

**Economic**  
added responsibility  
value created  
**Transparency**  
**Sustainable**  
investments  
**Environmental**  
responsibility  
**Social**  
responsibility  
**Renewable**  
energies  
**Welfare**  
**Strategies**  
for the  
environment  
**Health and**  
**Safety**  
Sustainable  
development  
corporate  
governance



SUSTAINABILITY  
REPORT  
2015

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# LETTER TO STAKEHOLDERS

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The Sustainability Report is the instrument by means of which, for nearly ten years, we have been telling our stakeholders the storyline of our strategic decisions, the reasons behind them and, with an integrated view, the way those decisions impact our business, people, our area and the environment.

The 2015 Edition abides by the principles of GRI G4 Reporting, that focus reporting on the topics that are material to business. It is a structured process, with which we have identified and classified the topics that we consider most significant for the ERG Group and for our stakeholders and that affect the company's ability to sustainably create value over time.

The profound transformation of this business in recent years has led us to focus mainly on the production of electricity from renewable sources. It is a significant, sustainability-oriented evolution that characterizes our core business. On this basis we decided to enter the hydroelectric sector by acquiring the Terni Integrated Hydroelectric Complex to further diversify our generation sources and significantly increasing our "zero emissions" production.

2015 was also the year in which we presented our new 2015-2018 business plan to the financial community. The plan involves seeking to more efficiently integrate our production assets and to pursue geographical diversification through systematic growth in wind power. During the latter part of the year we have already laid the foundations to acquire 17 wind farms in France and six in Germany, and we have finalized the construction of three more in Poland, thus reaching about 600 MW of installed capacity abroad, out of our total of over 1,700 MW.

We have also revised our Sustainability Governance structure to make it leaner and more effective, more in line with the Group's new organization. In particular, by setting up specific work groups that include people from different areas of the company, we will better integrate social responsibility issues in our business, and identify issues and initiatives that should be brought to the attention of the Sustainability Committee.

The lessons learned over recent years have taught us that the key to winning challenge of tacking change is to focus primarily on Human Capital. In fact, thanks to our People, the ERG Group has managed to successfully manage the transition to our new, renewables-centred business model. It has been a significant cultural and professional leap for all of us, not just for colleagues with greater seniority, but also for the youngest among us. We ran a people satisfaction survey to analyse and monitor how this transformation period was coped with, felt and interpreted throughout our business. Despite the Group's profound change, the analysis once again confirmed the central importance for our People of the values and principles that have always distinguished ERG: economic, environmental and social sustainability, the recognition of talent and openness to innovation.

Striving for the development of our People has led us to design and implement an indicator called "Human Capital Coverage" (HCC). In the field of personnel management and development methodologies this is a completely new assessment tool and it aims primarily to the foster the growth of individuals in line with organizational and business changes over time.

Lastly, a few words on COP21 and the historical "Paris Agreement", in which 196 Parties committed to reduce climate changing emissions, to keep the average temperature increase of the planet "well below" two degrees.

COP21 reminds everyone – institutions, citizens and businesses – how much effort, perseverance and determination are needed to address and complete the transition to a substantially decarbonised economy, in which renewables will play an increasingly central and strategic role.

ERG Group and its People are doing and will continue to do their part with enthusiasm and determination to win this great challenge.

**Edoardo Garrone**

*Chairman*

A stylized, handwritten signature in black ink, consisting of a series of fluid, connected loops and strokes.

**Luca Bettonte**

*CEO*

A stylized, handwritten signature in black ink, featuring a prominent, sweeping initial 'L' followed by several connected, fluid strokes.

# OUR HISTORY: 1938-2015



Edoardo Garrone  
founds ERG  
in Genoa.

1938

1947

Production  
begins at  
the Genoa  
San Quirico  
Refinery.



Production begins  
at the ISAB refinery  
in Priolo.

1975

1997



ERG is floated on the  
Italian Stock Exchange.

2000



ISAB Energy begins  
to produce and  
market electricity.

2004

The Edoardo  
Garrone Foundation  
is established.



FONDAZIONE  
EDOARDO  
GARRONE



ERG enters the  
renewable energy  
sector by acquiring  
Enertad.

