolution) technology. Various tests were also carried out in order to use satellite connectivity as backup.

The Telecommunication tariffs in 2015 dropped slightly due to an alignment with the best market benchmarks and, in particular, to the CONSIP and SCR tariffs in Piedmont. For broadband network customers with xdsl technology, the wholesale lists were slightly retouched. The lists of reference for high level projects remained unchanged and are generally relevant to the cost of the infrastructures built.



## Iren People



#### **IMPORTANT TOPICS**

Employment: This topic, in the current economic context, is of extreme social importance and represents a crucial factor for Iren Group that sees fundamental capital for growth in its human resources. The maintenance of adequate levels of employment and the monitoring of skills are at the heart of the pursuit of the company strategies.

Industrial relations: this topic contributes to creating the best conditions for the development of a business model aimed at involving human resources in order to increase efficiency, service quality and the capacity to address the challenges of the market with efficient and innovative solutions.

Corporate welfare and diversity: the reconciliation of life needs with work needs, initiatives to improve the quality of the work environment and the promotion of diversity in the company, are at the heart of increasing the sense of togetherness and belonging to the Group, as well as integration within the local area.

**Human rights:** Iren Group reiterates its respect of human rights and condemns any type of discrimination for reasons relevant to age, gender, sexuality, race, health, nationality, political opinions, religious beliefs, etc.

Human resources development: the topic of the professional growth of human resources is essential for Iren Group in order to anticipate and successfully address the complexities and changes of the market, regulations and technologies, while ensuring the employability of resources. Iren is constantly investing to develop a wealth of internal skills to enhance their human resources.

Health and safety of employees: Iren works for the health and safety of people carrying out their work activities and to improve the work environment, also in order to increase motivation and involvement and to ensure continuity to the production processes.

Internal communication: the knowledge of the mission, values and growth objectives of Iren Group, together with the capability to listen, is a crucial issue for the true involvement of human resources in current and future business and corporate social responsibility challenges.



## EMPLOYMENT: IREN'S RESPONSIBILITY



Developing professional skills and promoting involvement of personnel are essential prerequisites for the Group's growth and development

The general goal is to merge the individual skills and responsibilities within a system that aims at maintaining high quality of the resources through policies aimed at increasing professionalism and creating the necessary involvement thanks to adequate internal communication instruments.

In 2015 the Iren Group started an important process of organisational rationalisation in this direction, with the objective of increasing integration with a system of common rules in order to exploit skills and professional development. This process, that initially involved corporate culture and macro processes, will continue in 2016 at the level of the main operating processes in order to disseminate the model to all of the organisational levels. The new organisational model, in line with the 2015-2020 Business Plan, is also designed to be able to effectively integrate new companies and new human resources that are expected to become part of the Group.

#### "Cambiare Insieme" project

With the involvement of 232 Managers and by holding 350 meetings that directly involved 5,430 people, the project pursued the objective of analysing and sharing the Group's core values:

- integration, to overcome internal barriers, to share and utilise assets, solutions and people
- **operating efficiency**, to share and implement the best solutions in order to be fast and efficient
- business results, to disseminate responsibility and courage that make visible results possible.

Meetings and the involvement of Group resources made it possible to create 230 new projects and over 900 proposals for new behaviours for change.

Consistent with its strategic development, Iren Group actively seeks to develop talents, enhance and increase the skills and potential expressed by personnel, using various instruments, primarily: education and training, proactive management of internal mobility and internal communication.

Iren Group is aware of the important role employment plays in ensuring the development of the social environment in which it operates. It contributes to maintaining employment levels not only through its own employees but also by promoting the development of the companies to which it commissions services and work, by requesting them guarantees in terms of both personnel and safety policies through the application of some of its own standards. Moreover, the Group offers employees of supplier companies the possibility to use some of the company services and attend training courses organised by the Group itself.

The Group contributes to the quality of employment of the local inhabitants and its suppliers, also through actions aimed at improving professional skills and to consolidate improvement of the level of education. The Group does not pursue a local recruitment policy but, due to the specific features of the Italian labour market, nearly all new recruits reside in the province where their place of work is located. Considering the Group's business segments, the geographical areas in which it operates and its observance of current legislation, there is no risk of child or forced labour.

## IREN GROUP PERSONNEL: THE PICTURE IN 2015<sup>1</sup>

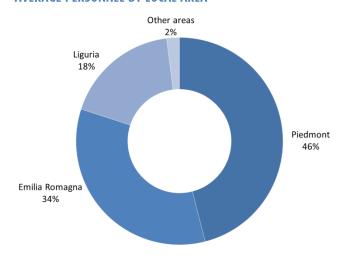
The significant change in headcount compared to 2014, stems from the significant change of the perimeter, due to the consolidation of AMIAT SpA (from which 1,748 employees were acquired) and some branches of other companies.

Personnel as at 31/12 by position (no.)	2015	2014	2013
Senior managers	81	69	67
Junior managers	240	229	223
White-collar workers	2,861	2,658	2,673
Blue-collar workers	2,954	1,566	1,635
TOTAL	6,136	4,522	4,598

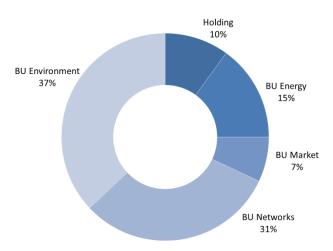
Over 99% of the Group's personnel is employed with a permanent contract

<sup>1</sup> The human resources figures reported in this Sustainability Report differ from those of the Consolidated Financial Statements, due to the different reporting scopes adopted (for further details see the introduction).

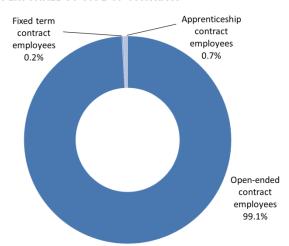
#### **AVERAGE PERSONNEL BY LOCAL AREA**



#### **AVERAGE PERSONNEL BY ORGANISATIONAL UNIT**



#### PERSONNEL BY TYPE OF CONTRACT



Over 99% of the Group's personnel is employed with a permanentpermanent contract, reached also by young people (recent high school or university graduates), when they start their careers with apprenticeship contracts.

In addition to the employees within the organisation there are contract workers and temporary workers amounting to less than 1% of the workforce.

These figures confirm that the Group favours long-term working relationships with its personnel and that it only uses atypical contracts for exceptional and temporary circumstances.

The majority of employees (more than 51%) are in the age group between 30 and 50, while the average age is 49.

Staff turnover (1)	20′	15	20	14	20	13
	no.	%	no.	%	no.	%
Turnover	-134	-3.0	-76	-1.6	+129	+2.9

(1) Turnover was calculated as the difference (in absolute terms and percentage) between the employees present at the end of the year with respect to those present at the start of the year.

Aside from the consistent number of recruitments, the increase of turnover in 2015 derives mainly from the significant quantity of terminations, subsequent to the demographic rebalancing plan that provided for the early retirement phased plan of employees, on a voluntary basis, that had accrued the requirements.

Staff taken on by type of contract (no.)	2015	2014	2013
Permanent contract	162	32	20
Fixed term contract	19	30	22
Apprenticeship contract	15	24	1
TOTAL	196	86	43

### **RECRUITMENTS AND TERMINATIONS**

There were 196 recruitments in 2015 with a clear majority (82.7%) of persons employed with a permanent contract. Additionally, over 97% of employees whose contracts expired during the year were recruited on a permanent contract.

Staff taken on by age (no.)	2015
under 30 years of age	87
from 30 to 50 years of age	99
over 50 years of age	10
TOTAL	196





The greatest reason for termination (80%) is related to consensual terminations of employees who meet pension requirements.

2015	2014	2013
23	20	11
312	49	15
6	9	6
10	1	3
1	-	1
31	6	8
7	10	-
390	95	44
	23 312 6 10 1 31 7	23 20 312 49 6 9 10 1 1 - 31 6 7 10

<sup>(1)</sup> Excluding transfers from business units: 49 people in 2015 (Acque Potabili companies and O.C.Clim).

## HOURS WORKED AND HOURS OF ABSENCE

Approximately 95% of the over 9.1 million hours worked in 2015 (that include Iren Rinnovabili and Amter at 100%), are represented by normal working hours.

Hours of absence by type (%)	2015	2014	2013
Sick leave	54	53	50
Maternity leave	10	9	9
Accident	10	6	5
Strike	-	1	3
Trade union meetings and leave	6	4	5
Other absences (paid and unpaid)	20	27	28
TOTAL	100	100	100

Hours worked (no.)	2015	2014	2013
Normal working hours	9,124,531	6,872,960	6,866,647
Overtime	508,212	498,673	458,365
TOTAL	9,632,743	7,371,633	7,325,012

In 2015, the rate of sick leave (ratio between hours of absence for sick leave and hours worked) amounts to 4.7% and the rate of absenceism (ratio between days of absence and days worked) amounts to 4.7%.

## REMUNERATION SYSTEM

The Group implements the national collective labour agreements ("Workers of the electrical industry", "Workers of the gas/water

industry", "Workers of the environmental services industry") that guarantee the application of the contractual remunerations to all employees. All employees are covered by the National Collective Labour Agreements. Consistent with the provisions of the 2015 stability law, a strong push was given to stabilise a majority of the active work supply contracts during the year. In general, employees with work supply contracts have the same pay conditions that are provided by the contracts applied to the Group's employees (including performance bonuses).

The basic pay is supplemented with variable remuneration relevant to the services provided (i.e. on call) and the achievement of company and individual objectives.

The Group's employees are hired under national collective labour agreements and incentive contracts in line with the company's values

#### **REWARD SYSTEM**

The Group's remuneration and reward policy recognises employees who achieve high levels of performance and respect company values, while maintaining adequate quality and production levels. Personnel is required, in particular, to display flexibility in adapting to new work methods and to show significant professional commitment, in the scope of versatility.

**Performance bonuses.** In order to increase personnel involvement, most companies in the Group grant a performance bonus, calculated in accordance with the strategic and management objectives achieved, promoting a relationship between remuneration and the results achieved. Payment of the bonus is determined by a mix of factors linked to the promotion of company productivity, quality of services and to the achievement of specific profitability targets.

Specific agreements were also signed in 2015 and the bonus was granted to all staff other than managers in the form of a one-off payment.

Management by Objective (MbO) system. In most companies of the Group, all Senior and Junior managers and other personnel holding an important position may be assigned individual objectives and are paid bonuses according to their achievement of these objectives. The definition of an "objective-based system" based on the measurable indicators (economic-financial, operative or relevant to strategic projects), occur in line with the company's mission through several levels of development.

One-off bonus. Employees of any company in the Group that have performed particularly well through outstanding work commitment, mainly in projects or innovative activities, may be awarded a one-off reward. Employees eligible for this reward are identified on the basis of a careful analysis, conducted by the various managers, of their individual work achievements during the year and their behaviour skills, particularly those fundamentally important for the growth of the Group.

In 2015, 59% of the employees received a formal performance review and assessment.

<sup>(2)</sup> Agreed mobility to investees not included in the reporting scope.

The total amounts paid in variable remuneration are listed in the following table.

Variable remuneration (thousands of Euro)	2015	2014	2013
Performance bonuses (1)	11,709	9,515	9,050
MBO sum allocated	2,988	2,822	2,585
One-off bonuses allocated	1,555	1,260	1,002
(1) Amount allocated.			

## PERSONNEL SELECTION AND DEVELOPMENT

### RECRUITMENT SYSTEM

At Iren Group, the search and selection process is structured by profile, on the basis of the principles of equity and transparency declared in the Code of Ethics,<sup>2</sup> that underlie the various phases of the same process and comply with the Italian Legislative Decree 231/2001.

Before proceeding with the search for candidates outside of the Group, it is normally verified through an internal job posting system that there are no internal candidates with profiles consistent with the position to be filled. The external selection process is started only in the absence of suitable internal candidates.

The Group has created a specific portal "IrenFutura" for managing job offers, where active job offers are published and where it is possible to apply. Candidates can choose the offer that is most in line with their skills or interests and forward their application without attaching it to a specific posting.

For various specific (management or very specialised) positions the search can be carried out using other channels (i.e. head hunting companies).

The applications (both active, received through the IrenFutura portal, and those found specifically by the Group) are always analysed by professionals with experience in the sector based on specific and transparent criteria, common to the various corporate departments and functions involved.

Every curriculum vitae is assessed based on its correspondence with the requirements of the position that the Group is looking for.

Should the profile not be in line with the position applied to, the applicant will receive a reply and the curriculum vitae is kept on file for other future positions.

<sup>2</sup> "The policies of selection, recruitment, training, management, development and remuneration are strictly based on criteria of merit and skills, with an exclusively professional evaluation, without any type of discrimination" (Iren Code of Ethics, page 15). Should the profile be in line with the requirements of the position offered, the candidate is entered into the selection process.

The selection processes can include tests to be taken on-line, practical and behavioural tests, as well as individual and group interviews in order to get to know the applicants in depth and to ensure equality and transparency.

At the end of the selection the applicants receive feedback on the outcome of the process in which they participated: in the event of a negative outcome the applicant is taken into consideration for other relevant positions; in the event of a positive outcome the Group integrates the person into the Company by providing an admission process defined on the basis of the position to be covered. The Group has also joined the national program "Guarantee for Youth", activating the apprenticeships provided as a preferential instrument for research and contact with the working world.

#### PERSONNEL DEVELOPMENT

Programs based on internal mobility and education/training are defined on an annual basis for skills development, based on an analysis of necessities that include self-assessment instruments, in the scope of life-long learning. In this scope, in light of internal and external changes, cyclic professional updating/upgrading courses are provided to all staff members. Starting in 2015 a special organisation was also set up for monitoring and developing skills, subject to sessions of assessment (especially for personnel in management positions), with the objective of acting proactively on the changes provided.

All personnel with prolonged absences for maternity/paternity leave or health reasons will be supported upon their return through previously planned updating and training sessions shared with the interested parties and their respective hierarchical superiors.

Favourable pension plans are in progress on a voluntary basis. These plans were accepted by over 90% of the potential recipients, which made it possible to access pension plans up to two years prior to the accrual of the right to retire. Discrimination based on age and/or health is avoided by implementing professional retraining programs in the event of unfitness for the duties previously performed.

## TRADE UNION AND INDUSTRIAL RELATIONS

Dialogue and communication with workers' representatives have always been a top priority for the Group and 2015 saw the continuation of the dialogue between Company Management and Trade Unions. In particular, agreements were signed in 2015 at a Group level, relevant to:

Group performance bonuses;



- agreements for transfer to Iren S.p.A. of personnel from other Group companies;
- agreements for the application of telecommuting in the context of the National Collective Labour Agreements for environmental services.

Furthermore, company Management informs the Trade Unions of all important organisational changes (such as the establishment of new organisational units or variations in the work organisation within existing ones) at specific meetings and every effort is made to find an agreement with them. Service orders or communications are subsequently issued and spread via the corporate Intranet website and/or by e-mail and distributed internally to employees who have no computer. If changes are made to working hours, in accordance with the National collective labour agreements applied in the Group, Management will inform the Trade Unions and hold a consulting meeting. The National labour agreements also lay down a period of time (maximum 10 or 20 days) within which all issues must be settled after which the Parties may take whatever action they consider most appropriate.

The agreements that regulate personnel transfers also provide:

- if a worker is transferred to another municipality, at least 30 days prior notice;
- in the event of a collective transfer, the Trade Union must be notified with reasonable prior notice.

In 2015, 10 labour claims were notified and 55 labour disputes were handled relevant to employees of Group Companies.

During the year 8 disputes were closed, 5 of which were from previous years. 4 monetary disputes were settled during the year as well as 5 non-monetary disputes.

## **EQUAL OPPORTUNITY**

The Group guarantees that its selection, recruitment, training, management, development and pay policies will be applied without discrimination and formalises this commitment in the Group's Code of Ethics.

In 2015, no violations of the anti-discrimination regulations were recorded

### FEMALE PERSONNEL

The female employees of the Group amounted to approximately 25% of total employees, with an increase of 5% compared to 2014, a reduced presence mainly due to the specific technical and working characteristics of the activities carried out and the relevant reduced offer of female professional figures on the labour and education market meeting such characteristics. The Group employs 1,531 women, with a significant change in the percentage compared to

the previous two years due to the consolidation of the Company AMIAT.

The majority of female employees (approximately 64%) are employed as senior managers, junior managers and white-collar workers (making up approximately 52% of all personnel, compared to 48% blue-collar workers). The analysis conducted on the female workers of the Group, in consideration of the fact that mainly technical activities are carried out, revealed a non-discriminatory situation for women, who represent approximately 31% of senior managers, junior managers and white-collar workers.

Equal remuneration between men and women is ensured by application of the National collective labour agreements in which minimum salaries are defined for each category. The average gross pay per capita for women (the breakdown is available in the paragraph "Iren People: the numbers" at the end of the chapter) is slightly lower than that of men due to the high percentage of women working part-time (approximately 13% of the total number of women), for the average seniority that results as lower for women compared to that of men and, lastly, for an average lower job level of the female population.

In line with the provisions within Iren's Articles of Association on equal access to the administration and control bodies of listed companies (Italian Law 120/2011), at Iren and top-level companies a balance between genders in the composition of the corporate bodies is ensured. The Group's Boards of Directors<sup>3</sup> comprise 14 women, who represent approximately 17% of the total number of members (83 persons).

In 2015, 118 women took maternity leave. Due to the flexible working hours and the specific training offered by the Group, in addition to the services described in the corporate welfare paragraph, all of the women in these cases were able to return to the position they occupied before starting the maternity period or to enter another position on a similar level in cases in which changes to the organisation did not permit the worker to return to her previous position.

The presence of women among senior managers, junior managers and white-collar workers is higher compared to that of the overall population of the Group

	2015	
Total no.	Women no.	Women %
81	10	12.3
240	53	22.1
2,861	919	32.1
2,954	549	18.6
6,136	1,531	24.9
	81 240 2,861 2,954	Total no. Women no.  81 10  240 53  2,861 919  2,954 549

<sup>&</sup>lt;sup>3</sup> This includes the BoD of the Group Companies included in the scope of the Sustainability Report (with exception of OLT Offshore LNG and TRM V. S.p.A.).

### PROTECTED MINORITIES

Iren Group takes care to provide disabled personnel with conditions that facilitate their integration in the working environment.

Personnel belonging to legally protected minorities	2015	2014	2013
Number of employees	323	248	254

## **CORPORATE WELFARE**

#### IN EMILIA: THE SOCIAL DELEGATE

The social delegate is a person recognised by the social partners within the framework of the 2nd level of bargaining, sensitive to the social problems and personal problems that may arise in a working relationship. He/she interprets the difficulties that may arise at work and helps to solve them by providing support and suggestions with a view to eliminating all forms of prejudice and social rejection. Activates and links all the resources available at the workplace and in the community. Supports social actions and social rehabilitation pathways that help workers to fit into the working environment, including them in company talks. The social delegate can also use his/her own personal awareness and skills to identify and develop aspects, activities and proposals that may help to improve the quality of time at work - and consequently also at home - of the workers through beneficial interaction with the relevant company figures.

#### PREVENTIVE CARE PROGRAMMES

"Progetto Benessere" continued in Genoa, which offers employees the possibility to get a periodical health check-up on a voluntary basis, calibrated by age and gender, against a contribution every two years of 10 Euro that is entirely donated to the Gaslini Institute of Genoa. In Parma, members of CRAL ARTA have access to a health prevention scheme that provides them with some specific health examinations.

#### **HEALTH AND SOCIAL SECURITY**

Employees working in the Turin area and some retired employees can use a service offering social assistance, assistance for the recognition of disabilities and social security assistance and consulting.

#### SUPPLEMENTARY PENSION FUND

Since the legislation reforming the supplementary pension system came into force (January 2007), employees have been able to decide how to use their Employee leaving entitlement. They can either leave it with the company or put it in one of the pension funds provided for by law, which ensures another pension to supplement the compulsory government-managed pension and thus a higher coverage.

A large number of employees have chosen closed pension funds, which are established by collective bargaining and may be accessed only by workers with specific collective labour agreements. Three main funds are available for Iren Group

employees: Pegaso, for personnel with electrical, gas or water industry contracts, Previambiente for employees with an Environmental industry contracts and Previndai for senior managers.

As at 31 December 2015, 3,158 employees subscribed to a supplementary pension fund. In 2015 the Iren Group paid a total amount of Euro 1,676,000, as payment of the company's contribution (this data does not include AMIAT and former AMIAT employees).