2006





ERG Power's Enters combined cycle power plant starts up (480 MW), fuelled by natural gas.

2010



Launch of TotalErg, a joint venture to market petroleum products.



ERG sells its ISAB Refinery and completes its exit from Coastal Refining.

2013

ERG Renew becomes the first wind operator in Italy with 1.087 MW of installed capacity, and among the top ten in Europe (1,340 MW).



Launch of ERG Renew Operations & Maintenance for the operation and maintenance of the wind farms.



ERG Renew sells a 7.14% stake to UniCredit.

2014

ERG sells its ISAB Energy plant and its ERG Oil Sicilia fuel network.



ERG acquires E.ON's hydropower business in Italy, with plants in Umbria, Marche and Lazio (527 MW).

2015

ERG Renew acquires 6 wind parks in France (64 MW) and builds three wind farms totalling 82 MW in Poland.

1,506 MW of installed power in Europe as at 31 December 2015.



## 2015: A YEAR OF GROWTH AND TRANSFORMATION

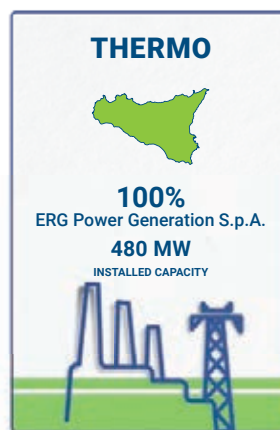
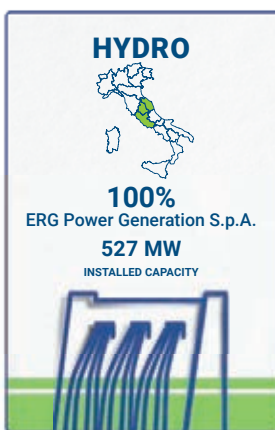
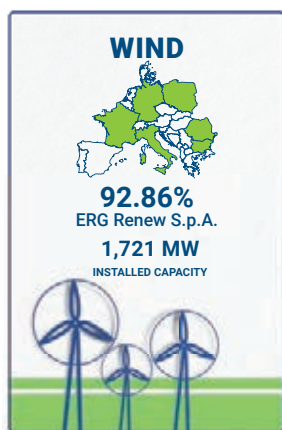
2015 was another year of **growth and transformation**. We completed our path of change, also thanks to the acquisition of the Terni Integrated Hydroelectric Complex, positioning ourselves as the leading operator in the production of electricity from renewable sources.

Today, the group can rely on a portfolio of **high quality** assets that are diversified both geographically and technologically, with a total installed capacity of over

**2,700 MW** (about 1,700 MW of wind power, 500 MW of hydroelectric and 480 MW of thermoelectric).

In 2015 we presented our development strategies to the financial community, in our **2015-2018 Business Plan**.

In the **wind power** sector we want to strengthen our leadership in our domestic market by leveraging direct management of our Operation and Maintenance



Data as at 2 February 2016

The ERG Group is also present in auto fuel distribution through its investment in the TotalErg JV (51% ERG)



activities and to continue our geographical expansion in France, Germany, Poland and the UK, under a business model based primarily on **systematic growth**.

For **the thermoelectric** sector, we expect ERG Power's high-yield cogeneration plant to continue to maintain a significant role in our portfolio of generation assets, thanks to its **flexibility and efficiency**.

Lastly, with regard to **hydroelectric** power, we will pursue all the activities necessary to promote better **integration** of the people involved and optimal utilisation of our new assets.

**Energy Management** activities will be further developed thanks to a broader, more diversified and better balanced production portfolio.