#### PERSONNEL INSURANCE COVERAGE

Nearly all employees with junior manager, white-collar or blue-collar worker contracts are covered by an insurance policy stipulated by the Company against death, partial or total permanent disability following accidents on or off the workplace. All senior managers are covered against occupational illnesses, accidents on and off the workplace and by a life insurance policy, as laid down in the Confservizi Senior Managers National collective labour agreement.

#### **ADVANCE OF POST-EMPLOYMENT BENEFITS**

Group employees may benefit from better conditions than those provided by the legislation in force by applying for an advance of their post-employment benefits more than once to pay for healthcare, to buy their first house, renovate an existing property, restructure or modify buildings in order to remove architectural barriers and in other specific cases.

#### BENEFITS DURING RETIREMENT

Retired employees and their dependent family members can continue to be part of the recreational, cultural and sporting associations of the Group and, therefore, use the majority of the services offered. Former electrical industry employees to whom electricity or gas discounts were granted during employment retain this benefit during retirement, as do their spouses after their death

The National collective labour agreement for the electrical industry provides for the payment of additional months wages to the severance indemnity for employees that terminate their service with 40 years of contributions paid or that are 60 years old.

#### **OUALITY OF LIFE FOR THE OUALITY OF WORK**

The Iren Group pursues a management policy that promotes and sustains:

- the correct balance between professional and private life, making a range of opportunities available to its employees that enable them to reconcile work commitments and personal needs (flexible work hours, telecommuting, parttime, flexibility for a number of days, paid short-term leaves and leaves of absence, integration of obligatory maternity leave, nursery school, counselling service);
- a series of favourable conditions aimed at improving the quality of life of its employees, with a constant economic commitment: company canteens, meal allowances, parking facilities, incentives for the purchase of public transport passes, discounts and/or payment instalments (i.e. purchase of school books, on the cost of public transport passes and travel).





Recreational, leisure, sports and cultural activities are offered to the employees through company leisure clubs, present in the various territories.

#### **FLEXIBLE WORK ORGANISATION MODELS**

**Telecommuting** - Group employees to which the electrical industry contract is applicable, on a voluntary basis, by way of an agreement, may telecommute part-time, introduced into the company on the basis of an agreement between the Social Partners. For employees with other contracts, telecommuting can be permitted with the same criteria by means of individual agreements. The Company gives priority to requests motivated by work-life balance needs (care for children and elderly, personal or family health problems, distance between home and workplace, etc.).

**Part time** - All Group employees may request part-time work (horizontal, vertical or mixed) on a voluntary basis and the same is always reversible, without any loss of the benefits provided for employees with full-time contracts.

Part time contracts (no.)	2015	2014	2013
Women	199	159	168
Men	35	26	25
TOTAL	234	185	193

Iren carries out activities and elaborates projects to meet the needs of its employees and their families

#### INITIATIVES FOR THE WELL-BEING OF THE EMPLOYEES

In order to promote the well-being of its employees, the Iren Group has chosen to:

- participate in the "Campagna per la prevenzione degli aneurismi dell'aorta" (Campaign for the prevention of aneurysms of the aorta), sponsored by the Cardioteam Foundation Onlus, in order to spread awareness regarding the prevention of heart diseases. The initiative is addressed to all employees over 55 who were invited to undergo a free health screening carried out in an equipped medical CardioVan that was parked at the premises of several corporate locations on fixed dates. Overall, in all of the local areas, 753 employees participated, which represent 80% of those entitled to benefit from this initiative. The prevention campaign will continue into 2016 with the involvement of the AMIAT employees in Turin;
- with "Bimbi in ufficio con mamma e papà" (Children in the office with Mom and Dad), sponsored by the newspaper Corriere della Sera. This initiative is aimed at bringing children into their parents' work environment and to increase a sense of belonging in the employees at the Company. On a trial basis and simultaneously in 9 offices in various local areas, employees could come to work accompanied by their children and spend a day together with them showing them their environment and introducing them to co-workers. 350 children participated in the much appreciated initiative;

- offering all employees the opportunity to purchase at favourable conditions part of the IT and telephony instruments that make up their current work instruments in the event of substitution of the same for obsolescence or in the event of termination of service;
- start an initiative in the area of Turin to favour sustainable mobility, guaranteeing favourable tariffs for car sharing;
- implement actions aimed at the introduction of flexible benefits for various categories of employees, that will be disseminated over 2016. For this purpose an external provider has already been identified and implemented in support of this activity.

#### LEISURE, SPORTS, CULTURAL AND HEALTHCARE ACTIVITIES

In order to favour social relations between employees, the same have access to the Cultural Recreational Club in Genoa, ADAEM and Cral AMIAT in Turin, the Quercioli Club in Reggio Emilia, Cral Amps and Cral ARTA in Parma and Cral Enìa in Piacenza. The activities offered consist mainly of sporting activities, courses, tourism and cultural offers, luncheons and social parties and support initiatives and are carried out in the dedicated offices or through agreements (trips, summer camps for children, etc.). Some associations contribute to the costs of schooling for employees' children and enable school books and stationery to be purchased at special prices. The clubs also make trade agreements in the areas concerned to allow employees to purchase products and services at reduced prices. Employees with an electrical industry contract are given healthcare by the clubs through contributions to cover the costs borne and preventive medical care programmes. The clubs are nearly all financed by the Group, which also provides them with free use of the facilities and the equipment necessary to carry out the activities.

Contributions paid (Euro)	2015	2014	2013
Leisure activities	927,295	876,451	792,718
Healthcare activities	1,133,262	1,027,856	566,259
TOTAL	2,060,557	1,904,307	1,358,977

#### INTERNAL COMMUNICATION

In 2015, the Iren Group increased its internal communication activity operating in a complementary manner to external communication.

Internal communication is an essential tool for the Group in order to accelerate the development of the processes, accompany and support organisational changes and new business strategies, develop a common corporate culture, orienting the efforts towards the achievement of the company objectives, that become common objectives, that can be pursued through the contribution of each person.

The main instrument used for internal communication is the company Intranet "Noi Iren", that has on average 2,500 users connected every day, for a total of approximately 25,000 pages seen daily.

"Noi Iren" represents the knowledge map of the entire Group and is also the point of access to enterprise applications. Information of an organisational nature is published on the Intranet (press releases, organisational charts, QSA policies), as well as regulatory information (service orders, Legal form 231) and corporate information (acquisitions, non-recurring transactions, Board of Directors' meetings, business plan).

Information of a cultural nature is also communicated through the Intranet, aimed at involving and favouring the participation, free or at favourable conditions, in sports, artistic, theatre, musical initiatives held in the various local areas. Employee involvement also occurs through the organisation of corporate initiatives and events, that sees the participation of employees and their family members, with the objective of increasing a sense of belonging at the company.

One example is represented by the gatherings to exchange Christmas wishes and award bonuses for corporate seniority, which in 2015 saw the participation of more than one thousand employees; in 2015, for the first time, new hires were also celebrated.

Another fundamental internal communication tool is the *house organ* "Iren Informa" that was converted from a traditional instrument on paper to a web magazine. Available internally and externally, it offers information and insights on events and projects of the Group.

Articles, editorials, interviews are enriched with photo galleries and videos. A monthly newsletter is also prepared that reviews the main issues addressed and is sent via e-mail to all of the employees of the Group and to the over 100,000 subscribers of the newsletter.

## PERSONNEL TRAINING

The Iren Group considers its human resources to be a key factor of its success and the focus on persons, the development of their skills and careers and the construction of a collaborative work environment are at the centre of the attention of their managers.

In order to exploit the potential and increase the value of its human resources in line with the strategies and functionalto the Group development needs , training represents a fundamentally important tool in order to remain in line with the innovation and cultural change imposed by the market to be competitive.

The training focuses on the development of specialist technical and managerial skills, in a scope of permanent training ("lifelong learning").

Training is a factor of professional development and growth within the Iren Group

In 2015, the number of employees that participated in at least one training course amounted to 5,506 (this figure was 4,223 in 2014). The percentage of Senior managers involved in at least one training course is on the rise, reaching 94% in 2015, also in light of the training commitments relevant to the realisation of the Change Management project "Cambiare insieme" (Change Together). The percentage of white-collar workers also rose to 96.7%, due in particular to the launch of the "Iren One" project with the implementation of a unique ERP system at the Group level.

The satisfaction index<sup>4</sup> was positive (approximately 83%), although it slightly dropped compared to the previous year; the learning curve rose from 94% to 95%.

Employees attending at least one training course (%) (2)	2015	2014	2013
Senior managers	94.0	87.5	89.9
Junior managers	96.0	97.6	100.0
White-collar workers	96.7	94.6	94.5
Blue-collar workers	80.0	89.5	97.7
TOTAL	88.6	92.8	96.0

(2) The indicator is calculated using a percentage, dividing the people involved in at least one training event by the average annual number of employees.

The man hours relevant to training initiatives were approximately 108,000, with an average pro capita of 17.4 hours (figure that increases to approximately 21 hours equal to the perimeter of the previous year).

On the rise is the percentage of the overall training hours relevant to activities designed and managed by the Training function, using both internal instructors and external consultants (so-called internal training) that goes over the last two years from approximately 85% to 89%.

The remaining 11% was purchased from catalogues and organised by external organisations (known as external training).

Compared to previous years, in 2015 there was a turnaround of the trend in the composition of overall hours, with a sharp increase in specialised training (including IT), whose impact on the overall hours provided rose to 54.2% (2014 in 44%), with a pro-capita average of 9.4% (8.4% in 2014), a sign of the constant attention to the maintenance and increase of specialised skills of the Group's resources at all levels.

Training relevant to safety and specific risks, quality and environment is in decline, whose impact in regards to the overall hours drops to 38.6% (48.4% in 2014), with a pro-capita average of 6.7% (over 9% in 2014), especially in consideration of the significant training investments made in previous years relevant to the implementation of the agreement States/Regions 21/12/2011, that involved senior managers, coordinators and workers.

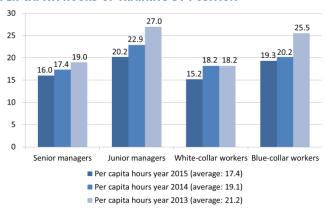
<sup>&</sup>lt;sup>4</sup> The satisfaction index does not consider the data of the Company AMIAT.



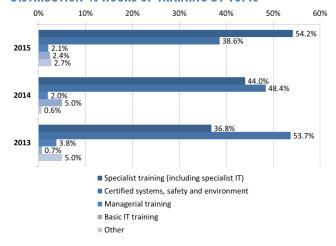


Hours of training by position	2015	2014	2013
Senior managers	1,328	1,182	1,312
Junior managers	4,951	5,149	5,635
White-collar workers	44,143	48,355	47,429
Blue-collar workers	57,514	32,245	40,829
TOTAL	107,936	86,931	95,205

#### PER CAPITA HOURS OF TRAINING BY POSITION



#### **DISTRIBUTION % HOURS OF TRAINING BY TOPIC**



### INVESTMENTS IN TRAINING

The attention paid by the Group to personnel training and the conviction that it represents an investment, is confirmed in the entity of the economic resources used in 2015 for external services (over Euro 560,000).

Agreements with Universities for the training of undergraduates and graduates. In 2015, the Iren Group continued and developed its partnerships with the main Italian Universities present within the areas in which the Group operates, therefore, 21 agreements are active with domestic Universities.

In particular, the collaborations concerned educational activities, high level training and permanent training. The Group also provided support for the preparation of theses, projects and degree papers, for the organisation of visits and internships aimed

at students and recent graduates (amounting to over forty), conferences, debates, seminars and statements on specific topics relevant to innovation, energy and the environment.

The Group has also made its skills available for the realisation of alternating school/work projects to the scholastic institutions of the Regions in which it operates.

## WORKPLACE SAFETY AND WORKERS' HEALTH

The Iren Group considers it to be an investment to dedicate human, professional, organisational, technological and economic resources to occupational health and safety (OHS) as it believes it to be fundamentally important to protect workers, and includes among its objectives not only compliance with the provisions laid down by the law, but also measures taken with a view to continuously improving working conditions.

Monitoring of the Safety Management System is ensured in every Company of the Group by a unique Risk Prevention and Protection Service located in the holding. This will guarantee the uniformity of the risk assessment methods, the identification of the organisational, procedural and technical measures and the identification of the training necessities of the employees relevant to health and safety at work Specific coded procedures and systematic audits are conducted to monitor and continuously improve this system.

### HEALTH AND SAFETY COMMITTEES

Within all of the local territories meetings are held, at least annually, with the Workers' Safety Representatives (RLS). A semi-annual basis was agreed to in Genoa. In the Turin area specific Management Committees are held at which the aspects of health and safety are dealt with and monitored on a whole. Monthly meetings are organised, between Management Representative, Workers' Safety Representative, the Company Doctor, and the Health and Safety Department of the Companies. The Turin companies have also activated a specific cross safety committee.

Through the participation of top management and with the support of external legal consultants, specific objectives were achieved in the field of safety, such as:

- the revision of the internal procedure system aimed at the effectiveness and decentralisation of responsibilities and powers:
- the definition of the guidelines for the management of companies and intercompany contracts;
- the development of a benchmarking activity;
- the introduction of various incentive instruments for safety.

A strict concept of security implies a global involvement of the employees that, in function of the activities carried out and the

respective skills and responsibilities, are called to carry out an active role for prevention. Therefore, particular attention is paid to training and information activities for employees on topics of heath and safety at the work. With reference to personnel, continuous monitoring elements are represented by an analysis of each individual accident and near miss and supervisory inspections made by the operational staff on the basis of an annual plan. In the Iren Group there are no workers highly exposed to or with a strong possibility of occupational illnesses.

## AGREEMENTS WITH TRADE UNIONS TO PROTECT HEALTH AND SAFETY

At a Group level an agreement was made with the Trade Unions to set aside a part of the Performance Bonus paid to the employees for the reduction of the number of occupational accidents and the relevant indices. The aim of reducing the number of accidents is set as an objective directly for the Operational Management departments through specific MBO measures.

The relationships with the Workers' Safety Representatives, especially with regard to the methods of conducting audits and inspections of workplaces and managing reports received from the same Representatives, are regulated by a special procedure.

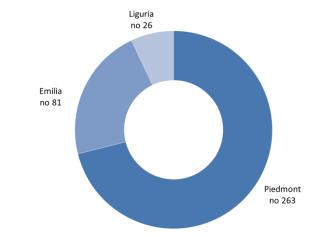
#### PRINCIPAL HEALTH AND SAFETY INDICATORS

Accident indexes (1)	unit of measure	2015
Total number of accidents	no.	370
Hours worked	no.	9,632,743
Frequency index (total no. accidents/hours worked x 1,000,000)	-	38.41
Days of absence due to accident	days	12,094
Severity index (days of absence due to accidents/hours worked x 1,000)	-	1.26
Incidence index <sup>(2)</sup> (total no. of accidents/total no. of employees x 1,000)	-	59.52
Mean duration of absence for accidents (days of absence per accident/total no. of accidents)	days	32.69
Accidents during travel (3)	no.	40

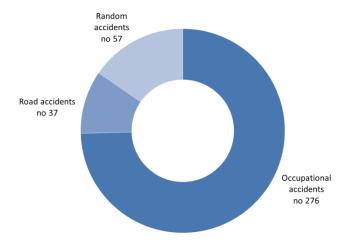
(1) The calculation of the accident indexes comprises industrial, fortuitous and road accidents recorded in the accident registers of the Companies in the Group. The calculation of the accident indexes does not include accidents during travel or those not recognised by the INAIL.

In the paragraph "Iren People: the numbers" is the breakdown of the accident indicators for the last three years.

#### **ACCIDENTS BY AREA**



#### **ACCIDENTS BY TYPE**



<sup>(2)</sup> The incidence index is calculated on the basis of the average number of employees.

<sup>(3)</sup> A fatal accident occurring during travel in 2015 has not been included.



## **IREN PEOPLE: THE NUMBERS**

Employees at 31/12 by position and type of contract	20	15	20	14	20	13
Senior managers	81	1.3%	69	1.5%	67	1.5%
Junior managers	240	3.9%	229	5.1%	223	4.8%
White-collar workers	2,861	46.6%	2,658	58.8%	2,673	58.1%
Blue-collar workers	2,954	48.2%	1,566	34.6%	1,635	35.6%
Total	6,136	100%	4,522	100%	4,598	100%
Employees with permanent contracts	6,081	99.1%	4,456	98.5%	4,551	98.9%
Employees with fixed-term contracts	15	0.2%	26	0.6%	26	0.6%
Apprenticeship/in-house training contract	40	0.7%	40	0.9%	21	0.5%
TOTAL	6,136	100%	4,522	100%	4,598	100%

Employees 31/12 by province	20	15	20	14	20	13
Province of Turin	2,832	46.2%	1,141	25.2%	1,197	26.0%
Province of Genoa	1,037	16.9%	1,039	22.9%	1,036	22.6%
Province of Reggio Emilia	793	12.9%	847	18.7%	849	18.5%
Province of Parma	740	12.0%	762	16.9%	763	16.6%
Province of Piacenza	538	8.8%	545	12.1%	554	12.0%
Other provinces	196	3.2%	188	4.2%	199	4.3%
TOTAL	6,136	100%	4,522	100%	4,598	100%

Employees by position and gender		2015			2014			2013	
	Total	Wo	men	Total	Wo	men	Total	Wo	men
Senior managers	81	10	12.3%	69	7	10.1%	67	8	11.9%
Junior managers	240	53	22.1%	229	58	25.3%	223	57	25.6%
White-collar workers	2,861	919	32.1%	2,658	833	31.3%	2,673	837	31.3%
Blue-collar workers	2,954	549	18.6%	1,566	15	0.9%	1,635	15	0.9%
TOTAL	6,136	1,531	24.9%	4,522	913	20.2%	4,598	917	19.9%

Employees average age by position (years)	2015	2014	2013
Senior managers	55	55	55
Junior managers	51	51	51
White-collar workers	49	49	48
Blue-collar workers	48	48	47
TOTAL	49	49	48

Employees by level of education (%)	2015	2014	2013
Compulsory schooling	35	27	28
Professional institutions	14	16	17
Diploma	37	40	41
University Degree	14	17	14
TOTAL	100	100	100

Average personnel by Business Unit	201	5
Holding	592	10%
BU Energy	956	15%
BU Market	444	7%
BU Networks	1,917	31%
BU Environment	2,307	37%
TOTAL	6,216	100%

Turnover of personnel by province and age (1)	20	015	20	014	20	013
Province of Turin	-57	-5.0%	-56	-4.7%	-8	-0.7%
Province of Genoa	-2	-0.2%	+3	+0.3%	-2	-0.2%
Province of Reggio Emilia	-54	-6.4%	-2	-0.2%	-18	-2.0%
Province of Parma	-22	-2.9%	-1	-0.1%	+23	+3.1%
Province of Piacenza	-7	-1.3%	-9	-1.6%	-	-
Other provinces	+8	+4.3%	-11	-5.5%	+134	+206.1%
TOTAL	-134	-2.96%	-76	-1.6%	+129	+2.9%

<sup>(1)</sup> The turnover was calculated as the difference (in absolute terms and percentage) between the employees present at the end of the year with respect to those present at the start of the year.

Average company seniority of departing staff by age (years)	2015	2014	2013
under 30 years of age	1	3	0
from 30 to 50 years of age	4	9	12
over 50 years of age	30	29	27
TOTAL	25	23	23

Average company seniority of departing staff by gender (years)	2015	2014	2013
Men	25	23	22
Women	24	26	24
TOTAL	25	23	23

Staff taken on by gender and province (no.)	2015
Men	156
Women	40
TOTAL	196
Province of Turin	106
Province of Genoa	17
Province of Reggio Emilia	20
Province of Parma	27
Province of Piacenza	19
Other provinces	7
TOTAL	196

Staff taken on by position (no.)	2015	2014	2013
Senior managers	8	1	1
Junior managers	7	2	1
White-collar workers	50	54	22
Blue-collar workers	131	29	19
TOTAL	196	86	43

Employees with fixed-term or apprenticeship contracts (n.)	2015	2014	2013
Employees with contracts expiring in the year	69	27	45
of which taken on during the year with an open-ended contract	62	21	43





Average salary by position and gender (Euro)	20	)15	20	14	20	13
	Men	Women	Men	Women	Men	Women
Senior managers	63,005	60,150	64,251	60,530	61,289	60,832
Junior managers	48,928	48,276	51,163	49,642	49,570	48,231
White-collar workers	35,528	32,223	36,032	30,631	34,552	30,335
Blue-collar workers	28,105	24,544	29,723	28,321	28,892	26,521

Accident indexes (1)	unit of measure	2015	2014	2013
Total number of accidents	no.	370	137	130
Hours worked	no.	9,632,743	7,371,633	7,325,012
Frequency index (total no. accidents/hours worked x 1,000,000)	-	38.41	18.59	17.75
Days of absence due to accident	days	12,094	4,643	3,600
Severity index (days of absence due to accidents/hours worked x 1,000)	-	1.26	0.63	0.49
Incidence index <sup>(2)</sup> (total no. of accidents/total no. of employees x 1,000)	-	59.52	30.12	28.98
Mean duration of absence for accidents (days of absence per accident/total no. of accidents)	days	32.69	33.89	27.69
Accidents during travel <sup>(3)</sup>	no.	40	27	22

<sup>(1)</sup> The calculation of the accident indexes comprises industrial, fortuitous and road accidents recorded in the accident registers of the Companies in the Group. The calculation of the accident indexes does not include accidents during travel or those not recognised by the INAIL.

In relation to the accident indicators, the comparison between 2015 and the two previous years results as hardly significant

considering the consolidation of Amiat that carries out intensive labour activities, resulting in a greater accident risk.

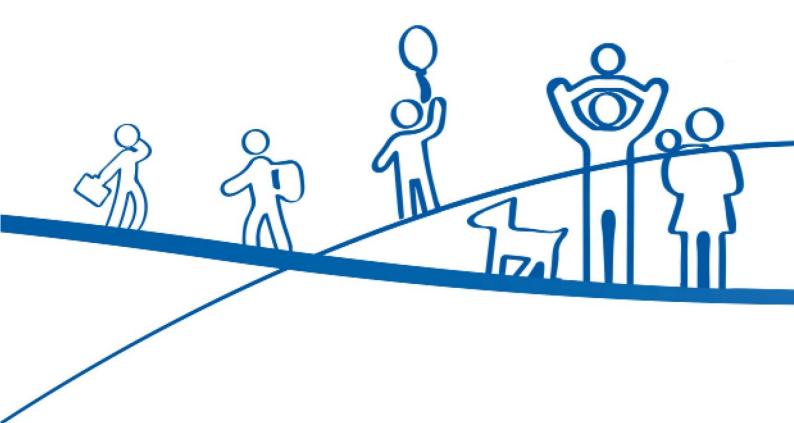
Accidents by gender (no.)	2015
Men	247
Women	123
TOTAL	370



<sup>(2)</sup> The incidence index is calculated on the basis of the average number of employees.

<sup>(3)</sup> A fatal accident occurring during travel in 2015 has not been included.

# Suppliers



#### **IMPORTANT TOPICS**

Employment: in the current economic context this topic is of paramount social importance and represents a crucial factor both for Iren Group and for local communities. The effects generated by the Group in terms of employment, direct and indirect, are a guarantee of economic stability for the local areas with consequent positive effects also in terms of social development.

Sustainable management of the supply chain: this topic is central to the maintenance of the quality of services, environmental protection and safety. The objective of the Iren Group is to build a system of correct and transparent relations with suppliers, based on clear rules and shared values. Moreover, the Group deems it important and consistent with its mission, to exploit categories of suppliers that provide job placement for disadvantaged people.



## **POLICIES FOR SUPPLIERS**

Iren Group considers its suppliers to be an integral part of the sustainability process. The goods and services purchased from suppliers impact the quality of the services and the reputation of the Company: for this reason it is crucial to monitor the supply chain, representing a strategic aspect in the management of the Group business activities.

In 2015, Iren Group started an organisational rationalisation process that, in relation to procurement systems, led to the centralisation of activities in the Purchase and Contract Department, that carries out the control and selection of suppliers, the scheduling of tenders, the selection of awarding procedures and planning of the Group's procurement. A continuing specialisation is also expected for the business areas of the dedicated buyers.

# PROCEDURES FOR THE QUALIFICATION, SELECTION AND MONITORING OF SUPPLIERS

The aim of the supplier qualification system used by the Group is to guarantee that the products, services, works are of high quality and are reliable. The Group's supplier selection and management process is based on principles of transparency, clarity, integrity and non-discrimination.

In addition to qualitative aspects, those relevant to sustainability are also considered in the qualification process, with particular attention given to socio-environmental topics and the implications arising from the Code of Ethics of Iren Group. The Group's primary interest is that all suppliers carry out their activities in compliance with the principles and values contained in the Code of Ethics, whose acceptance by all bidders is mandatory, with no exceptions or amendments. In the event of a tender, the failure to sign the Code of Ethics represents a cause for exclusion. Likewise, the clauses included in the tender specifications, which regard the protection of employees on the topic of safety and the payments of social security and remuneration to the contractor's employees, cannot be derogated. Incorrect policies applied by the suppliers are sanctioned by means of special tender specifications and by the general tender specifications of Iren Group, with specific sanctions relevant to the severity of the problems.

The qualification of the suppliers can be carried out in public form (subject to the publication of a European tender for the set-up of a qualification system, having a three-year and dynamic duration), or following the issue of a public tender subject to specific demands. Companies having the necessary requirements will be

qualified and subsequently sent to the negotiation procedures carried out relevant to the sectors of qualification.

Iren Group also uses qualification procedures for suppliers involved in tenders under certain thresholds and requests firms to fill in a specific questionnaire. The provisions in force provide for the invitation of at least 5 suppliers among those included in the Supplier List, centralised in the management environment of the Group, based on the qualifications present in the relevant product categories. The qualification is performed for suppliers of critical and strategic products and services, defined as such based on the technical functional aspects of the supply, the criteria of quality, environment and safety of the service and on the impact on the functionality and safety of networks and plants.

The qualification to be part of the supplier register requires verification of being in possession of the certifications issued by independent bodies (i.e.: possession of the ISO certifications, the SOA certifications, etc.), as well as the possession of the technical and economic eligibility requirements that are adequate for both the amount and nature of the tender and supply.

The possession of the following certifications will be evaluated as positive:

- UNI EN ISO 9001 in the context of the qualification of the critical and strategic product and service suppliers;
- UNI EN ISO 14001 and/or the EMAS regulation and the application of the best technology available with the minimum environmental impact (Economically Viable Best Available Technology). The new legislative provisions recently introduced for the green public procurement and the update of the contracts code relating to the so-called green tenders are crucial for the implementation of the minimal environmental and rewarding criteria indicated in the Ministry of the Environment's Decree in the specifications prepared in the stage of the tender for the most economically advantageous offers;
- OHSAS 18001 relevant to health and safety at work.

Calls for tender always require requisites of honourableness for the representatives of the companies and for the subcontractors as conditions for participation.

These requisites are checked through:

- the request from the Province for the fulfilment of the obligations relevant to mandatory recruitment;
- the request for the DURC for social security and insurance fulfilments;
- the request of tax regularity from the Tax Authorities.

With regards to the top management of the suppliers, in the scope of the procedures open to the public, also verified (through the Judicial Register) is the absence of criminal convictions that, given their nature and seriousness, lead to exclusion from contracts and subcontracts (including offences related to safety, child labour etc.).

Monitoring of the legality of all suppliers, in order to determine the absence of all forms of mafia infiltration, is carried out by verifying the requirements provided by the anti-mafia regulations in force, i.e. their presence in the white lists at the relevant Prefectures or by requesting anti-mafia communications or notices.

Iren Group has also executed with the Prefectures of Reggio Emilia, Parma, Piacenza and Genoa, legality Protocols that aim to expand monitoring of enterprises in terms of the anti-mafia laws, even beyond the cases envisaged by law. On the basis of these Protocols, contractors and subcontractors are monitored so that if they are not in compliance with the prefecture information, they are excluded from the tenders.

The vendor rating indicates the assessment in the qualification stage in the Supplier List that is periodically updated through the reanalysis performed in order to verify the performance of the supply of services and the supplies over time. The evaluation results in a score for the selection of suppliers and can be used in negotiating, establishing and applying supply conditions (inclusion and application of penalties, terms of delivery), handling recalls and reminders, the rotation of suppliers and, where necessary, exclusion from the qualified Supplier List.

Suppliers qualified by product category considered critical and strategic are subject to a post-employment reanalysis assessment by the internal functions that use the contracts and directly verify the conduct of the suppliers when executing the supply. Repeated negative results or serious breaches in the supply relevant to specific product categories correctly reported to the Purchase and Tender Department, result in suspension from the qualified suppliers List for the period of time established.

In 2015, a total of 1,588 suppliers were assessed, 1,121 of which during the qualification phase and performance review phase with a view to adding them to the company's qualified Suppliers List.

In particular 429 suppliers were assessed on the topic of environment and safety. All specifications require that contractors and subcontractors comply with environmental provisions. Therefore, for that which concerns products, the Group promotes the use of recyclable and renewable materials, which minimise the production of waste and favour production systems with low environmental impact. Some technical specifications also require the purchase of fair-trade products. The goods are traced when the specifications require a specific origin for the same.

## EMPLOYMENT IN SUPPLIER COMPANIES

The Iren Group is aware of the important role played by employment in ensuring the development of the social environment in which it operates. It contributes to maintaining employment levels not only through its own employees but also by promoting the development of the companies to which it

commissions services and work, by requesting guarantees from them in terms of both personnel and safety policies through the application of some of its own standards; moreover, the Group often offers employees of supplier companies the possibility of using some company services and attending training courses organised by the Group itself.

Particular attention is paid during the assessment stage of compliance with the regulations relevant to the correct application of the employment contracts and the payment of the relevant mandatory insurance and social security contributions; the specifications provide for the obligation of the supplier to comply with the laws concerning the protection of the workers and the National Collective Labour Agreement in force and applicable to the sector of reference. These obligations are monitored through the periodical acquisition of the DURC and documentation provided by the laws relevant to safety at work (POS-DUVRI -Single Risk Assessment Document). In the event of failure to comply with the remuneration and contribution requirements, the substitute intervention regulations are applicable, therefore, the employees and social security institutions are paid directly, withholding these amounts from the amounts paid to the contractors. Subcontracts are also authorised and monitored. pursuant to the regulations of the laws in force. The Iren Group, in this regard, has a strict subcontracting regulation, aimed at excluding practices that avoid obligations of the law and to assess the genuine nature and legitimacy of the subcontract itself.

In order to participate in Group tenders in public form, it is mandatory to be in good standing with regards to the obligations provided by Law 68/1999 relevant to the employment of disabled persons. All Group specifications are provided with clauses for preventing black market work both for that which regards contracts, subcontracts and subcontracting.

Given the heterogeneity of contractors used by Iren Group and their areas of intervention, it results as very difficult to identify the data relevant to the workforce of third party companies (contractors, subcontractors, independents, others) by type of contract, the hours worked and the rates of sick leave and absenteeism, also in consideration of the fact that normally the contracts are executed in bulk with the objective of exploiting the business and organisational capabilities of the suppliers.

#### HEALTH AND SAFETY OF SUPPLIERS

Specific measures are required in tender and sub-tender contracts for the protection of health, safety and hygiene at work.

With reference to personnel of third party companies operating in construction sites and plants, the Group carries out supervisory inspections and controls on the work carried out, relevant to the safety and hygiene aspects at work. The monitoring of the activities is guaranteed by internal supervisory inspections by the works Manager (tenders pursuant to art. 26 of the Italian Legislative Decree 81/2008) or by the Coordinator during the work



phase (at temporary and mobile work sites as laid down in Title IV of Italian Legislative Decree 81/2008).

In order to verify the contractor companies, the activities assigned to the technical functions were identified and, where incomplete, integrated into the relevant procedures and/or more accurately defined in general procedures.

Iren Group monitors the total number of accidents suffered by third party companies. In 2015, 7 accidents were reported to personnel of the contractor companies in the Turin area.

In order to start a discussion with the technical areas of Iren Group in order to render such monitoring more significant and effective, an internal communication relevant to the "monitoring of work injuries suffered by contracting companies", was prepared during the work contracting phase.

The necessity was also identified to add specific contractual clauses in order to be able to ask companies and subcontractors for copies of their accident registers.

For that which concerns specific activities considered critical for the purposes of the health and safety of the employees and/or third parties in the specifications stage, a specific training/information activity is provided to be carried out in favour of the contractor. In other cases, together with the competent LHA, a voluntary epidemiological campaign was launched aimed at Group employees and employees of the contracted companies to assess the concentration of hazardous substances within the body to prevent the onset of illnesses.

These situations and cases are regulated by special company management system procedures.

## TRAINING AND INFORMATION

At a Group level during 2015, a total of 4,098 hours of training/information, not specifically dedicated to occupational health and safety, were given involving a total number of 236 workers from external companies.

## SUPPLIER PORTFOLIO AND PURCHASE VOLUMES

In 2015 purchase orders were issued to 4,291 suppliers. During the year, the Group issued orders for over Euro 525 million, of which over Euro 110 million for the purchase of supplies, Euro 324 million for services and Euro 91 million for works.

### EFFECTS ON THE TERRITORY

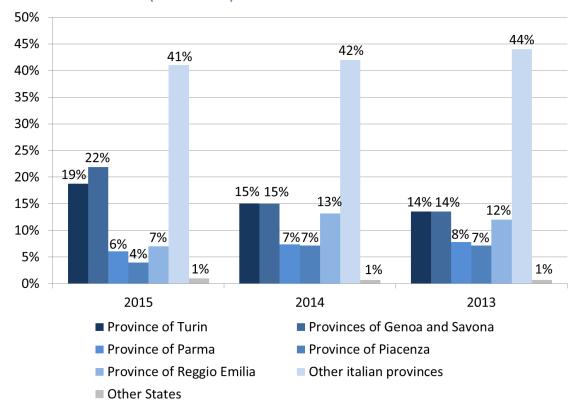
The localisation of suppliers in the territories of reference is very well established, both for the number of active suppliers (over 58% of the suppliers used during the year) and for the economic value of the orders, for approximately 55% of the overall amount. This data highlights the importance of the effects of Iren Group on the territorial areas of reference.

The Group does not select suppliers based on their geographic location, for both the choice to consider the qualitative and economic aspects of the supplies, and the regulatory constraints resulting from the public tenders. In fact, in the scope of the public tenders it is not possible to insert clauses that can in some way privilege local businesses, given that European Community provisions, characterised, amongst other things, by the free circulation of goods and persons criterion, require that all of the companies, independent of their location, can participate.

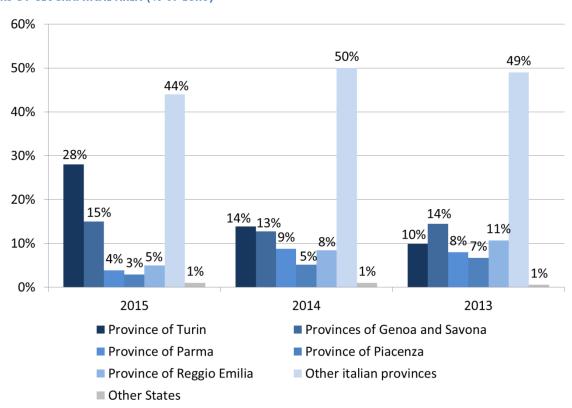
Nevertheless, the economic impacts on local business generally occurs as the contractors find it necessary to resort to subcontracting and make reference to local companies, able to work on a portion of the activities and apply more competitive prices given that they are already present in loco and to guarantee efficient services due to their knowledge of the area. Large contracts are normally broken down into smaller batches in order to make it possible for small and medium businesses to participate.

In relation to the large number of suppliers by geographical area and the relevant volumes ordered, the composition is represented below and refers to all purchases with exclusion of contracts for the supply of raw materials.

#### SUPPLIERS BY GEOGRAPHICAL AREA (% OF NUMBER)



#### SUPPLIERS BY GEOGRAPHICAL AREA (% OF EURO)





#### **SOCIAL COOPERATIVES**

The Group supports the social cooperation that has as its main purpose the entry of disadvantaged people into the workforce. Such companies operate specifically in the waste collection and environmental health services. In 2015, the Group hired the services of 34 social cooperatives for orders totalling over Euro 51 million, with an increase of over 9% compared to the total amount ordered by the Group.

Social cooperative suppliers	2015	2014	2013
Suppliers (no.)	34	36	37
Suppliers (Euro)	51,013,927	35,075,504	33,083,884

#### **DISPUTES**

In 2015, 2 disputes were concluded with contractor employees regarding the customer's joint and several liability with regard to the payment of salaries (pursuant to art. 29 of the Italian Legislative Decree 276/2003) and 1 dispute was relevant to the execution of the contract.



# Community and local area

#### **IMPORTANT TOPICS**

**Development of local communities:** the development of local communities is one of the strategic pillars of Iren Group that identifies in the local areas of reference, current and future, the focus for future growth and shared economic and social development.

Management of construction sites: this topic is of great importance for social and safety implications towards the stakeholders: workers, citizens and Local Institutions. The guarantee to protect workers and communities is at the heart of the operating strategies of the Group, as well as the commitment to reduce the impacts of the construction sites to a minimum.



# ATTENTION TO THE COMMUNITIES AND LOCAL AREA

Communities and local areas are at the heart of the Group strategies, which identifies itself as a modern enterprise capable of producing wealth while protecting the environment and respecting the expectations of the stakeholders and that plans and implements its growth with a particular focus on Corporate Social Responsibility (CSR).

The great importance of the local communities is also highlighted in the 2015-2020 Business Plan of Iren Group, which provides for sustainable development among its strategic guidelines. The Group, in fact, undertakes to promote a new local area development model focused on the innovation of the process and product and social innovation: 98% of the planned investments in the Business Plan are aimed at local area development, generating an important growth driver for local economies, with positive effects also in social and environmental terms.

The operational application of the strategic guidelines translate into important industrial projects that represent the Group's tangible effort in terms of sustainability and that contribute to creating infrastructures, services and employment.

#### **IREN LOCAL COMMITTEES**

Among the initiatives to generate positive impacts on the local area we note the Local Committees, established between the end of 2014 and beginning of 2015. The Committees are organised on a provincial basis, corresponding to the geographic areas within which Iren operates (Genoa, Parma, Piacenza, Reggio Emilia and Turin), and represent an innovative channel of dialogue, debate and design between the Group and all stakeholders of the local communities, with reference to the services of the company and the topics of environmental and social sustainability. We are dealing with real working tools that can be used to collect ideas, proposals, comments and observations, and are designed to improve the Group's services by planning innovative solutions together with citizens geared towards the sustainable development of the territory.

Each Committee is composed of 15 representatives appointed by Institutions, Associations and entities of civil society, that are increased to 18 members in the event of a province with a population exceeding 800,000 inhabitants. In addition to the above there are 5 ex-officio members: the Chairperson and Vice Chairperson of Iren, a representative of the Capital City, a representative of the provincial Municipalities served by Iren and a representative of the local University. The identification of the Committee members occurred through the publication of a tender by Iren to all of the Associates and entities of civil society who were able to submit their candidacy. Project working groups were established within the individual Committees, consisting of various

members of the Committees that follow the individual projects proposed by the same members of the Committees or by citizens registered with the on-line platform **IrenCollabora.it**, first example on a national level of a planning platform with numerous participants. Anyone can sign up for the platform and directly publish their contributions on topics or discussions open within the Committee, make new proposals or suggestions on topics of interest for the Group with the objective of generating concrete and tangible projects. The flow of information produced by the platform is also a valuable source to which Iren looks to implement innovative service strategies and to anticipate the needs of the territory.

There were fifteen projects created during the year by the Committees of Piacenza, Parma and Reggio Emilia that deal with environmental, social and educational issues. Of these, two have already been positively carried out, while the working groups are dealing with the other thirteen in order to realise and conclude the corresponding activities.

Below a summary of projects started in 2015 can be found.



Collection of used cooking oil, a project that aims to recover a valuable resource and improve the operating conditions of the wastewater treatment systems. Iren has presented to the Local Committee of Piacenza the model for the collection of used cooking oils designed for the provinces of Parma, Piacenza and Reggio Emilia and submitted to ATERSIR. The model, a result of an experiment performed in the Reggio Emilia territories, will be gradually introduced into the province of Western Emilia starting from 2016. The Local Committee considered the proposed model satisfactory and considered it possible to complete the project proposal made on Iren Collabora.

A more sustainable Campus is a Campus without plastic. The objective of the project is to eliminate, or at least significantly reduce the amount of plastic waste produced daily at the Campus of the University Cattolica del Sacro Cuore in Piacenza. This objective is part of the broader project SOS - Show Our Sustainability promoted at the university Campus. The University Cattolica has installed in Piacenza 3 distributors of water from the network and distributed 1,000 aluminium water bottles to Campus

goers, involving the same in activities to raise awareness of sustainability issues. The project will be monitored in order to record the results achieved in terms of reducing environmental impacts.