## WIND

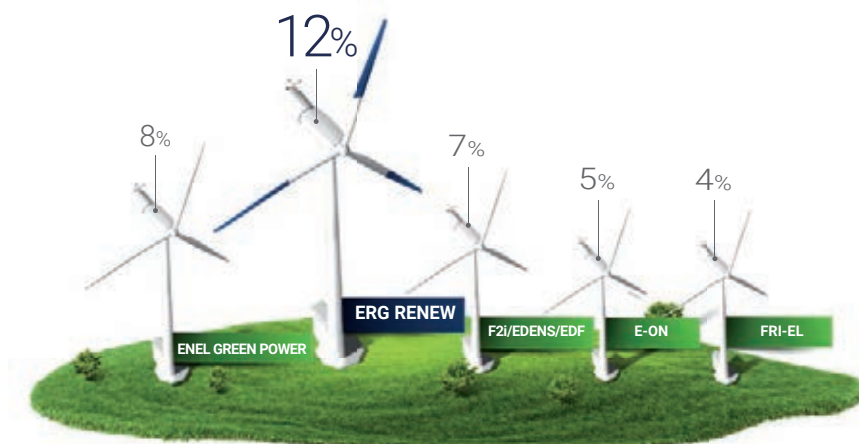
We are the **leading wind power operator in Italy** (with 1,095 MW) and **among the top ten in Europe** with a total installed capacity of approximately 1,700 MW. Our systems are located in France, Germany, Poland, Romania and Bulgaria.

Growth continued throughout 2015 in the Polish and French wind power market.

In **France** we increased our installed capacity from 64 to 128 MW by acquiring 6 new wind farms which are already operational.

In Poland, at the beginning of the year, we acquired two projects to be completed: one is a 14 MW wind farm at Szydłowo – Stupsk, the other is in Słupia, and its expected capacity is 26 MW. We also completed the construction of the wind farm in the Radziejów region (42 MW).

## ERG RENEW: ITALIAN MARKET SHARE



All the farms have come into operation during the year, bringing our installed capacity in **Poland** to a total of **82 MW**.

In June we reported the termination of the LUKERG Renew joint venture between ERG Renew and LUKOIL, entered into in 2011 to invest in the wind power sector in Bulgaria and Romania. As a result of this operation, ERG Renew retained the Bulgarian Tcherga (40 MW) and Hrabrovo (14 MW) wind farms and the Gebeleisis farm in Romania (70 MW).

We directly **manage and maintain our wind farms in Italy**; through ERG Renew O&M. We are extending this activity to our foreign farms, particularly in Germany and in France. In 2015 we initiated activities at two new logistics centres, one at Celle in Germany and one in Catanzaro, in addition to the nine already operational in Italy.

At the beginning of 2016 we grew further in **France** by acquiring eleven wind farms, for an installed capacity of 124 MW, bringing the total in France to **252 MW**.

We also increased our presence in **Germany**, acquiring six wind farms with a capacity of 82 MW, increasing our total installed capacity in Germany from 86 to **168 MW**.

We also acquired two companies that provide technical, operational and commercial support to wind farm operators in France, Germany and Poland – both captive and of third parties – for a total of about 800 MW.

#### HYDROELECTRIC

We are present in **hydroelectric generation** as a result of our recent acquisition of the **Terni Complex**: an integrated portfolio of assets across



Umbria, Marche and Lazio, with a total capacity of **527 MW**.

The complex includes 16 plants, 7 dams, 3 reservoirs and one pumping station within the water catchment areas of the rivers Velino, Nera and Tiber.

The operation added over **100 people** to the ERG Group, comprising technical specialists for the operational management of the systems, energy management specialists and dedicated staff.

The complex is not only an integrated system of energy production, but also a significant natural area partly located inside the Nera River Park, a protected area along the bed of the river and of its major tributaries which includes the

Marmore waterfalls, the highest in Europe (165 meters).

### THERMOELECTRIC

In 2015, our **480 MW natural gas-fired cogeneration plant** achieved satisfactory economic and environmental results.