Better understanding of bills. The objective of the project is to make energy and water bills more understandable. The working group established in the context of the Committee of Piacenza initially analysed the new provisions of the Italian Regulatory Authority for Electricity, Gas and Water (AEEGSI) on the topic of invoices 2.0, and subsequently outlined a course starting from the main topics of the invoices in order to further analyse what they include, also with the objective of structuring instruments that move towards a customised bill according to the demands of the customer.

Ecofeste. For years Legambiente Piacenza has developed a project for the reduction of wastes that involves a number of festivals, folk festivals and summer groups, based on the substitution of disposable tableware with reusable material that is washable in the dishwasher. The objective of the project is to reinforce organisation, increase the number of parties involved and make it more popular and widespread. The sub-working group set up in the context of the Committee started collecting a series of preliminary data necessary for the development of the initiative: number and type of festivals, number of meals prepared for each festival, cost of disposable materials, cost of the investment necessary to be fully equipped (washers and reusable tableware and cutlery), in order to develop a feasibility analysis of the project. Another aspect on which the sub-group is working is that of stimulating the Ecofeste initiative through an incentive system, including through the involvement of the Municipalities of the province that have the responsibility to define the regulations on waste management.



Re-Eating at the Restaurant - Those who love food don't waste it. The intention of the project is to investigate, understand and explore the topic of food waste in the catering stage and to propose simple and effective solutions for the reduction of this phenomena. The working group, established within the Committee

of Parma and Piacenza, is working to draw a map of technical and economic resources in order to render the project operational.

Education - Energy saving awareness. This is an invitation to think about energy and its conservation, starting from schools and households by involving the students from the province of Reggio Emilia, that will become active inspectors of energy use within the individual educational institutions. The University of Modena and Reggio Emilia and the RES-EDILI School of Reggio Emilia were involved in order to collaborate in the development of the project. RES-EDILI involved the students from the course "Specialised design technician, modelling and integrated management for the sustainable redevelopment of building heritage" that will carry out a training experience, performing energy check-ups within the three schools of the province of Reggio Emilia. Through the Educational Sciences Department, the University collaborates to define the education project and the on-line platform aimed at students of the schools in Reggio Emilia who will be involved in an activity monitoring the behaviours that impact energy consumption.



**Environmental education - Val Tassaro**. This is a project that comes from the area of Val Tassaro (European Community Site of Importance, UNESCO Mab Area in the province of Reggio Emilia), given it is an important point of reference for research activity, environmental studies and an environmental education program for the schools. Pro Natura Reggio Emilia, promoter for the project, has provided its qualified experts, while the University of Studies of Modena and Reggio Emilia, collaborates for the creation of a project in order to create educational courses in Val Tassaro aimed at students and teachers.

Voluntary mutual fund for energy poverty. The project was proposed by the consumer associations of the Committees of Piacenza, Parma and Reggio Emilia and has the purpose of creating a fund in order to support, extraordinarily, users in economic difficulty for the payment of the electricity, water and gas bills. The project, presented at the end of 2015, is subject to an in depth study by a cross-work group to the Local Committees of Reggio Emilia.



**Pro Ultra – 70**. This is a project that is aimed at developing actions and instruments, to be identified also through a more precise analysis of demands, to facilitate carrying out procedures and improved understanding of the gas and electricity offer by the elderly. The project, proposed by Italia Nostra Parma, is being carried out by a working group within the Local Committee of Parma.

Arturo - Your eyes on the valley. Climate change is producing exceptional phenomena of intense rainfall that produce high risks of flooding caused by the overflowing of streams and rivers. Therefore, it becomes more and more necessary to have tools for forecasting and warning systems to minimize the risk of damage to people and property. The project, presented to the Committee of Piacenza by the Mayor of the Municipality of Rottofreno, provides for the construction of early warning tools, in particular aimed at parties appointed to manage emergency situations. At the end of 2015, development began on an initial warning system in the event of critical situations detected on a pluvio-hydrometric basis, which will be publicly presented in early 2016.

Salsomaggiore, city of planetary health. Students from the Middle School of Salsomaggiore proposed the installation of a public water fountain within the Municipality, identifying in this construction a significant contribution to the improvement of the quality of life and a concrete step in combating the greenhouse effect. With their research they calculated the CO<sub>2</sub> emissions that would be avoided taking into consideration that the water was not transferred into bottles, the reduction of the production of plastic bottles and the reduction of plastic waste. The Committee of Parma committed to prepare a feasibility study to make available to the proponents.

**Subversive garden**, consistent with Expo 2015 "Feeding the planet and energy for life" comes a real need to transform much of the unused soil into space for crops. The Subversive garden provides for the use of micro-organisms effective to eliminate the pollution of soil and water, to produce better food, not only in taste but in properties. The Committee of Piacenza, to whom the project presented on the IrenCollabora platform was aimed, decided to sponsor the initiative by spreading knowledge among the citizens and Local Administrations, should the same wish to try it in their territories in collaboration with the local communities.

**Centre for reuse.** The project that involves the Local Committees of Piacenza, Parma and Reggio Emilia, aims to create centres that implement an effective reuse, also in design, of discarded objects and materials, preventing the same from becoming waste. The project, that was also subject of a study performed in collaboration with the university research centres, proposes an innovative approach based on four fundamental aspects:

 an operational multi-functionality ranging from cleaning, repair and restoration of property moving on to their transformation with design or styling interventions, to the

- supply of related services (i.e. clearing out of premises), up to the sale, educational activity and awareness with the objective of promoting a culture of sustainability;
- the employment of disadvantaged people and creating opportunities for the development of youth entrepreneurship, through specific professional qualification activities. The recovery aspect is important not only for property but also for people, precisely through the offer of employment in an environment that makes it possible to acquire specific professional skills;
- the use of enabling technologies to dynamically manage the entire range of services and products, and through which the citizen can see and acquire the services and products offered:
- the recovery of public spaces, also contributing to the redevelopment of urban areas;
- the establishment of a network that can make it possible for the individual Centres to develop specific vocations, also in relation to territorial peculiarities.



The working group is carrying out activities in order to raise funds within the European Community and nationally for the establishment and start-up of the reuse Centres.

#### PROJECTS FOR THE AREA

In 2015, Iren realised or contributed to the realisation of various important environmental, social and cultural projects that had a

significant importance for the area. Here below is a summary of the main projects.

Environmental Projects	
Torino LED	Iren is a partner of the Municipality of Turin in the project that envisages, with a progressive plan of intervention, the substitution of 54,000 bulbs in two years (approximately 55% of the
Energy efficiency at the service	total city street lights) with LED lights. The benefits of this project are detailed in the chapter "Environment" at page 68 44 Municipalities of the Province of Reggio Emilia were involved in a series of initiatives,
of the Municipalities of Reggio Emilia	carried out by Iren Rinnovabili, relevant to energy efficiency (for further details see page 67).
Campovolo clean	The project promoted the separated waste collection before and during a Ligabue concert, which was held at Campovolo di Reggio Emilia on 19 September in presence of 150 thousand concert goers. The "Ecoconcert" registered 37.7 tonnes less waste produced notwithstanding that there were 40,000 more concert goers compared to the concert in 2011, also thanks to the incentive to use non-bottled water distributed for over 60,000 litres through fountains, and an almost tripled percentage of the separated waste collection.
WEEE Research	The campaign continued to raise citizen awareness of WEEE and waste from electrical and electronic equipment. The Iren Group, together with the WEEE Coordination Centre, has put together an information campaign for the area of Reggio Emilia using the Mobile Environment Centre in the main squares and schools of the interested Municipalities. A similar campaign was also launched in the area of Turin in District 9.
Social Projects	
Good blood makes a network, with Avis	Iren has joined the AVIS project "Good blood makes a network", collaborating in the staging of a donation awareness point at the Group's commercial counters. The initiative, aimed at all of the users of the counters, had the purpose of informing potential donors of the numerous positive aspects of donation.
Santa Claus in Good Health	Iren supported the traditional Christmas event sponsored by the FORMA foundation, in front of the Children's Hospital Regina Margherita in Turin. It also sponsored the initiative among the employees that donated an overall amount of € 1,300 for the project "The friendly MRI - a baby oriented test" by purchasing Santa clothes and tickets for the lottery held by the Foundation.
Just the woman I am	Iren participated with its employees in the race, organised by CUS Turin on the occasion of International Woman's Day, aimed at raising funds for university cancer research: the Iren teams made up of a dozen runners was one of the largest.
Cardioteam Foundation - Aneurysm Aorta Screening Project	The Iren Group collaborated again in 2015 in the first national screening Campaign for aneurysms of the ascending aorta for the early diagnosis of this disease. The initiative also made it possible for dozens of employees, between 55 and 75 years of age, to undergo a complete cardiac evaluation free of charge by the doctors of Cardioteam. The Cardioteam Camper stopped in Parma and Reggio Emilia, after Turin, Genoa and Piacenza.
Cultural Projects	
Clean energy is also produced in the dark	Iren joined the eleventh edition of "M'illumino di meno" ("I light up less"), Energy Saving Day, created by Caterpillar, the historic program by Radio 2 Rai, which promotes various awareness initiatives. The most significant was "Ascoltiamo al buio l'energia idroelettrica" ("Let's listen to hydroelectric energy in the dark"), in collaboration with the Gran Paradiso National Park and the Municipality of Ceresole Reale, that saw the switching off of the Ceresole Dam, making it possible for all of the attendees to "listen" to the hydroelectric energy, during a suggestive night-time torchlight ceremony along the lake using cross-country skis, snowshoes or walking boots. Another important initiative was the show "M'illumino di musica-concerto al buio" ("I light up with music - a concert in the dark"), held by the Pequenas Huellas orchestra, that involves more than 100 young artists lit up only by wood lights.
	-



#### **Cultural Projects** Iren, every year, makes it possible for representatives from Local Authorities and Associations to visit its hydroelectric plants(Valle Orco and Val di Susa) and cogeneration plants (Moncalieri and Torino Nord). Many students also visit the plants thanks to the Eduiren project: 6,750 in 2015. Furthermore, in order to promote understanding of the Visits to the plants and "Blue processes relevant to waste disposal, Iren organised visits to the IEC of Parma, dedicated to night" local administrators involving a group of 34 mayors and councillors from the province of Parma and 40 from the province of Reggio Emilia. The initiatives connected to "Blue Night" also had a large turnout, which made it possible for the citizens to visit the Reggio Est water plant. Iren strongly believes in the strategic role of innovation and research in the Italian industry. For this, as a main sponsor, Iren supported the 2015 National Innovation Award, believing **National Innovation Award** that the development and growth of its businesses can surely benefit from the comparison and collaboration with start-ups that are innovative, ambitious and supported by strong business projects. The Festival was seen by Iren as an occasion to bring together the theatre and local area and for environmental disclosure/education. Meetings and conferences on issues that not only concern the theatre were added to the shows on the bill, as well as walks along routes **Antico Acquedotto Theatre** of historical and urban value between town and country around the remains of the old **Festival** aqueduct. Iren sponsored a conference/show at the local water treatment locations accompanied by a guided tour of the plants, as well as two theatre shows within its plants in Via Piacenza, one of the shows is entitled "The Gas Epic: A history of gas in Genoa, and elsewhere" specifically written and adapted for the company by Mauro Pirovano. Iren sponsored the contest "You Choose the Future of the Planet" organised by the National Centre for Salesian works - Training and Updating (CNOS-FAP and School). The competition involved 50 schools and 54 of Salesian training centres, who participated with You choose the future of the planet poems, videos, artefacts and typical dishes, inspired by themes from Expo: energy conservation, water conservation and environmental resources, research and enhancement of agricultural and food traditions, separated waste collection and recycling and reuse of waste materials. Iren, member of the Organising Committee of the Ostensione in 2015, sponsored the initiative #conirenpellegrinoatorino, aimed as creating a huge photographic billboard made With Iren Pilgrim in Turin up of the faces of those who were in Turin during the Ostensione Sacra Sindone, billboard that was subsequently placed under the portico of Piazza San Carlo. Iren supported the double initiative of the Photomarathon in Genoa (March) and Turin (September) proposing among the topics of the contest 2 issues that are important for the Photomarathon in Genoa and Turin respective cities: water for Genoa, an element with which it has a substantial relationship for economic, historic, hydrogeological structure reasons, and energy for Turin, a city in which Iren is present as a producer and distributor. The Science Festival in Genoa is an event at the national level that has been sponsored by Iren for many years. The 2015 edition saw a renovated version compared to 2014, in the "house of the future" installation, visitors were able to try the smart technologies relevant to **Festival of Science** energy, water and waste management in a domestic environment and in a city environment. Laboratories were also set up for youngsters dealing with the topics of water quality, gas plant safety and recycling of materials. A leg of the Iren Energy Cup was carried out in the courtyard of the portico.

# GIFTS, DONATIONS AND SPONSORSHIPS

The Iren Group also supports cultural, environmental and sports events of national and international interest, and events traditionally organised in the areas where it operates.

In 2015 Iren provided 168 sponsorships and 34 gifts.

#### For that which regards gifts:

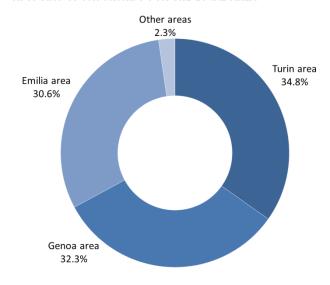
 13 were provided in the cultural field, including: support to the Regio Theatre of Parma, the participation in the Foundation Theatres of Reggio Emilia, the Foundation Regio Theatre of Turin, the Theatres of Piacenza Foundation and the Carlo Felice Foundation of Genoa:

- 12 in the social field, including support for the Piazza dei Mestieri Foundation and the study grant of the University of Parma for the project "Selective debridement enzyme";
- 7 in the environmental field among which the Participation in the Environmental Ethics Centre and support of environmental projects of numerous Municipalities of Reggio Emilia;
- 2 in the sports field, among which support to HB Basket Torino Onlus.

#### The sponsorships are broken down as follows:

- 97 in the cultural field, among which: Cinemambiente (TO);
   Promozione Città di Genova; Comitato Ostensione Sindone (TO);
   Fotografia Europea (RE),
   Festival del Diritto (PC),
   Festival Verdi (PR);
- 32 in the environmental field, among which support for numerous projects presented by the Municipalities of Emilia Romagna;
- 22 in the sports field, among which: Italian Cycling Championship Division, European Mens' Volleyball Championship Division, the Italian Basketball Super Cup;
- 17 in the social field, among which the 50th anniversary of Arcispedale Santa Maria Nuova (RE) and the National Contest for Salesian Education Centres "You choose the future of the Planet".

#### GIFTS AND SPONSORSHIPS FOR THE LOCAL AREA



# INFRASTRUCTURES AND SERVICES FOR THE COMMUNITIES

All of the activities are planned and carried out with awareness of the corporate responsibility that Iren Group has towards the communities and local areas: produce wealth while protecting the environment and respecting the expectations of the stakeholders.

For this Iren maintains constant and fruitful relations with the local communities (Public Administrations and Institutions, environmental authorities, etc.) relevant to issues related to the businesses managed.

The Group is equipped with specific procedures that ensure prompt and effective communication in the event of faults,

outages or inconvenience caused to the public within the times laid down by the applicable legislation. For activities in the electricity, gas, water and district heating sectors the Group also complies with the instructions specified by AEEGSI. In addition to the management of legal compliance, the Iren Group has developed regulations, voluntary codes (internal requirements and procedures) and has taken measures to reduce its impact on the health and safety of the population arising from the activities carried out.

The main activities of the Group that impact the community and the local area are:

production of electricity and heat - Iren actively participates in the development of renewable and similar energy sources. The management of activities of the thermal energy, thermoelectric and waste-to-energy plants are described in internal procedures and conducted in compliance with the requirement of the Law. The emissions are constantly monitored and controlled. Iren also intends to further extend its district heating system to reach 100 million cubic meters of district heating volumes in 2020. Particular attention is dedicated to the assessment of the impacts generated by the presence of construction sites. For that which regards hydroelectric production, the impacts that the plants may have on the health and safety of the citizens are carefully considered in all phases of the design and operation of the plants (feasibility analysis, design, construction and maintenance). Meticulous preliminary studies are conducted on the hydrological characteristics of the catchment basin and the geological features of the areas concerned by the plant; the construction of the plants includes extremely strict tests on all works, hydraulic tests and monitoring of the parameters that characterise the work and that make it possible to assess any deviations from the expected values. Particular attention is dedicated to the assessment of the impacts generated by the construction and maintenance of the plants. Careful checks of the work of the companies' personnel are performed on all contracted activities in observance of the "Environmental guidelines for carrying out works" adopted within the scope of the Integrated System (Environment, Safety, Quality). The energy production plants are all equipped with control systems, both in compliance with environmental legislations (ISO or EMAS), and in compliance with the provisions of the Supervisory Authorities. In particular, in line with the Integrated Environmental Authorisations - IPPC, which all the plants have, all the most significant environmental parameters, such atmospheric emissions, water discharges, waste production, environmental performance and efficiency indexes, are monitored. In addition, the supervisory authority monitors environmental parameters directly on the plants and conducts yearly inspections on the entire production cycle. In order to reduce atmospheric emissions and improve the energy balance, constant monitoring of pollutants is performed, such as CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>. To this is added the





focus on obtaining maximum performance from plants with the lowest possible environmental impact;



water sector - The Group constantly monitors network leaks that can lead to a significant waste of water. Control interventions, extension and maintenance of the water networks are performed with the aim of minimising inconvenience for citizens. In the scope of the water supply for drinking water, the health and safety of citizens are, of course, top priority. This objective is pursued through constant verification, even beyond the legal obligations, of the water quality along the entire supply cycle: catchment, treatment, disinfection, distribution. For that which regards water purification, Iren is committed to maintaining high operation standards for the plants in compliance with the limits imposed by the authorisations in force, and to constantly inform the Local Community relevant to the functioning of the mentioned plants;



gas distribution- Iren is committed to reducing the number
of gas network leaks through the progressive renewal of the
network (elimination of the grey cast iron networks and
reduction of steel networks not cathodically protected). The
main elements of prevention of potential impacts are proper
management of plant and gas networks, the use of relevant

- resources and the use of suitable equipment, along with continuous monitoring. These elements are subject to continuous analysis and improvement in order to constantly increase their effectiveness, in compliance with efficiency;
- distribution of electricity In the context of the management of the electricity networks, one of the main objectives is the constant maintenance of the service levels of the plants in compliance with the resolutions in force. Among the various components of the network, spot checks are carried out on the meters installed in the homes of customers during the purchasing phase;
- waste collection and management Iren is committed to waste management in all of its stages: collection, selection, transport, treatment and disposal, contributing to the recovery of materials and energy production arising from such resources, therefore, reducing the use of nonrenewable sources;



managementof construction sites relevant to the scheduled activities that can potentially create an inconvenience for the public. The Group is committed to minimising the impact on the area, agreeing with the stakeholders on the lead time for the completion of works, hours and operating methods of construction sites identifying strategic periods during the year (i.e. the month of August), in order to minimise the impact on the population, with particular attention to disadvantaged groups and economic activities.



In relation to the construction of new plants, Local Authorities, local area stakeholders, the public and businesses are always involved through various channels: Local Committees, lectures, conferences, seminars, social media, broadcasting, environmental education projects, guided visits to plants, etc. Before beginning the authorisation process for the construction of new infrastructures, Iren considers it vital to conduct information meetings with the Local Communities, illustrating the benefits, the utility of the structure, the impact on the area and the project in detail. For Iren the construction of new plants involves Environmental Impact Studies, with an assessment of the environmental, social and economic characteristics of the area.

For the construction of new plants, Iren undertakes to obtain all of the authorisations required by current legislations: building permit, EIA, any landscaping and park Authority authorisations, military authority clearance, seismic clearance, etc.

During all construction stages of the new infrastructure, Iren is committed to dialogue with the people and local authorities, in order to consolidate its relationship based on transparency and correctness of information.

With regards to the development of new plants or already existing plants in 2015, dialogue activities with stakeholders and the local communities can be summarised as follows:

- in the area of Turin, in particular, in relation to district heating, and especially the dismantling of the Le Vallette plant and the construction of the new green area that will take its place, and the expansion of the network; environment and waste management; innovative solutions for public street lighting; energy efficiency projects; the development of innovative network systems and smart city projects;
- in the area of Reggio Emilia, waste management and in particular, new methods of separated waste collection, as well as topics related to the energy efficiency of buildings and, in general, the optimisation of the use of energy resources in relation to the Integrated Environmental Centre of Parma:
- in the area of Genoa, the activities were particularly concentrated on topics relevant to the construction of new treatment plants in the ATO of Genoa, as well as the nonrecurring transactions executed in the local area, such as the acquisition of water service concessions in the hands of the Acque Potabili companies, and the establishment of the company IRETI.

Altogether, in relation to the impacts produced by the infrastructures and services of the Group towards the local populations, no transfers were necessary, not even on a temporary level, caused by the construction/development of new plants.

In order to protect the members of the community, over the past few years Iren reinforced the instruments used to interact with the stakeholders in order to consolidate its relations with the local area and develop a long-term strategy. The stakeholders have many instruments at their disposal in order to report a breach: these methods range from written communications via mail, e-mail, fax and also include channels of social media. All communications are taken on and each stakeholder receives a response for that which the same reported; written reports received by traditional mail are logged and forwarded to the relevant departments, which will provide for the appropriate investigations.

In 2015, the Group handled 36 monetary disputes relevant to claims for damages (to things or health) received from individual citizens and 7 actions for damages caused to third parties in consequence of the activities of the Group companies. Of these 2 arose and were concluded in 2015, 5 arose and are still pending as at 31/12/2015.

#### **EMERGENCY MANAGEMENT**

The Companies of Iren Group have emergency plans relating to the various locations and different plants, and contemplating the most likely environmental and safety emergency scenarios.

The plans have the purpose of illustrating:

- the organisation and the Coordination Centres set up to tackle any emergency situations that arise during the course of the business conducted by the Group;
- the management of information and relations with the Police, Civil Defence, civil and military authorities, and the regional, provincial and municipal authorities, including their operation rooms.

The purpose of these plans is to be ready to respond promptly to any accidents or alarm situations that may arise following natural calamities, explosions or fires, as well as to prevent or at least reduce resulting injury to personnel and/or damage to the environment. Emergency personnel are identified for every location and plant that are trained and periodically updated, annual evacuation drills are carried out and involve all staff members present. The various emergency scenarios included in the plans are periodically simulated. The results and outcome of the simulation are documented in a report in which any critical problems found among the sensitive elements are indicated with a view to ensuring a continuous improvement.

Emergencies entailing a risk of environmental pollution during normal operation of the plants or following a breakdown in the instruments for controlling and measuring chemico-physical operating parameters are handled immediately by a specialist personnel service that operates 24 hours a day through engineers on call. The operation necessary to correct faults is performed within the minimum time required to carry out the work.

The "emergency" activities to be carried out when predictable events occur are regulated by specific company procedures for the various kinds of plant and network.

For emergencies in the Emilia area, in-field training and simulation activities were carried out at all company sites. At the Poiatica



landfill and the Integrated Environmental Centre of Parma (IEC), not only are company employees involved but also those of contractor companies. Following the attainment of the environmental and safety certification, emergency management procedures and instructions were issued.



Regarding gas and district-heating distribution system emergencies, a specific organisational procedure and emergency plan establishing the responsibilities, activities, organizational structure and skills necessary to ensure a rapid and effective management have been defined in order to:

- implement the necessary safety measures on the distribution systems;
- identify the causes of the emergency and eliminate them as quickly as possible;
- prevent accidents that may originate from the emergency;
- minimize the effects of the emergency;
- plan the operations necessary to restore the distribution systems to normal operating conditions;
- establish the methods for collecting, recording and transmitting details about the emergencies.

#### **ASSISTANCE TO COMMUNITIES**

Iren Group demonstrates its bond with the Communities and local territories in which it operates by offering support to the Local Administrations and populations affected by non-recurring events.

During the severe flood that affected the population of Piacenza on 14 September 2015, Iren, other than offering support with manpower and equipment to those that found themselves having to face an emergency situation for the recovery of their homes or businesses, immediately established the possibility of deferring the payment of the electricity, gas and water bills for the customers hit by the flood and, subsequently, completely refunded the consumption of water exceeding the historic averages of the users affected by the flood.

Furthermore, in collaboration with the Trade Organisations and Unions, the Group activated a collection of funds for the populations. It was possible for every employee to donate an hour of their remuneration in order to aid the communities of Piacenza affected. At the end of the collection of the subscriptions, the Iren Group added an amount equal to the amount donated by its employees.

Iren Group also took steps to protect the population and agricultural sector in the Canavese territory. During the summer, in fact, the record heat and drought have put a strain on the crops in the area. For this reason the Group, that manages numerous hydroelectric plants in Valli Orco and Soana, has decided to use the reserves accumulated in the tanks to maintain a water level of vital importance for local agriculture.

# Institutions



#### **IMPORTANT TOPICS**

**Dialogue with public Authorities:** relations and dialogue with Public Authorities, and more in general, with public politicians, play a critical role for the activities of the Group as they are means to addresing and outlining governance strategies in relation to energy and environment producing impacts that are more efficient and sustainable for the territory and for the entire Country.

Compliance with laws and regulations: this issue is important because Iren Group considers proactive management of compliance essential, through monitoring and debate with regulatory Authorities, to anticipate scenarios and regulatory changes, as well as, to carry out an effective assessment of risks.

**Fight against corruption:** this issue is of great importance for all parties that have an entrepreneurial role and corporate responsibility to stakeholders. The fight against corruption is within the values pursued by the Iren Group and is explained in its Code of Ethics.



#### **RELATIONS WITH INSTITUTIONS**

Iren's Code of Ethics (par. 2.3.3.) declares that Iren Group "actively and fully cooperates with the Public Authorities, pursues the objectives indicated by the relevant Public Institutions and effectively cooperates with the authorities/institutions responsible for regulating and supervising local public services. The Company pursues these objectives by merging them with its own mission and with organisational and managerial independence requirements inherent in any economic operator".



# POSITIONS ON PUBLIC POLICY AND PARTICIPATION IN THE DEVELOPMENT OF PUBLIC POLICIES

Iren Group actively cooperates with the Authorities, regulatory and supervisory Bodies and trade Associations, regarding these partnerships as being of strategic importance, particularly in the current socio-economic climate.

The change in consumption models and technological acceleration in network services, together with the dematerialisation of communication channels and innovation in the digital sphere, are gradually transforming the traditional "user" into an attentive customer. Technology makes more efficient production processes a possibility and significantly innovates the supply process, making it possible to enrich the service in ways that would have seemed unthinkable until a few years ago.

In the public authority services sector, the recession that has affected local authorities impacts on the ability of the latter to outsource services and support them with regular payments, and requires greater levels of attention to be focused on reducing management costs and the possibility of accessing, through forms of external financing, the necessary resources to launch innovation and sustainability processes. The ever-changing regulatory framework is also another element of uncertainty for the sector.

In 2015, the Iren Group took part, both directly and through the reference Associations, to the dialogue and institutional debate on the innovation of local public services, and the development of the market and regulated services, promoted at governmental and local level with the goal of giving the multi-utilities greater scope for flexibility and innovation so effective future growth strategies can be developed.

In terms of their know-how, economic potential, tendency to invest and mid- to long-term strategies, the multi-utilities are an important driver for the creation of new wealth, innovation and synergies with other production sectors. They therefore represent much more than their ability to provide services: they become key players in a community's ability to compete and promoters of well being and development.

From a regulatory viewpoint, the Group concentrated its activities on the development of public policies relevant to all the business sectors in which it operates (energy, gas, waste, networks), participating in consultations, auditions before Chambers (both directly and through the trade Associations it subscribes) and promoting direct meetings with the Authorities involved.

In particular, the topics observed in the various sectors are summarised below:

- energy business capacity market, adjustment on imbalances, start of district heating regulation;
- gas business reform of the balancing and transport on the national network, reform of the provision of capacity at the return points that supply the generation plants, revision of the trade component (QVD);
- waste business support of renewable source incentives, attribution to the Authority of responsibilities including for environmental topics, overcoming the fragmentation of the waste management sector to the national planning of the requirements of disposal/incineration of waste;
- business networks regulation of the tariffs and service levels for the new regulatory period (from 2016), second generation smart meeting to be installed, functional separation, network code, arrears, smart distribution system, updating of the typical conventions and equal distribution of the water sector:
- regasification business tariff schedules for the effective recognition of the costs incurred.

Together with the various businesses, the launch of the functional unbundling consolidated text (TIUF) and the REMIT regulation was overseen.



possible to reuse and discharge about 6 million cubic metres of water per year into the waters of the canals.



# RELATIONS WITH WASTE AND WATER REGULATORY AUTHORITIES

In 2015, the debate continued with the Local Authorities and Waste and Water Regulatory Authorities on two main issues:

- the entry into force of the second regulatory period 2016/2019, in relation to the tariff of the integrated water service. The constant reporting activities with the Waste and Water Regulatory Authorities (ATO) and Local Authorities has enabled us to achieve a fair balance between tariff increases and investment needs in the territory, in compliance with the requirements of the law;
- the need, determined by the AEEGSI legislation, to align the existing documents with the new convention type for the integrated water service.

Following the acquisition of the service concessions in various municipalities forming part of the perimeter of the former - Acqua Potabili SpA, the necessity was also determined to undertake similar activities with the ATO of the Savona area.

In terms of the realisation of investments, the activities in Liguria were concentrated on the recovery of networks and plants following the damages occurred to the structures during the floods of fall 2014, and on the progress of strategic projects relevant to the waste water treatment service. In particular:

- the construction of the treatment plant in Recco is in progress, with the end of the works expected for the spring of 2016;
- the tender, ended, for the awarding of the integrated contract for the design and construction of the water treatment plant in Rapallo;
- the choice of the site for the construction of the new water treatment plant of Entella for the Eastern Tigullio, resolved by the Auditors Meeting of the Metropolitan City.

In the territory of Reggio Emilia the activity continued for the installation of public water dispensers in 7 municipalities, and the reuse system for irrigation purposes of the waters of the treatment plant of Reggio Emilia entered into operation in the summer, cofunded by the Emilia Romagna Region. This construction makes it

# TRADE ASSOCIATIONS OF WHICH THE GROUP IS A MEMBER

In order to create opportunities for discussion and collaboration with other companies and to facilitate regulatory and technological compliance, Iren Group is a member of several national and international technical associations in the water, environmental and energy fields, briefly described below.

**Utilitalia**, federation that brings together local public service companies that operate in electricity, gas, water and environment sectors that represent a point of reference also in relation to employment contracts and relationships with Trade Unions.

**Confservizi** (both national and regional level), company trade union that represents, promotes and protects companies and organisations that manage public utility services with the objective of making services that are essential for the quality of life available, accessible and effective.

**Confindustria** (territorial sectors of Genoa, Piacenza, Reggio Emilia, Turin), the leading organisation representing the manufacturing and service industries in Italy with the task of contributing, together with the political institutions and the economic, social and cultural organisations, to the economic growth and the social progress of the Country.

**Assonime**, association of Italian joint-stock companies. Its aim is to improve industrial, commercial, administrative and tax legislation in Italy and it represents enterprises in relations with the Italian, European and international institutions.

**Anfida**, National Association of Private Aqueduct members of Confindustria. Its aim is to promote solidarity and collaboration between its member companies, to conduct studies on topics of interest to the sector, conducting relations with public and private organisations and authorities.



**AIRU**, Italian Urban Heating Association, that represents the operators of the sector of urban heating systems from cogeneration electricity and heat plants powered by traditional fuels and renewable sources, with the purpose of promoting and popularising the application and innovation of the plants.

**EHP - EuroHeat and Power**, international association that represents the district heating and cooling sector and cogeneration in Europe.

AssoRinnovabili, association of producers, the industry and services for renewable energies that bring together and represent since 1987 the producers, providers of professional services, technologies and active components in the renewable energy supply chain to protect the rights and promote the interests at a national and international level.

**RES4MED** - Renewable Energy Solutions for the Mediterranean, non-profit association established in 2012 as a network of utilities, industries, agencies, suppliers of technical services, research institutions and academic environments involved in the promotion of solutions and clean energy in the Countries of the South and East of the Mediterranean.

In 2015, a monitoring process was kept in place in relation to Group Companies joining trade associations, aimed at ensuring improved and more rational participation. This activity was confirmed by the adoption of the new "Guidelines for joining or participation of the Iren Companies in Trade Associations".

# CONTRIBUTIONS OF POLITICAL PARTIES AND INSTITUTIONS

As specified in its Code of Ethics (paragraph 2.3.4), "Iren does not make contributions in any form, direct or indirect, to parties, movements, committees or any other political organisation or trade union, or to their representatives or candidates, except for those established by specific legislation".

Iren cooperates with the institutions, also financially, for specific projects that are associated with the Group's mission and, in particular, for projects that contribute to the economic, social and environmental sustainability of the areas in which it operates.

These collaborations, detailed in the chapter "Community and Local Area" are always implemented on the basis of clear documentation for the use of resources.

#### **RELATIONS WITH THE MEDIA**

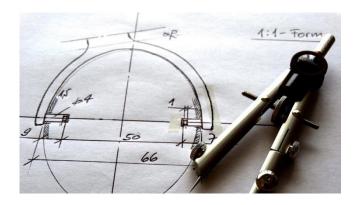
The Group manages media relations at national and local level relevant to the economic-financial, institutional, service and issues relevant to sustainability aspects. During the year it continued to have an important role for the local and national press as a major Italian player in the management of environmental, energy and water services. due to the dimensional and business characteristics of the Group.



Topics relevant to the economic-financial area were of considerable media importance for the national press, in particular the presentation of the Business Plan, while the local press endorsed topics relevant to initiatives of an environmental nature, to relations with customers, energy savings, water quality and the water savings and to the construction/presence of plants within the area.

The relationship activity with the media helps ensure a constant, timely and transparent flow of communication for all stakeholders and involves systematic relations with local and national journalists that are managed according to the principles of availability and transparency, with the awareness of the affinity of the Group to the local area and to the needs of the communities.

The Group's press office monitors the media in order to guarantee management that constant attention is paid to the opinions of the public, the financial community and local areas of reference.



#### **CORRUPTION PREVENTION**

In carrying out its activities, Iren Group companies frequently interface with the local authorities and third parties.

These relations must occur in compliance with the principles established in the Code of Ethics and Organisational Model pursuant to Italian Legislative Decree 231/2001, that expresses guidelines and regulations of conduct aimed at preventing, where possible, the commission of the relevant crimes pursuant to the Decree. Company processes are also regulated by specific procedures defining roles, responsibilities and methods of control, and establishing the traceability of processes and the clarity of authorisations to ensure transparency and honesty in the company's activities.

In 2015, mapping was carried out for processes and self-evaluation of 231-related risks, through which the processes and the "sensitive" company areas with a potential risk of commission

of the crimes indicated in the Decree were identified within the activities carried out.

In particular, the activities sensitive to the risk of corruption were identified, for which adequate internal rules were provided in addition to the Code of Ethics (general principles of control and specific protocols of conduct and control), such as, by way of example, the following:

- selection and contracts for relations with suppliers of goods, services and works;
- selection and management of consultations (public and private parties);
- selection, recruitment and management of personnel;
- management of sponsorships, events, donations and gifts;
- management of relations with public parties for the achievement or renewal of authorisations, licenses and concessions for the exercise of corporate activities;
- management of disbursements, contributions (including training) and public subsidies.

The mapping activities of the processes, the preparation of the Organisation, Management and Control Model, the analysis and approval of the document by the Board of Directors, the dissemination of the document and the training relating to it make up, for each of the parties involved, training activities also in regard of anti-corruption topics.

Moreover, the employees attended a video course on the update of Italian Legislative Decree 231, regarding environmental crimes, undue inductions, corruption among private parties and the employment of illegal immigrants.

Lastly, it is noted that in 2015 there were no cases of corruption.

Communication and training on policies and procedures for corruption prevention	2015 2014		14	2013		
	no.	%	no.	%	no.	%
Workers trained on the Code of Ethics, anti-corruption policies and practices	2,179	35.05	58	1.27	919	20.49
of which Senior managers	31	37.35	N/A	N/A	N/A	N/A
of which Junior Managers	124	50.61	N/A	N/A	N/A	N/A
of which White-collar workers	2,007	68.9	N/A	N/A	N/A	N/A
of which Blue-collar workers	17	0.57	N/A	N/A	N/A	N/A

# COMPLIANCE WITH LAWS AND REGULATIONS

The close link between Iren Group with its long history of local public services management - with the quality of the territory and the life of the local communities, is at the basis of the commitment to associate, constantly, the corporate development with compliance with the laws and regulations, conserving the quality of the environment and promoting the protection of the natural resources on the basis of the principles of sustainable development.

Following the judgement of the Italian Constitutional Court no. 238/2009 and the Italian Supreme Court no. 3756/12, the Consumer associations sponsored the many actions in order to obtain the reimbursement of the VAT tax charges on the invoices for waste services.

The convictions and enforceable judgements of the Justices of the Peace towards the Companies of the Iren Group are appealed and payment to the applicants is made with the reserve of repetition of the outcome of the appeal court judgement. As at 31/12/2015, 99 actions were managed, of which 2 were closed.



#### In 2015, the Iren Group managed:

- 6 non-monetary disputes, of which 4 concerned the location of a waste water treatment plant and the remaining 2 regarded the calculation method of the tariff for the integrated water service;
- 1 non-compliance penalty for the breach of the data protection law;
- 1 penalty for the breach of the code relevant to the code of scenic property.



# Shareholders and financial backers



#### **IMPORTANT TOPICS**

Economic development: is the main topic on which the strategy of the Iren Group is based, with the objective to guarantee the creation of values for the shareholders and all of the stakeholders. Economic development is critical for the Group and is extremely important for the economic, social and environmental impacts that it can generate for the communities and territories in which the Group operates in.



# RELATIONS WITH SHAREHOLDERS AND FINANCIAL BACKERS

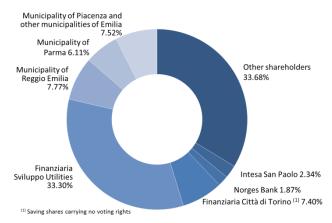
The Iren Group aims at creating value for its shareholders through growth strategies and adequate management policies.

Moreover, the Group constantly seeks to guarantee transparent, complete and timely communications by means of various methods such as presentations to the financial community, press releases, the website and direct relations with analysts, investors and financial backers.

#### **SHAREHOLDERS**

At 31/12/2015, the most significant Group shareholders, meaning shareholders that hold, directly or indirectly, (including savings shares), a stake in the company are represented in the graph below

#### SHAREHOLDING STRUCTURE OF IREN SPA (% OVERALL SHARE CAPITAL)



## RELATIONS WITH FINANCIAL ANALYSTS AND WITH INVESTORS

The Iren Group has always been involved in an intense activity aimed at reinforcing the relationship of trust between the company and the shareholders and at increasing interest and knowledge of the Company with Italian and foreign analysts and investors.

In 2015, relations and opportunities for contact with the analysts intensified, also following the presentation of the 2015-2020 Business Plan and the change of the financial profile of the Group, that has foreseen a greater recourse to the bond market than to the banking channel. The portfolio of banks that covered the share included: Banca Akros, Banca IMI, Equita, Fidentiis, KeplerCheuvreux, Intermonte and Mediobanca.

The financial communication was also particularly intense in relation to the new Business Plan that outlined the strategic

quidelines which will quide the activities of the Group over the following years. In addition to the above was the important achievement of the investment grade rating from the Fitch Agency, which was followed by a bond issue for 500 million Euro that has been highly successful. These events increased the interest of the investors in the Group, multiplying contact opportunities. As per previous years, the Roadshow, organised by a different bank each time, was once again the main tool for enabling both Italian and foreign institutional investors to get acquainted with Iren both from an equity and a credit viewpoint. The Group has participated in 7 events, mainly in Italy and visited some of the most important financial centres in Europe (London, Paris, Frankfurt), coming into contact with about a hundred funds, primarily through one to one meetings. Of particular note is the day-by-day contact with investment fund managers, which became increasingly important due to the decline in sell-side analysts due to the economic crisis of the past few years. Retail investors, instead, were able to contact the Group by telephone or email and use the information tool "InvestIren": the newsletter launched mid 2013 and specifically dedicated to private investors that informs the public on the Group's quarterly performance with accessible language and an eye-catching layout. Furthermore, a link is available on the website www.gruppoiren.it, where it is possible to listen to the presentation of the quarterly results live via the webcasting service.