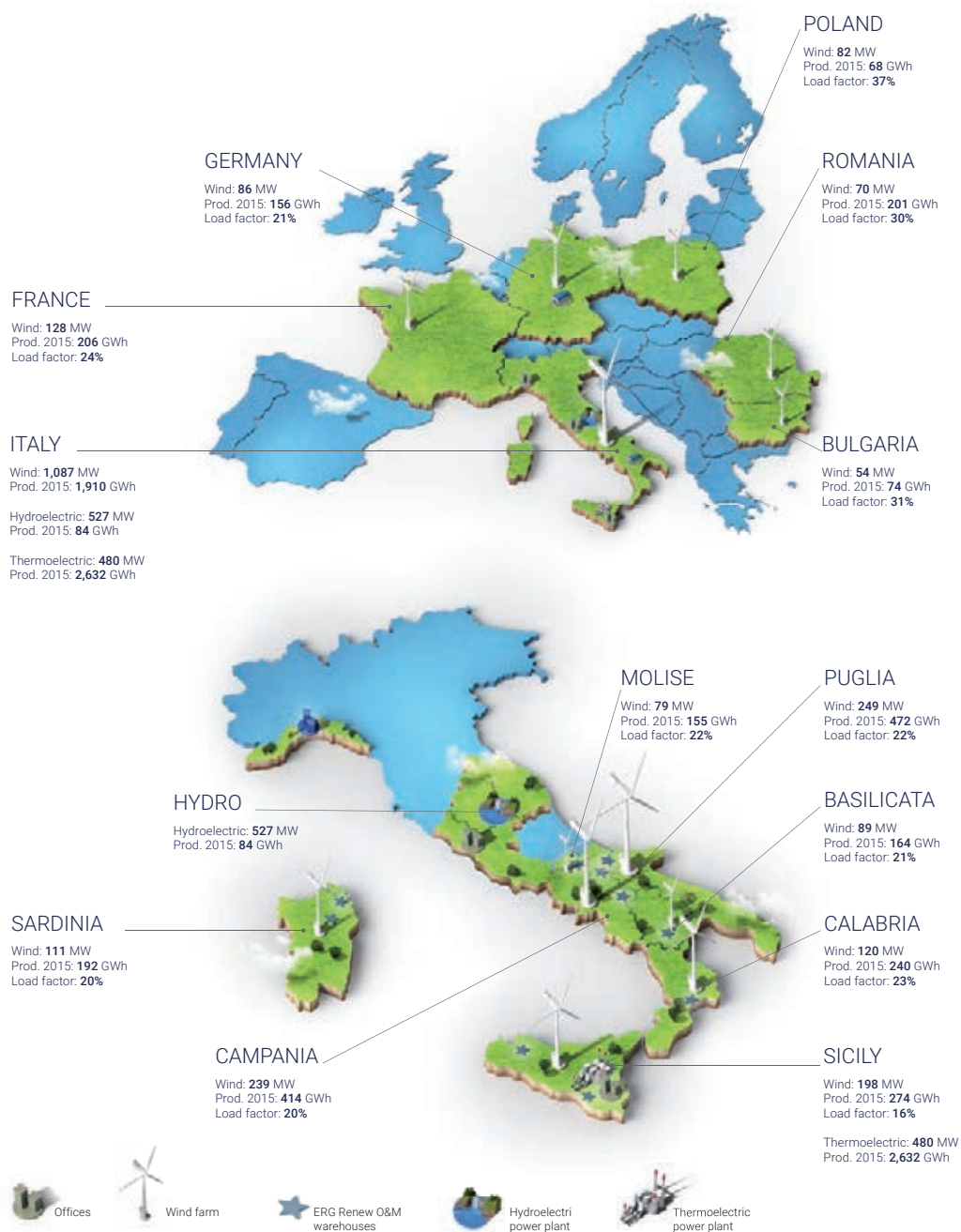
### TOTALERG

Starting from 2015, TotalErg's business is no longer considered strategic in the light of the Group's new structure and therefore is not consolidated in the financial statements.

Our goal is to maximize the value of our investment in the TotalErg joint venture (51% ERG – 49% Total ERG) by optimizing the fuel distribution network.



# ERG LOCATIONS



Data referred to the installed power as at 31 December 2015.

Load factor: the percentage of equivalent hours during which the plant produced at full capacity during a given period (month, year).

# ERG'S SUSTAINABILITY IN NUMBERS

13



958 MLN €

Total adjusted consolidated revenue <sup>(1)</sup>



759 MLN €

Economic value distributed



5,330 GWh

Electric power generation



2.1 MLN

Equivalent households with their own electrical production



1,721 MW

Installed power from non programmable sources <sup>(2)</sup>



1,007 MW

Installed power from programmable sources



979 kt

CO<sub>2</sub> avoided by using renewable energy



300 THOUSAND

Equivalent Rome - New York flights



666 EMPLOYEES



5.7 DAYS/YEAR

Training per employee



100 %

ISO 14001 and/or OHSAS 18001 certified companies consistent with its activities



493

Safety checks in the field

(1) Adjusted revenues take into account ERG's share of the revenues generated by the TotalErg S.p.A. and LUKERG Renew GmbH joint ventures

(2) Data as at 2 February 2016 (1,506 MW as at 31 December 2015)

## THE 2015-2018 BUSINESS PLAN

Our 2015-2018 Business Plan includes **investments for about 1.9 billion euro**.