The attention of the institutional investors towards topics relevant to the environment, sustainability and governance continues to grow. In particular, good Corporate Governance capable of rendering the Group efficient, dynamic and stable is a discriminating factor in the choice of investment on behalf of the main players on the financial markets. Any economic or financial performance, in fact, must be assessed based on its repeatability or potential for improvement in the following years and this can only happen thanks to rules of corporate governance in line with best practices. From this viewpoint it is important to underline the amendments made to the Governance of the Group in 2013, whose appreciation from the market was also reflected on the share price that, in the last two years, has increased its value by more than 30%.

#### TREND OF THE IREN SHARE IN 2015

In 2015 FTSE Italia All-share, reported an increase of 14.6%. This result can be largely attributed to the overcoming of the serious economic crisis that has marked recent years and the simultaneous occurrence of the first weak signs of recovery of the Italian market. In addition to the above, is the maintenance of an expansive monetary policy by the ECB and the stabilisation of the spread between Italian BTPs and German Bunds. In this macroeconomic context, Iren's share outperformed the FTSE Italia All-share index, marking an increase of over 60% at the end of the year. The performance indicated is among the best in the sector of reference and derives mainly from the positive results reported by the Group over the course of the year. Such results are tied to the efficiency, integration and growth projects outlined in the Business Plan presented in June.

The share is listed on the Italian Stock Exchange of Milan and on the following financial indices:

- FTSE All Share the share index that comprises all of the shares listed on the Italian Electronic Stock Exchange with the exception of micro capitalization Companies;
- FTSE Mid Cap the section of the FTSE All Share that comprises the shares of Mid Cap Companies.
- FTSE Italia Public Services the sector index that includes the shares of Companies that operate in the field of public services.

#### PRICE TREND AND VOLUMES OF THE IREN SHARE



#### FINANCIAL BACKERS

In 2015, the activity aimed at consolidating the financial structure of the Iren Group continued with the objective of maintaining an adequate balance between sources and commitments for both the duration and the type of rate.

The development of funding needs is monitored through careful planning, which enables requirements for new financial resources to be anticipated, taking into account the repayments of outstanding loans, the development of indebtedness, the investments made, the development of working capital and the balance of short-term and long-term sources.

Iren has relations with leading Italian and International Credit Institutions and has access to the capital market in order to research the most suitable forms of financing for its needs and the best market conditions. Iren also has implemented an organisation and management model focused on the financial resources and financial risk management with the objective of financial optimisation for all of the companies of the Group.

The sustainability of the Group's financial profile has always been one of the fundamental strategic elements of Iren. In 2015,

attention towards this aspect was also confirmed by the achievement of the rating (assigned by the Fitch agency) "Investment Grade" BBB- with a stable outlook. The reasons that led to the attribution of the Investment Grade rating are mainly due to the balanced mix of the business portfolio between regulated and quasi regulated activities, the liquidity profile, the solidity of the shareholding structure and a Group strategy oriented towards efficiency, integration and the reduction of debt as drawn out in its last Business Plan. These reasons are reconfirmed for the assignment of the "BBB" rating (a notch higher) on the EMTN program and the bond issues. In support of the Group's liquidity profile and the rating level, three year committed credit lines were negotiated that, as at 31 December 2015, amount to 200 million Euro.

The new loans were specifically granted in support of the investment plans and, confirming trust in the financial system towards the Group's development projects, making it possible to maintain a proper balance between short and long term financial exposure.

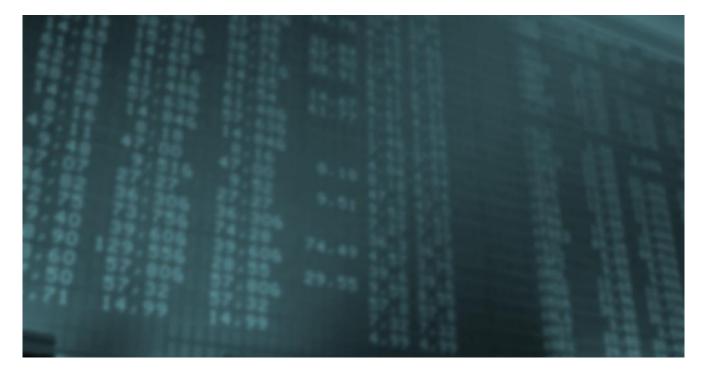
As part of the financing transactions completed in 2015, new medium/long-term loans were finalised and used for a total of 800 million Euro. A new loan was signed and used with the Cassa



Depositi and Prestiti for 100 million Euro and a tranche was also used for 50 million Euro of a bank loan already finalised during the previous year. Moreover, two new loans were finalised and used respectively with Banca Intesa for 50 million Euro and Mediobanca for 50 million Euro. In the second half of the year the placement of a bond issue was concluded successfully for an overall amount of 500 million Euro and with a duration of 7 years (Fitch rating BBB) in implementation of the Euro Medium Term Notes (EMTN) plan for one billion Euro, resolved by the Board of Directors. The transaction was preceded by a Roadshow in the major European financial centres and registered a demand of approximately 3.4 billion Euro (equal to approximately 7 times the amount of the offer), with high quality and a wide range of geographical diversification of investors. The repurchase and cancellation of 20 million Euro relevant to the Iren Bond with maturity in 2021 was performed at the same time. Also, for the purpose of optimising the financial structure of the Group, liability management activities were carried out aimed at seizing the favourable market conditions. In particular, at the beginning of December a Cash Tender Offer transaction was executed with the repayment in advance of approximately 100 million Euro of bonds previously issued for the expiry of the Private Placements 2019 and 2020 and the Bond 2021. This initiative is part of a process of economic and financial efficiency that the Group has undertaken with a greater commitment from the beginning of the year in line with the objectives of the Business Plan. In the month of December a first tranche of 50 million Euro was used on the BEI Idro loan of 150 million Euro, subscribed in December 2014. Subsequent to the positive outcome of the economic and technical-environmental investigative work performed by the EIB, a new loan was subscribed with EIB for 130 million Euro, with a duration of 15 years, in support of various important growth projects with significant positive environmental impacts in the sectors of waste management and district heating. In the district heating sector improved operating system flexibility will further limit the number of boilers present in public and private buildings, thereby reducing atmospheric emissions. The increase in the percentage of urban waste collected will produce evident positive environmental impacts for waste management. The transaction further consolidates the collaboration with EIB, underlining the attention that Iren has always paid to environmental, social and economic sustainability. Also in December 2015, a new loan on 20 million Euro was resolved with the Banca di Piacenza that will be finalised during 2016.

#### IREN BONDS IN CIRCULATION AS AT 31/12/2015

Bonds	ISIN Code	Quantity issue (€/000)	Amount in circulation (€/000)	Yearly coupon (%)	Duration of issue (Years)	Maturity	Price Issue (%)	Rating
Eurobond 2022	XS1314238459	500,000	500,000	2.75%	7	02/11/2022	99.398	BBB
Eurobond 2021	XS1086104681	300,000	250,019	3.00%	7	14/07/2021	99.225	BBB
Private Placement	XS0979548954	260,000	200,500	4.37%	7	14/10/2020	100.783	n.a.
Private Placement	XS1030889411	100,000	90,100	3.00%	5	11/02/2019	98.728	n.a.





#### IMPORTANT TOPICS

**Sustainability education:** this topic is important for Iren Group, given that it believes that education is the most effective and strategic way for the affirmation of a culture of sustainability and innovation.



#### SUSTAINABILITY EDUCATION

Only lifestyles involving greater respect for the environment can allow growth in the number of people that participate more in the life of their city, and the number of citizens that are more conscious of the limited nature of resources and the need to find a sustainable balance for development.

For this reason the Group has been present for many years in the world of education, in order to contribute to the cultural and scientific growth of new generations. Through the Edu.Iren project the Group makes a catalogue of offers for free educational training available to schools, a collection of teaching materials and projects on the subjects of sustainability, water, energy and the environment.



The educational training offer is available in paper format and online on the website of the Group, in order to be easily and immediately accessible to students and teachers.

In 2014/2015 school year guided tours, teaching laboratories, lessons in class, educational games and the other offers from the Edu.lren catalogue saw the direct participation of over **51,000 students** from over **400 schools** in the areas of Emilia, Liguria, Turin, Turbigo and Tusciano. In addition to the above are the training courses for teachers on sustainability.

In 2015, the Group inaugurated a new **teaching classroom** at the plant of La Loggia (Turin) and brought to the Emilia territories the information campaign "Wanted. The gang of WEEE", sponsored by the WEEE Coordination Centre, in order to raise awareness among the citizens regarding the separate waste collection systems of electric and electronic equipment (WEEE). The Mobile Environmental Centre, a real computerised ecological centre housed in a shipping container, was placed in 9 schools and at the University of Reggio Emilia in order to facilitate the delivery of electric and electronic waste by young people. Collection in schools was the topic of a study conference within the EW models European Project. A special segment of the project in July also involved the Summer Giocampus, a summer camp for children in the city of Parma.

Among the many projects resulting from the collaboration between Iren, schools and municipalities of the territories, deserving of a particular mention for their innovative aspects are **virtuous partnership** between the Technical Institute Melloni of Parma and the Middle School S. Ilario d'Enza (RE), with the objective of improving the separated waste collection within the two institutions, the project "**Voglio una vita differenziata**" (I want a

life of separated waste collection) that involved the schools of the municipality Rio Saliceto (RE) and led to the creation of a play, fruit of interdisciplinary laboratories in and outside of the school, and "Chi ama protegge" (those who love protect), that animated the schools of the Canavese and Valle d'Aosta areas, thanks to the efforts of the Gran Paradiso National Park, with a closing event at the Ceresole Reale plant.

The **Eden** project marked the launch of the first trial within the territory of Piedmont, aimed at the measurement of objective data on energy consumption in private buildings. The children of the schools De Santis, Gambaro and Pacinotti in Turin were directly involved in the project that, thanks to the installation of sensors, has enabled the detection of the environmental conditions of the classrooms through four management and data visualisation platforms. The Eden project received the Smart Communities Award at Smau Torino 2015.

"Separate waste collection explained to everyone" is the project promoted by the Municipality of Sant'llario d'Enza (Reggio Emilia), Iren, Coop, GIS Parents Association for social inclusion and the Institution D'Arzo, that saw the trial, unprecedented for Italy, for the use of a new language to facilitate the comprehension of messages related to separated waste collection and environmental sustainability. The language is called Augmentative Alternative Communication (AAC) and is designed to facilitate the exchange of information with people who have a temporary or permanent deficiency or absence in traditional communication. The objective of the project is to create a linguistic opportunity for everyone. The result was an information campaign on separated waste collection, created by the students that found its first locations at the Coop store in Sant'llario and in the Town Hall, which will be the headquarters for the campaign that the Municipality and Iren created in order to inform citizens on the new methods of the waste collection service.

A significant experience of **Alternation School Work**, born from the partnership between Iren and the Foundation Urban Lab Genoa International School – FULGIS, and saw 22 students from the Technical Institution Duchess of Galliera Genoa engaged in a training program on the integrated water service.

The collaboration between the Company and the Inter-University Centre Agora Science of the University of Turin was reflected in the new edition of **Scienza Attiva** (www.scienzattiva.eu), the innovative scientific project of education and citizenship that involved classes of 100 high schools from all over Italy.



The Creative Recycling Centre **REMIDA**, promoted by Iren together with the Institution of Schools and Nursery Schools in the Municipality of Reggio Emilia and managed by the Foundation Reggio Children-Centro Loris Malaguzzi, confirms its role as the driving force of sustainable policies and thoughts. There are more than 400 facilities that collect, free of charge, scraps made available by over 200 companies and there are more than 3,000 people from around the world that have visited the centre.



# RESEARCH AND INNOVATION IN THE IREN GROUP

#### SUSTAINABLE INNOVATION

The technological innovation of Iren Group is at the heart of strategic choices and of the definition of products and services offered. The 2020 Business Plan provides for the implementation of an **open innovation** model that wants to be: operational, applicable to all business and focused on the achievement of the objectives of efficiency, improvement of the quality of services and the creation of new opportunities of development, in order to anticipate the new needs of citizens, customers and territories.

In particular, Iren Group is investing in terms of research, development and innovation for the optimisation and improvement of operating applications and for the introduction of its innovative technology processes and products. The Business Plan until 2020 foresees that around 25% of total capital expenditure is dedicated to investments with innovative features (about 3% of revenues accumulated in 2020).

The main lines of research, development and innovation in which the Group has invested in 2015 and will continue to invest in over the next years regard:

- study of renewable sources for the production of heat and electricity;
- dissemination of customer empowering tools and user awareness on the impact of consumption and energy saving;

- energy efficiency applicable to numerous levels and assets (customers, building, urban areas, energy assets of the Group);
- the study of new systems for the recovery of energy waste and increasing the efficiency of the installations;
- advanced systems for remote management, remote meter reading, smart metering and multi-metering;
- thermal and electric storage systems;
- systems for the treatment, purification and reuse of wastes from sludge treatment processes, waste water and waste;
- Internet of Things ("IoT") and automation;
- ICT data intelligence instruments;
- development of platforms for the creation of a single urban cadastral registry of underground utilities;
- optimised management of the integrated water service (division into districts, identification and reduction of network leaks);
- electric mobility.

Another important step of sustainable innovation of the Group is open innovation, or the possibility to involve all of the stakeholders (within and outside of the Group) in the development of an idea or product, so that this idea is truly the best because it was analysed and developed with a multi-disciplinary approach and takes advantage of the knowledge and skills of an ecosystem of companies, research centres, start-ups and, obviously, our customers. Precisely in the scope of open innovation, the Group strongly believes in the value of the projects co-funded at a European, national and regional level: these projects make it possible to test innovative solutions with the contributions (and, therefore, the vision) of international institutions. Validation of models, proof of concept and prototypes are just some of the key findings that these projects guarantee Iren with a contribution not only of knowledge but also of economic resources.

In 2015 Iren actively participated to **13 research and innovation projects**, for an overall long-term commitment of over 10 million Euro, of which approximately half were funded by calls for research and innovation managed by institutions such as the European Union, the Republic of Italy and its organisms and Regions (i.e. Horizon 2020, Framework Programme 7, MIUR, POR FESR, etc.).

Over the year such projects resulted in a commitment of over 1.6 million Euro, of which 0.9 million was funded through the above-mentioned calls. These projects actively involve over 60 Iren employees from different business areas and operating activities and guarantee collaborations with numerous business and academic organisations located in more than 65 European cities.





Another important indicator of innovation activities related to cofunded projects are the approximately 6,000 citizens involved in the trials in all of our territories: the direct involvement since the initial stage, of customers and citizens in an innovative project that has as its outcome services dedicated to the latter is objectively recognised as an awarding element. The **Empowering** project (European IEE program) proposes a pilot of electricity and district heating customer engagement and energy empowerment instruments to help them in the sustainable consumption of energy resources.

6,000 citizens were involved in a trial project for the sustainable consumption of energy resources

Both the engagement instruments of the stakeholders and the study of asset management methods able to contribute to a sustainable consumption of the resources, are at the basis of the **Dimmer** project (European program FP7), that aims to develope an instrument for the optimisation of the management of the district heating thermal exchange substations and the supply of heat, reducing power peaks.

The optimised, synergistic and innovative management of Group assets is further reduced in the **Flexmeter** project (European program Horizon 2020) that experiments ICT architecture enabling a system of multi-service smart metering, both at a final end user and asset level of the distribution of electricity. All supported by innovative services for various stakeholders. Similar objectives, in terms of application models for the optimised management of the integrated water service and study of innovative technologies for the treatment of waste water, can be found in the **SmartWaterTech** project (MIUR tender).



The ratio between the different energy carriers and services is also the objective of the project **Celsius** (European program FP7), the "Smart City" project of the city of Genoa in

which a turbo-expansion system is used in order to transform the drop in pressure in a gas reduction substation into renewable electricity.

The experimentation of innovative systems, specifically in the field of integrated water service, is the **Reqpro** driver (program Life+), which co-finances the development of a civil waste water filtration system with sand filters and final disinfection with UV light and hydrogen peroxide in order to make the waste water leaving the plant compatible for irrigation use.

Testing of innovative system solutions is also the basis of the **Biometh ER** project (program Life+) for the production and use of biomethane from gas coming from the sewage sludge through a prototype biogas upgrade system.

Innovation must also be aimed at improving and rendering corporate and work processes more efficient: in this sense we propose the projects **Holides** (European Artemis program), which provides for the development of a technological platform able to consider human factors from the very early stages of design and

development of cooperative systems that adapt to the various levels of automation, and **BlueSCities** (Horizon 2020 program) for the definition of a "practical guide", benchmarking and best practices to be applied to the efficient management of the integrated water service and waste in urban areas.

The redefinition of the tender processes for energy efficiency activities in all of its preliminary stages, dialogue with the market and identification of the bonus criteria, are the goals of the **Probis** project (European CIP project).

In order to improve and refine the use of the corporate GIS systems, Iren also participates in the **Geosmartcity** project (European CIP project) that has among its objectives the interoperability of the databases by subsoil users.

Iren Group is also very attentive to energy efficiency issues, the NRG4cast project (European program FP7) aims at the assessment of energy consumption in different scenarios, making it possible to develop forecasts for the same, with the purpose of supplying planning instruments and achieving improvements with regards to the energy efficiency of public and private buildings. The EDEN project (POR FESR 2007/2013 – Piedmont Region), has the objective of analysing and managing, in an optimised fashion, energy consumption for the heating of three schools in the Municipality of Turin.



The project comes from the idea of using the paradigm of The Internet of Things, in order to promote widespread awareness

on energy consumption in schools. The project, with a duration of 11 months, ended in 2015 and was financed in the scope of POR FESR 2007/2013 of the Piedmont Region with the participation of EC resources from the FESR, the Italian Government and the Region of Piedmont. The partners were Iren Energia, CSP – Innovazione nelle ICT, Politecnico di Torino, Commitworld, Capetti Elettronica, Consorzio TOP-IX, Experientia, ISMB, Sisvel Technology.

A digital platform was developed that by giving visibility and significance to data collected by temperature, humidity and CO<sub>2</sub> sensors located within schools and other buildings and public places, is able to generate awareness and stimulate sustainable behaviours in students and, through them, in the wider circle of family and citizens. The project developed a collection system, representation and sharing of information to different parties (Energy Manager, Student, Stakeholder), making accessible and transparent data relevant to the "things" that surround us and stimulate the implementation of actions and energy efficiency projects.

The project is divided into four functional levels:

- first level (Data Platform): collection of data generated by "smart objects" (indoor and outdoor sensors and electric and heat smart meters);
- second level (Publication Platform): representation of the data relevant to the demands of the various stakeholders

involved, through information dashboards that make it possible to study consumptions of heat in a building and compare them with those of surrounding buildings. Different types of users with different privileges and demands can access the publication platform level: energy analyst, energy manager, citizen/stakeholder;

- third level (Social Platform): development of a digital platform for students;
- fourth level: "Smart Data Platform" of the Piedmont Region, that the project will "power" with an important database. The platform has allowed sharing and aggregating of information produced by different services in a multidisciplinary scope in order to create new applications, in the direction of more intelligent and sustainable communities.

In Turin the EDEN project received the SMAU 2015 award in the sector of energy efficiency and was one of the finalists for the SMAU award in Milan.

Sustainable mobility is another important objective of Innovation in Iren: its declination on one hand provides for the installation of fixed electric charging infrastructures in various local areas in which the Group operates, and on the other hand the study of induction systems, as developed in the **Fabric** project (European program FP7). This technology could be a forecasting engine for the massive development of the electric mobility of the future.

### ELECTRICITY FROM UNCONVENTIONAL SOURCES

Iren has studied an innovative solution to recover the energy dissipated in the gas pressure reduction process from the transport network to the distribution network, producing electricity.

The recovery of this energy, otherwise dissipated, occurs through a turbo-expander, installed in parallel to the pressure regulator: the mechanical energy of the natural gas is transformed into kinetic energy and, through an alternator, into electricity. The use of a radial turbine allows a wide range of work, maximising efficiency even at low loads.

Typical installations are in the town decompression substations and the power levels that can be installed vary between 160 and 3.000 kW.

Iren built a demonstrator in Genoa that, with a power of 550 kW, allow a yearly savings of 2,800 MWh and 450 tonnes of CO<sub>2</sub>.



#### IREN ABROAD

Iren is active on international markets where it is emerging in order to offer technical assistance services, coaching and capacity building. In 2015 the Group:

- had contacts with over 20 nations, including China, Kazakhstan, Serbia, Senegal and Myanmar;
- organised 4 technical workshops on cogeneration and district heating;
- signed 2 Memorandum of Understanding relevant to the cogeneration and district heating activities;
- hosted over 10 institutional delegations at its plants, including His Eminence Togbe Afede XIV, King of Asogli State, Ghana, Siniša Mali, Mayor of Belgrade and Hla Myint, mayor of the city of Yangon;
- submitted bids to tenders promoted by the Multilateral Development Banks in the district heating and water cycle sectors.

#### CHINA

The Iren Group and the Beijing District Heating Group, the company that manages one of the largest district heating networks in China, have signed a letter of intent, in which the foundations for future cooperation are laid out. The topics that have risen great interest on the Chinese counterpart were the high efficiency and low environmental impact cogeneration of the combined cycles of the Group.

The Beijing network, with a length of over 1,400 km and over 3,200 heat exchange substations, provides heat to about 223 million cubic meters, or equal to 10 times that of Turin.

#### **MYANMAR**

Iren Group supported the City of Turin for the SWM2 project, aimed at the development of administrative and technical capacities in waste management in the City of Yangon,



Myanmar's main centre, providing specialised services for the planning of waste collection, environmental analysis and communication of public services.

#### **PALESTINE**

Consistent with the provisions of the "Memorandum of Understanding", signed between the Municipality of Genoa and the City of Hebron, Iren concluded its activities aimed at providing technical assistance for the preparation of a master plan for the acquisition of hardware and software as well for capacity building activity through training initiatives relevant to the various sectors of the integrated water service.

#### **SERBIA**

Iren signed a letter of intent with the city of Belgrade for the collaboration on the topics of district heating, public street lighting and the integrated waste cycle. In October 2015, Iren Energia was awarded the tender for the development of the Beogradske Elektrane strategy (public company that manages the district heating system in Belgrade) for the period between 2015-2025 with forecasts until 2035, which is currently still in progress. Beogradske Elektrane manages over 2,800 MW of installed thermal power, and through a network of about 700 km, provides heat to 22 million cubic meters.

#### **AMGA FOUNDATION**

AMGA Foundation, established in 2003 by Iren Acqua Gas, seeks to increase and disseminate the awareness and understanding of the water cycle and its interaction with the environment, identifying research areas and promoting projects related to the monitoring of water and environmental protection. To this end, it sponsors

research projects aimed at guaranteeing sustainable water management and promoting economic growth and social development.

The Foundation has developed a series of partnerships with Universities and research institutes and carries out networking activities at national and international level.

It is one of the members of the Water Research Foundation - WRF, US-based non-profit association set up to promote research projects and foster the dissemination of knowledge and cooperation in the water sector. It is also an active member of the WssTP (Water Supply and Sanitation Technology Platform) created by the European Commission in 2004 to promote research and technology development in the water sector. The 46 members of the WssTP defined a Strategic Research Agenda and, on the basis of the identified priorities, established six Pilot Programmes, recently replaced by Working Groups and Task Forces in which the Foundation is present. AMGA Foundation is a founding member of the TICASS Consortium (Innovative Technologies for Environmental Control and Sustainable Development).

In the scope of the charitable activities, in 2015, AMGA Foundation contributed to the funding of the project "A ray of sunlight in Kinshasa" for the construction of a well to supply drinking water in Congo, in collaboration with the association Child Victims Onlus.

#### 2015 ACTIVITIES

Below are some of the initiatives sponsored by the Foundation in 2015.

Project	Description
Economics and regulation	
Approach to the financial problems of the water sector	The project consists of several "chapters": comparative analysis of the application of the Water Framework Directive in England and in Wales and the possible outcomes of the application in Italy; study on the water sector financing strategies in the major European countries; analysis of the implications on the treatment of the remuneration of the investments pursuant to the regulatory approach of OFWAT; proposals for the method and instruments for financing the Italian water sector, Data Envelope Analysis for the estimate of efficiency in the water sector.
Critical analysis of the principle of standard costs in the sectors of public utilities	The project identifies a number of positive aspects and critical issues related to the application of the principle of standard costs as a basis of tariff regulation, showing how this method of tariff regulation represents an attempt to overcome the problems posed by opposing rate of return regulation and price cap regulation.
Standard reference costs for the capital costs of the companies in the water sector	The project aims to implement a model quantifying the cost of capital logically consistent with the principle of standard costs and to compare the model with other proposed alternatives in various important regulatory experiences or literature.
Comparison of incentive systems in the photovoltaic industry in Italy and Germany	The research has provided a comparative evaluation of photovoltaic energy production mechanisms in Italy and in Germany, analysing the mode of operation and the effectiveness of those mechanisms and the implications of market risk and/or counterparty risk.

Project	Description
Management of water resources	
Algal microcystis in water for human consumption	The project is carried out in collaboration with the Higher Institution of Health and with numerous Italian aqueducts (Mediterranea delle Acque in Genoa, Publiacqua in Florence Hera in Bologna, Smat in Turin, Acsm Reti Gas Acqua in Como, Acquedotto Pugliese in Bari, Abbanoa in Cagliari and Veritas in Venice) and allows for the assessment of the presence of such toxins in the surface waters, used as drinking water. The information collected will be useful to assess the repercussions of the possible inclusion of a limit value for this parameter from the European Commission. In 2015, a national circuit was organised for the determination of microcystins, and that made it possible to intercalibrate the partners in view of the national monitoring that will be carried out in the following months.
Purification plants and Endocrine Disruptors  Research on the use of the remaining capacity of existing lakes such as accumulation of electricity by integrating the production from	The project included activities related to monitoring at the national level of Endocrine Disruptors levels in waste water, using specific analytical methods developed by the ISS (Istituto Superiore di Sanità) in 2014. The survey involves several Italian aqueducts (Mediterranea delle Acque in Genoa, Publiacqua in Florence, Hera in Bologna, Smat in Turin, Acsm Reti Gas Acqua in Como, Acquedotto Pugliese in Bari and Veritas in Venice). The project assessed the opportunity of using storage capacity and regulation of existing reservoirs that are currently not fully utilized. These capabilities can be exploited, without interfering with the current uses, to accumulate volumes of water to produce electricity integrating the energy produced by wind and/or photovoltaic plants.
photovoltaic sources	Iron signed a framework agreement with Coat and Hara for research and innovation. The
Projects in the context of the Iren, Hera and Smat framework agreement	<ul> <li>Iren signed a framework agreement with Smat and Hera for research and innovation. The agreement provides for the development of projects of common interest relevant to:</li> <li>characterisation of a waste water purification through respirometric investigations</li> <li>innovative treatments and a lower environmental impact for drinking water and waste water</li> <li>benchmark of advanced control systems in sewage treatment</li> <li>management of analytical results from on-line analyses and laboratory management software</li> <li>smart method of disinfection applied to the water networks</li> <li>study of innovative treatments in the aqueduct sector: "exclusion zone"</li> <li>development of a network of laboratories for the management of analytic aspects and monitoring relevant to environmental critical areas or regulatory changes</li> <li>TLC of the third millennium: guidelines for using the acquired smart data</li> <li>integration of the TLC with models for the forecast of consumptions and the water balance.</li> </ul>
European projects	
TRUST Project	The Transition to the Urban Water Services of Tomorrow project, financed in the context of the 7th Framework Programme, defined sustainable strategies and practices for the management of low environmental impact urban water services. The management mode was defined in collaboration with 30 partners that shared innovative solutions useful to increase the level of sustainability of urban water systems in the short-medium term. As a follow-up to the project, the application of methods developed is expected in local areas managed by Iren Group in the context of a partnership currently in the process of definition with the University of Bologna.
Geosmartcity Project	The project, financed by the tender "Open geo-data for innovative services and user application towards Smart Cities", provides for the development of a platform for the rational management of data relating to underground services integrating different operating protocols and standards.
Bluescities Project	The project is co-funded in the Horizon 2020 program and implemented in coordination with 11 other international partners. We propose to identify and compare the best management practices relevant to the water and environmental sector in 50 cities worldwide, verifying

integration with the energy, transport and ICT sectors.



Project	Description	

#### Training, cultural and information initiatives

Eco Sustainability Course	In collaboration with GAU, the eco sustainability course "Water this unknown resource" was organised including the following conferences: Water of yesterday and today in Genoa, Tap water and household water purifiers, Sewage treatment plants these unknown things, Mineral water, What has changed following the referendum, Extreme flooding events.
Water for LIFE  The drinking water project was selected in the context of the contest We Wome and was presented at a conference dedicated to EXPO 2015 in Milan. The initial saw a majority participation of women, is reflected in a multi-year research or disruptors and their study in waters intended for human consumption.	
Festival of Science Laboratories	Foundation that co-organised workshops/events planned as a corollary to the exhibition "2015: return to the future! Paths on the edge of sustainability".  Among these: "The water sommeliers" with a lesson on drinking water followed by a tasting session, assisted by a sommelier, of various types of waters; "Healthy carriers of taste" organised in collaboration with the Remida Centre, in order to promote the culture of sustainability at the table; "Finally we understand something! Yesterday and today along the road of gas", a trip to discover gas from the late nineteenth century to present day.

#### **Editorial activities**

Get to know mineral waters	The book supplies an objective handling of mineral waters, also assessing the characteristics through a direct comparison of the water distributed.		
Translation and publication of Understanding Water into the Arab and French language	The publication <i>Understanding Water</i> , aimed at primary school children, was translated into the Arab language in the context of the project in collaboration with the city of Hebron and, into the French language, in collaboration with the Communauté de la Haute Saintonge.		
Technical log for floods	The Foundation contributed to the creation of the technical log for floods on the occasion of Expo 2015, in collaboration with Utilitalia.		

#### Thematic library, Museum and interlaboratory circuit

Thematic library	The Foundation manages a library specialising in technical, economic and environmental themes related to public services, with particular focus on the integrated water service. The library forms part of the National Library Service (Servizio Bibliotecario Nazionale, SBN). The new catalogue includes around 7,000 volumes and periodicals and can be consulted on-line at www.fondazioneamga.org/catalogo.
Water and Gas Museum	The museum was set up in order to illustrate the history of gas and water supplies. In 2015, an increase was reported in the number of visitors and the museum opened up to the schools and is subject to guided tours organised in the context of the Edu.Iren program.
Interlaboratory Circuit Management	The initiative, set up by UNICHIM in 1996, comprises cycles of tests on identical samples carried out by several laboratories under predetermined conditions. The Foundation coordinates the project, for that which regards the line of analysis relevant to the water for human consumption and waste water. In 2015, 550 laboratories were involved, compared to 512 in 2014.

#### **COMPLIANCE WITH THE GRI GUIDELINES**

Indicator		Application Level	Page/Notes
Strategy and analysis			
G4-1	CEO's statement on sustainability	Core	6
G4-2	Description of key impacts, risks and opportunities	Comprehensive	35, 41-45, 52, 56
Organizatio	nal profile		
G4-3	Name of the organization	Core	Cover
G4-4	Main brands, products and/or services	Core	12-15
G4-5	Location of headquarters	Core	Back cover
G4-6	Countries of operation	Core	14
G4-7	Ownership structure and legal form	Core	128
G4-8	Markets served	Core	80-90
G4-9	Scale of the reporting organization	Core	15, 48, 62-64, 92, 102
G4-10	Employees by type of contract, gender, geographic area, category	Core	92-93, 96-98, 102-103
G4-11	Percentage of total employees covered by collective bargaining agreements	Core	94
G4-12	Organization's supply chain	Core	106
G4-13	Changes during the year in the organization or in the supply chain	Core	12, 106
G4-14	Precautionary principle (risk management)	Core	34
G4-15	Charters, principles or other external initiatives to which the organization subscribes or which it endorses	Core	37, 86-87
G4-16	Memberships in trade associations	Core	123
EU-1	Installed capacity	Core	15
EU-2	Net energy output	Core	15, 66
EU-3	Number of customers	Core	15-16, 83
EU-4	Length of transmission and distribution networks	Core	15
EU-5	Allocation of emission quotas	Core	Level of respect: 12.44%



Indicator		Application Level	Page/Notes
Identified I	Material Aspects and Boundaries		
G4-17	Companies included in the consolidated financial statements with indication of those not covered by the Sustainability Report	Core	8, Annual Report at 31 December 2015
G4-18	Process for defining report content and aspect boundaries	Core	8-9
G4-19	Material aspects identified in the process of defining content	Core	10
G4-20	For each material aspect indicate the related scope within the organization	Core	10
G4-21	For each material aspect indicate the related scope outside the organization	Core	10
G4-22	Any restatement with respect to the previous report	Core	8, 67
G4-23	Any restatement with respect to the material aspects of the previous report	Core	In 2015 the Sustainability Report analyzes material aspects for the first time
Stakeholde	er Engagement		
G4-24	Stakeholder groups engaged by the organization	Core	39
G4-25	Identification process	Core	38
G4-26	Approach to stakeholder engagement	Core	38-39
G4-27	Key topics and concerns arising from stakeholder engagement	Core	10, 39
Report pro	file		
G4-28	Reporting period	Core	8
G4-29	Date of most recent previous report	Core	8
G4-30	Reporting cycle	Core	8
G4-31	Contact point	Core	153
G4-32	GRI Content Index	Core	139
G4-33	Policy and current practice with regard to seeking external assurance	Core	8, 147
Governance	ce		Report on corporate governance 2015
G4-34	Governance structure of the organization	Core	24
G4-35	Delegation process for economic, environmental and social issues	Comprehensive	25
G4-36	Internal positions with economic, environmental and social responsibility	Comprehensive	24
G4-37	Process for consultation between stakeholders and the highest governance body on economic, environmental and social topics	Comprehensive	33, 38
G4-38	Composition of the highest governance body and its committees	Comprehensive	24-29
G4-39	Indicate whether the Chair of the highest governance body also has an executive role	Comprehensive	26
G4-40	Process of nomination and selection for the highest governance body and its committees	Comprehensive	24

G4-41 c	Processes in place for the highest governance body to ensure conflicts of interest are avoided  Role of the highest governance body in the development, approval	Level Comprehensive	Page/Notes
G4-41 c	conflicts of interest are avoided	Comprehensive	
G4-42 a	Role of the highest governance body in the development, approval		24, 28-29
Т	and updating of the corporate mission, strategies, policies and objectives	Comprehensive	33
	Training of the highest governance body on economic, environmental and social issues	Comprehensive	25
G4-44 F	Process for evaluating the highest governance body's performance	Comprehensive	24-25
	Management of impacts, risks and opportunities in economic, environmental and social terms	Comprehensive	24, 28, 34
	Review of risk management process for economic, environmental and social aspects	Comprehensive	28
	Indicate the frequency with which the highest governance body performs said revision	Comprehensive	28
	Indicate which position or committee examines and approves the Sustainability Report	Comprehensive	33
64-49 b	Process to communicate critical concerns to the highest governance body	Comprehensive	33, 38
G4-50 tl	Indicate the nature and the number of critical issues communicated to the highest governance body and the mechanisms used to resolve them	Comprehensive	35
	Remuneration policy for the highest governance body and senior management	Comprehensive	27
G4-52 F	Process for determining remuneration	Comprehensive	27
G4-53 S	Stakeholder engagement regarding remuneration	Comprehensive	28
	The ratio of the total annual remuneration paid to the highest paid employee and the average annual remuneration of employees	Comprehensive	104
G4-55 II	Indicate the percentage increase in the ratio (G4-54)	Comprehensive	104
Ethics and inte	Ethics and integrity		
G4-56 N	Mission, values, codes of conduct and principles	Core	32-33, 35-37
(74-7)	Internal and external mechanisms for providing advice on ethical and legal conduct	Comprehensive	36
(14-00	Internal and external mechanisms to report unethical and illegal conduct	Comprehensive	35-36
Economic Perfe	formance		
G4-DMA E	Economic Performance		47-48
G4-EC1	Direct economic value generated and distributed		49-50
G4-EC2 E	Economic and financial implications of climate change		48
G4-EC3	Coverage of the organization's defined pension plan obligations		Annual Report at 31 December 2015
G4-EC4	Significant financial assistance received from government		50
G4-DMA N	Market Presence		49
いサーロしょう	Ratio of standard entry level wage compared to the local minimum wage		The Group implements national collective labour agreements that guarantee application of the minimum contractual pay to all employees, including new hires
G4-EC6 F	Proportion of senior management hired from the local community		49



Indicator		Application Level	Page/Notes
G4-DMA	Indirect Economic Impacts		49
G4-EC7	Development and impact of infrastructure and services supported		49, 116-117
G4-EC8	Significant indirect economic impacts		49
G4-DMA	Procurement Practices		106-108, 110
G4-EC9	Proportion of spending on local suppliers		108-109
G4-DMA	Availability and Reliability		48
EU-10	Planned capacity		48
G4-DMA	Demand-side Management		40, 67, 68, 90, 115
G4-DMA	Research and Development		133-138
	System Efficiency		
EU-11	Average generation efficiency of thermal plants		Cogeneration plants, thermal plants and thermoelectric plants: 69.17% Waste-to-energy plants: 70.37%
EU-12	Transmission and distribution losses as a percentage of total energy		82
Environmen	Environmental Performance		
G4-DMA	Energy		51, 65
G4-EN3	Energy consumption within the organization		52-53
G4-EN4	Energy consumption outside the organization		52, 61
G4-EN5	Indicators of energy intensity		Intensity of natural gas consumption: 0.14 Intensity of diesel consumption: 0.00 Intensity of biogas consumpion: 0.26
G4-EN6	Reduction of energy consumption		66-69
G4-EN7	Reduction in demand for energy products and services sold		65-67
G4-DMA	Water		51, 53-54, 62
G4-EN8	Total water withdrawal by source		53
G4-EN9	Water sources significantly affected by withdrawal of water		53, 70-71
G4-EN10	Percentage and total volume of water recycled and reused		53
G4-DMA	Biodiversity		51, 70-74
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		70-74
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity		70-74
G4-EN13	Habitats protected or restored		70-74
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations		73-74
EU-13	Biodiversity of offset habitats compared to the biodiversity of the affected areas		70-74

Indicator		Application Level	Page/Notes
G4-DMA	Emissions		51, 58
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)		55, 60
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)		55
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)		55
G4-EN18	Greenhouse gas (GHG) emissions intensity		Cogeneration plants: 0.38 Thermal plants: 0.13 Thermoelectric plants: 0.38 Waste-to-energy plants: 1.46 Landfills: 0.61 Waste vehicles: 0.01
G4-EN19	Reduction of greenhouse gas (GHG) emissions		58-60, 65
G4-EN20	Emissions of ozone-depleting substances (ODS)		55
G4-EN21	NOX, SOX, and other significant air emissions		55
G4-DMA	Effluents and Waste		54
G4-EN22	Total water discharge by quality and destination		54, 62
G4-EN23	Total weight of waste by type and disposal method		54-55
G4-EN24	Total number and volume of significant spills		56
G4-EN25	Weight of transported, imported, exported, or treated waste waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally		Iren does not transport, import, export, or treat waste shipped internationally
G4-EN26	Impact on biodiversity affected by water discharges		70-74
G4-DMA	Products and Services		80
G4-EN27	Extent of impact mitigation of environmental impacts of products and services		56-60, 66-67
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category		Not applicable
G4-DMA	Transport		61
G4-EN30	Significant environmental impacts of transporting products, goods and materials and members of the workforce		60-61
	Overall		
G4-EN31	Total environmental protection expenditures and investments		58
G4-DMA	Supplier Environmental Assessment		107
G4-EN32	Percentage of new suppliers that were screened using environmental criteria		106
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken		107
G4-DMA	Environmental Grievance Mechanisms		73-74



Indicator		Application Level	Page/Notes
Social Performance			
G4-DMA	Employment		92-94, 107
G4-LA1	Total number and rates of new employee hires and employee turnover		93, 103
G4-LA2	Benefits provided to employees		98
G4-LA3	Return to work and retention rates after parental leave		96
EU-15	Percentage of employees eligible to retire in the next 5 and 10 years		92
EU-17	Days worked by contractor and subcontractor employees		107
EU-18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training		108
G4-DMA	Labor/Management Relations		91, 95-96
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements		95-96
G4-DMA	Occupational Health and Safety		91, 100
G4-LA5	Percentage of total workforce represented in formal joint management—worker health and safety committees that help monitor and advise on occupational health and safety programs		100
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of workrelated fatalities		94, 101, 104, 108
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation		101
G4-LA8	Health and safety topics covered in formal agreements with trade unions		101
G4-DMA	Training and Education		91, 99
G4-LA9	Average hours of training		100
G4-LA10	Programs for skills management and lifelong learning		95
G4-LA11	Percentage of employees receiving regular performance and career development reviews		94
G4-DMA	Diversity and Equal Opportunity		96
G4-LA12	Composition of governance bodies and breakdown of employees per employee category		26, 93, 96-97, 103
G4-DMA	Equal Remuneration for Women and Men		96
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category		96, 104
G4-DMA	Supplier Assessment for Labor Practices		106
G4-LA14	Percentage of new suppliers that were screened using labor practices criteria		106
G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken		106
G4-DMA	Labor Practices Grievance Mechanisms		36, 96
G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance Mechanisms		96

Indicator		Application Level	Page/Notes		
Human Righ	Human Rights				
G4-DMA	Investment		48		
G4-DMA	Non-discrimination		76		
G4-HR3	Total number of incidents of discrimination and corrective actions taken		77		
G4-DMA	Freedom of Association and Collective Bargaining		95-96		
G4-DMA	Supplier Human Rights Assessment		106		
G4-HR10	Percentage of new suppliers that were screened using human rights criteria		106		
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken		106		
Society					
G4-DMA	Local Communities		111-112		
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs		38, 117-119		
G4-SO2	Operations with significant actual or potential negative impacts on local communities		117-119		
EU-22	Number of people physically or economically displaced and compensation		119		
G4-DMA	Disaster/Emergency Planning and Response		119		
G4-DMA	Anti-corruption		125		
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified		125		
G4-SO4	Communication and training on anti-corruption policies and procedures		125		
G4-S05	Confirmed incidents of corruption and actions taken		125		
G4-DMA	Public Policy		122		
G4-S06	Total value of political contributions by country and recipient/beneficiary		124		
G4-DMA	Anti-competitive Behavior		77		
G4-S07	Total number of legal actions for anti-competitive behavior, anti-trust, and monopoly practices and their outcomes		77		
G4-DMA	Supplier Assessment for Impacts on Society		106		
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society		108		
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken		107		
G4-DMA	Grievance Mechanisms for Impacts on Society		119		
G4-SO11	Number of grievances about impacts on society filed, addressed and resolved through formal grievance mechanisms		125		



Indicator		Application Level	Page/Notes
G4-DMA	Customer Health and Safety		57, 76-77
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement		117-119
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services		119
EU-25	Number of injuries and fatalities to the public involving company assets		119
G4-DMA	Access		81
EU-26	Percentage of population unserved in licensed distribution or service areas		81
EU-27	Number of residential disconnections for non-payment, broken down by duration of disconnection and by regulatory regime		82
EU-28	Power outage frequency		82
EU-29	Average power outage duration		82
EU-30	Average plant availability factor		Cogeneration plants: 38,63% Waste-to-energy plants: 174,42%
G4-DMA	Provision of Information		78
G4-DMA	Product and Service Labeling		78-79
G4-PR3	Product and service information and labeling		Not applicable
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling		77
G4-PR5	Results of surveys measuring customer satisfaction		78-79
G4-DMA	Marketing Communications		76, 78-79
G4-PR6	Sale of banned or disputed products		Not applicable
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship		77
G4-DMA	Customer Privacy		76
Compliance			
G4-DMA	Compliance		73-74, 125
G4-EN29	Monetary value and total number of non-monetary sanctions for non- compliance with environmental laws and regulations		74
G4-PR9	Monetary value for non-compliance with laws and regulations concerning the provision and use of products and services		77
G4-S08	Monetary value and total number of non-monetary sanctions for non-compliance with laws and regulations		96, 110, 126

# REPORT OF THE INDEPENDENT AUDITOR



# INDEPENDENT REPORT ON THE LIMITED ASSURANCE ENGAGEMENT OF THE SUSTAINABILITY REPORT 2015

To the Shareholders of Iren S.p.A.

We have carried out a limited assurance engagement on the Sustainability Report (hereinafter the "Report") of Iren Group (hereinafter the "Group") for the year ended 31 December 2015.

#### Responsibility of the Directors for the Report

The Directors are responsible for preparing the Report in compliance with the *G4 Sustainability Reporting Guidelines* defined in 2013 by the *GRI - Global Reporting Initiative* and by the *G4 Sector Disclosure - Electric Utilities* defined in 2013, as indicated in the chapter "Introduction" of the Report, and for that part of internal control that they consider necessary to prepare a sustainability report that is free from material misstatement, whether due to fraud or unintentional behaviours or events. The Directors are also responsible for defining the sustainability performance targets of Iren Group, for reporting the sustainability results, as well as for identifying the stakeholders and the significant aspects to be reported.

#### Auditor's responsibility

We are responsible for the preparation of this report on the basis of the work performed. We conducted our engagement in accordance with *International Standard on Assurance Engagements 3000 – Assurance Engagements other than Audits or Reviews of Historical Financial Information (ISAE 3000)*, issued by the International Auditing and Assurance Standards Board for limited assurance engagements. The standard requires that we comply with applicable ethical requirements, including professional independence, and that we plan and perform our work to obtain limited assurance that the sustainability report, composed of the two documents cited above, is free from material misstatement. The procedures consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the Report, analysis of documents, recalculations and other verification procedures.

The procedures we performed on the Report consisted in verifying its compliance with the principles for defining the content and the quality of a sustainability report set out in the G4

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Sustainability Reporting Guidelines and in the G4 Sector Disclosure - Electric Utilities, and are summarised as follows:

- comparing the financial information reported in the sustainability report in the chapter "Iren's value" with the information included in the Group's consolidated financial statements as of 31 December 2015 on which we issued our audit opinion, in accordance with articles 14 and 16 of legislative decree no 39 of 27 January 2010, on 15 April 2016;
- analysing, through inquiries, the governance system and the process for managing the sustainability issues relating to the Group strategy and operations;
- analysing the process aimed at defining the significant reporting areas to be disclosed in the Report, with regard to the methods for their identification, in terms of priority for the various stakeholders, as well as the internal validation of the process findings;
- analysing the processes underlying the generation, recording and management of quantitative data included in the sustainability report. In detail, we carried out:
  - meetings and interviews with the representatives of Iren S.p.A., Iren Acqua Gas S.p.A., Iren Energia S.p.A., Iren Mercato S.p.A., Iren Ambiente S.p.A., Iren Rinnovabili S.p.A., Iren Emilia S.p.A., Amiat S.p.A., Tecnoborgo S.p.A., AEM Torino Distribuzione S.p.A. to achieve a general understanding of the information, accounting and reporting systems in use to prepare the sustainability report, as well as of the internal control processes and procedures supporting the collection, aggregation, processing and submission of the information to the function responsible for the sustainability report preparation;
  - a sample-based analysis of the documents supporting the preparation of the sustainability report, in order to obtain evidence of the reliability of processes in place and of the internal control system underlying the treatment of the information relating to the objectives disclosed in the sustainability report;
- analysing the internal consistency of the qualitative information described in the Report and its
  compliance with the guidelines identified in the preceding paragraph "Responsibility of the
  Directors for the Report";
- analysing the engagement of stakeholders and its results through the existing documentation concerning the significant matters arisen during the Group dialogue initiatives;
- obtaining a representation letter, signed by the legal representative of Iren S.p.A., on the
  compliance of the sustainability report with the guidelines identified in the paragraph
  "Responsibility of the Directors for the Report", as well as the reliability and completeness of the
  disclosed information.

Our limited assurance work was less in scope than a reasonable assurance engagement performed in accordance with ISAE 3000 and, consequently, it does not provide us with a sufficient level of assurance necessary to became aware of all significant facts and circumstances 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 Iren Group as of 31 December 2015 has not been prepared, in all material respects, in compliance with the *G4 Sustainability Reporting Guidelines* defined in 2013 by the GRI - Global Reporting Initiative and by the *G4 Sector Disclosure - Electric Utilities* defined in 2013 as disclosed in the chapter "Introduction" of the Report.

Torino, 18 April 2016

PricewaterhouseCoopers Advisory SpA

Signed by

Paolo Bersani (Partner)

 $This \ report \ has \ been \ translated \ from \ the \ original, which \ was \ is sued \ in \ Italian, solely \ for \ the \ convenience \ of \ international \ readers.$ 

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# **GLOSSARY**

### A

**AEEGSI (AUTHORITY FOR ELECTRICITY, GAS AND WATER SERVICES):** Authority for Electricity and Gas (formerly AEEG, established by Italian Law 481 of 14 November 1995) and the Water Service.

ARPA: Agenzia Regionale per la Protezione dell'Ambiente.

ATERSIR: Emilia-Romagna Territorial Agency for Waste and Water Services.

B

**BEST AVAILABLE TECHNIQUES (BAT):** "Best available techniques" (BAT) the techniques used to regulate industrial operators' obligations as regards pollution prevention and control.

**BIOGAS**: gas produced by anaerobic fermentation from industrial or agricultural waste microorganisms (acidogenic bacteria, acetogenic bacteria and methanobacteria) or urban water treatment sludge; the methane contained in biogas can be used for producing energy.

**BOD:** with the terms BOD (biochemical oxygen demand), is intended the quantity of oxygen consumed during a specified time (5 days for BOD5), at a given temperature, to decompose organic substances present in the water through the action of bacteria (cellular respiration). A high biochemical oxygen demand indicates intense biodegradation of organic matter, and may indicate the presence of organic pollution. It is thus an indirect measure of pollution levels. It is expressed in %.

C

CO: carbon monoxide.

CO2: carbon dioxide.

**COD:** the acronym COD (chemical oxygen demand) refers to the amount of oxygen required to completely oxidise the organic and inorganic compounds present in a water sample. It is thus an indicator for measuring the degree of pollution in the water from mainly organic, oxidisable substances. It is expressed in %.

**CODE OF ETHICS:** document setting forth the principles, conduct, commitments and ethical responsibilities to be adopted in all company business by the company's directors, employees and consultants.

**COGENERATION:** the simultaneous production of electricity and thermal energy used for different purposes.

CORPORATE GOVERNANCE: the set of rules by which a company is managed and controlled.

CSR: Corporate Social Responsibility (CSR).

D

**DISTRIBUTION OF ELECTRICITY:** the transportation and transformation of electricity on high, medium and low-voltage distribution networks for delivery to end customers.

**DISTRICT HEATING:** the transmission of heat to a distant location, using water flowing in two pipes, one delivery pipe with hot water and one return pipe with colder water.

## E - F

**EIA:** Environmental Impact Assessment.

**EMISSION TRADING SYSTEM (ETS):** flexible mechanism envisaged by the Kyoto Protocol, which aims to enable the exchange of emission rights between Countries or Companies in relation to their targets for reducing greenhouse gas emissions.

END CUSTOMER: an individual or company that acquires electricity exclusively for its own use.

**ENERGY EFFICIENCY BONDS (EEB) (COMMONLY KNOWN AS WHITE CERTIFICATES):** Energy efficiency bonds (EEB), established by the decrees issued by the Ministry for Productive Activities in agreement with the Ministry for the Environment, Land and Sea on 20 July 2004 (M.D. of 20 July 2004), lay down the energy savings that electricity and gas distributors with user bases of over 50,000 customers are required to meet. The EEBs are valid for five years starting from the reference year and are issued by the EMO.

**ENERGY SERVICE COMPANY (ESCO):** companies whose business objective is to develop energy saving projects and who are accredited as such by the AEEGSI.

**ENVIRONMENTAL MANAGEMENT AND AUDIT SCHEME (EMAS):** environmental management and audit pursuant to the European Community Regulation 761/2001.

**ETHICAL INDEXES:** indexes that monitor the trend of the performance of a basket of companies according to financial, economic and also ethical, environmental or social criteria.

**FREE MARKET CUSTOMER:** the customer acquired from 1 July 2004 or from July 2007 following the extension of the deregulation of the VAT numbers first, then household customers.



**GAS TURBINE:** a machine that converts the energy of steam generated in a boiler or from a steam reservoir into the mechanical energy of a rotary shaft.

**GIGAJOULE (GJ):** a unit of measurement for energy (of any kind) adopted by the International System (3.6 GJ are equivalent to 1 GWh).

GIGAWATT (GW): a unit of measurement for power (of any kind) equivalent to one million kilowatts.

GIGAWATT-HOUR (GWh): a unit of measurement for energy (of any kind) equivalent to one million kilowatts per hour.

**GREEN CERTIFICATES:** Green Certificates are annual certificates issued by the GSE (Electricity Services Provider), which correspond to the production of 1 MWh of energy from renewable sources. Starting from 2002, based on the Decree 79/99, it is mandatory for producers and importers to introduce energy from renewable sources into their networks, in quantities equal to a percentage of the total electricity produced or imported during the previous year from conventional sources (net of exports, self-consumptions of the plant and cogeneration).

**GREENHOUSE GASES:** gases transparent to solar radiation that prevent the dispersion of heat from the Earth, thus causing the atmosphere to overheat. Besides those of natural origin, the main greenhouse gases produced by man are carbon dioxide, natural gas, chlorofluorocarbons and nitrogen oxides.

**GROSS PRODUCTION:** electricity produced in the period of time considered, as measured at the terminals of the electricity generator unit.

**GSE (Electricity Services Provider):** established pursuant to article 3 of the Italian Legislative Decree 79/99, it is a Joint-Stock Company, whose shares are held by the Treasury, which provides incentives for the production of electricity from renewable and assimilated sources and that deals with the qualification of renewable sources plants and their electricity production.



## H - I

**HYDROELECTRIC:** a hydroelectric plant is a plant in which the potential energy of water is transformed into electricity. Hydroelectric plants may be of the through-flow, storage or pumped-storage type.

HV: high voltage, i.e. 132 kV, 220 kV and 380 kV.

IEA: Integrated Environmental Authorisation.

IEC: Integrated Environmental Centre.

### K - L

**KILOCALORIE** (kcal): the unit of measurement for heat (thermal energy). One kcal is the amount of heat necessary to raise the temperature of 1 kg of water by 1°C.

**KILOVOLT (kV):** the unit of measurement for voltage equivalent to 1,000 volts.

KILOWATT (kW): the unit of measurement for power (of any kind) equivalent to 1,000 watts.

KILOWATT-HOUR (kWh): the unit of measurement for energy (of any kind) equivalent to 1,000 watts per hour.

LV: low voltage, i.e. between 220/380 V.

#### M

MBO: Management By Objectives

MEGAWATT (MW): a unit of measurement of power (of any kind) equivalent to one million watts.

**MEGAWATT-HOUR (MWh):** a unit of measurement for energy (of any kind) equivalent to one thousand kilowatts per hour.

MV: medium voltage, i.e. between 1 and 30 kV.

## N - O

**NET PRODUCTION:** gross production minus the electricity consumed in running the generator unit, including the step-up transformer.

NOX: nitrogen monoxide.

**OHSAS 18001:** the OHSAS (Occupational Health & Safety Assessment Series) 18001 standard is an internationally recognised benchmark for certifying workplace health and safety management systems.

### P

**POWER EXCHANGE:** virtual place for a meeting with demand and offer for the sale of wholesale electricity. The economic management of the power exchange is entrusted to the EMO, pursuant to art. 5 of Italian Legislative Decree 79/99.

**PRODUCTION CAPACITY** estimated energy that can be produced by each producer.

**PRODUCTION:** the generation of electricity or thermal energy irrespective of the method used.

**PROTECTED CUSTOMERS:** the domestic customer or customers with low voltage intake points only and the characteristics of small and medium-sized enterprises (up to 50 employees and turnover of up to Euro 10 million) that haven't moved to the free market.

**PUMPING:** plant consisting of one or more pumps which perform the function of making a liquid flow inside a pipe.

### R

**RENEWABLE ENERGY:** sun, wind, water resources, geothermal resources, tides, waves, and the transformation of plant products, organic and inorganic waste into electricity.

**RENEWABLE SOURCES:** non-fossil renewable sources of energy (wind, sun, geothermal sources, waves, tides, water, biomass, landfill gas, gas from treatment processes and biogas) in accordance with article 2 of Italian FER (Renewable Energy Sources) Decree.

S

**SAFEGUARDED CUSTOMERS:** customers that are not eligible and that do not possess the requisites to be high-protection customers.

SCM: standard cubic metre.

SERVICE CHARTER: company document that establishes the quality standards of company services.

**SOCIAL COOPERATIVES:** in compliance with Law 381/91 social cooperatives "pursue the general interest of the community to promote human and social integration of citizens" through management of social-health and educational services and the performance of activities aimed at providing employment for disadvantaged people.

**STAKEHOLDERS:** the set of parties that interact with the company, or the individual, community or organisation that can influence or be influences by the activity of the company.

**SUSTAINABILITY REPORT:** instrument that takes into account the impacts generated by the company with reference to the three dimensions of sustainability: economic, social and environmental.

**SUSTAINABLE DEVELOPMENT:** economic growth of a company in the long term with a low environmental impact and good relations with the community.

Т

TERAWATT-HOUR (TWh): one billion kilowatt-hours.

TERNA: the set of conductors for a three-phase power line.

**THERMOELECTRIC:** an electricity generating plant that uses fossil fuels.

**TOE**: tonne of oil equivalent; the quantity of primary fossil fuel replaced, that is, the amount of fuel otherwise required to produce the same quantity of useful energy in Italy.

TOTAL POWER: the total amount of electric or thermal energy of the various producers installed in a plant.

**TRANSMISSION:** the transportation of electricity on interconnected high and very high voltage networks either from the production plants or, for imported energy, from the point at which the energy is delivered, to the distribution network.

**TSS:** the term TSS (Total Suspended Solids), which are the cause of the turbidity of the sewage, is understood as the sum of suspended and filterable solids. It represents the totality of the substances present in the sample after drying at 105°C. The figure is expressed in %.



UNI EN ISO 14001: international technical standard for the certification of environmental management systems.

**UNI EN ISO 9001:** international technical standard for the certification of quality management systems.

**VOLT**: unit of measurement for electric voltage.



# W

WASTE AND WATER REGULATING AUTHORITY (AMBITO TERRITORIALE OTTIMALE - ATO): The Waste and Water Regulatory Authorities (Ambito Territoriale Ottimale), pursuant to Italian Law 36 of 1994, determines the territorial level of organisation of the Integrated Water Service in view of overcoming the fragmentation of the operators and the achievement of adequately proportioned management; the Regional Law defines its boundaries based on the river basin.

**WASTE:** Italian Legislative Decree no. 152 of 3 April 2006 defines waste as "any substance or object that lies in the categories listed in annex A of the fourth part of this decree and that has already been or is to be disposed of by its owner". This decree classifies waste, according to its origin, as municipal or industrial, and, according to its level of hazardousness, as hazardous or non-hazardous.

WATT: unit of measurement for electric power.

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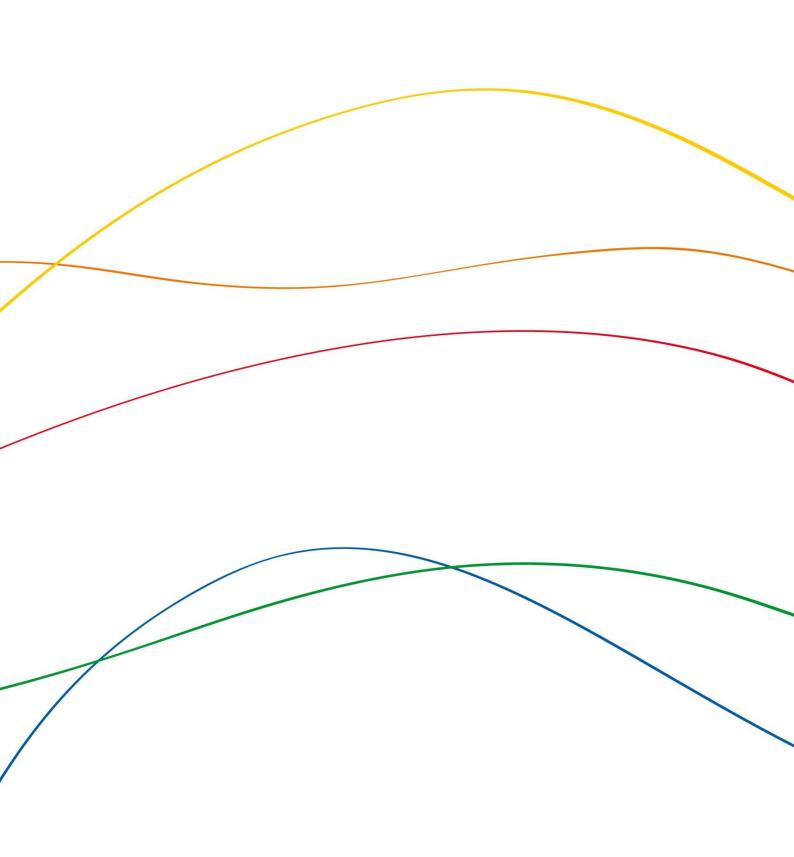
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