In the **wind power** industry, growth will come from implementing a business model that focuses on systematic development in France, Germany, Poland and the United Kingdom, concentrated in the 2017-2018 period.

This will enable us to reach, by the end of 2018, about **1,950 MW** of installed capacity and to increase our geographical diversification, bringing our **foreign installed capacity** from the current 37% to **44%**.

Another key point of our Plan will be seeking **operational efficiency** in wind power asset management: in 2015 we completed the gradual insourcing of operation and maintenance activities in Italy and the Group is considering the possibility of also insourcing these activities abroad, starting

with France and Germany.

As for the **hydroelectric** sector, the plan includes activities aimed at **integrating** people and assets, to maximize the value of our recent acquisition.

During the plan period, activity will continue to improve the **quality** and **efficiency** of ERG Power's **combined cycle** power plant to maximize its contribution to the Group's performance. The plant continues to play a significant role in our electricity generation portfolio, thanks to its flexibility and efficiency.

The plan also includes **Energy Management** activities that will work on a broader, more diversified and better balanced portfolio, that includes **three different production sources**: thermoelectric, hydroelectric and wind power. **Unified and integrated management of our energy portfolio** will also help to better control risks.

INSTALLED CAPACITY AT THE END OF THE PERIOD		
<b>1,950</b> WIND POWER MW (OFF WHICH 850 MW FOREIGN)	<b>527</b> HYDROELECTRIC MW	<b>480</b> THERMOELECTRIC MW
TOTAL INVESTMENTS		THE GROUP'S EBITDA
<b>1,900</b> MILLION EURO OF WHICH 1,350 MILLION EURO M&A	<b>600</b> MILLION EURO SYSTEMATIC GROWTH	<b>450</b> MILLION EURO EXPECTED IN 2018



# THE STRATEGIC GUIDELINES OF THE BUSINESS PLAN

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Increase of about 600 MW of installed capacity in wind power abroad



Internalization of operational management tasks in wind power



Integration of the Terni hydroelectric complex



Energy Management:  
integrated management of a portfolio  
of over 8 TWh of electricity by 2018



Continuous improvement of the efficiency of ERG Power's thermal power plant



Increase of the production of zero emission electricity

## THE GROUP'S CORPORATE GOVERNANCE

The values and ethical principles that guide the Group in the fulfilment of its business activities are a corporate heritage that we have accumulated over time.

These cornerstones, which must be reflected in conduct of all those who work in our company, and that are summarised in the Code of Ethics, are:

- **moral integrity**, personal honesty and fairness in internal and external relationships;
- **transparency** towards shareholders, stakeholders and the market;
- **respect for employees** and the commitment to enhance their professional skills;
- **social commitment**;
- the **protection of health, safety and the environment**.

On a more general level, the basic principle underlying our activities is the rejection of any conduct that is not compatible

with an organizational and managerial model based on total compliance with the behavioural and procedural regulations that apply within the company.

ERG's current corporate governance structure has been developed over time by gradually introducing into its corporate approach rules of conduct that reflect the **most advanced principles** of corporate governance.

Even before the company was listed in October 1997, its key focus was on the proper relationship between Management and Shareholders and ensuring that business operations are directed towards **value creation**; its presence on the stock market further confirmed the company's focus on making the principles of transparency and correctness a key part of its conduct.

### SIGNIFICANT INVESTMENTS AS AT 31/12/2015

Direct shareholder	% share of ordinary capital and voting capital
San Quirico S.p.A.	55.628
Polcevera S.A.	6.905
ERG S.p.A.	5.000

- there are no securities conferring special control rights;  
- there are no employee stock option plans;

### BOARD OF DIRECTORS

As at 31/12/2015, the Board of Directors of ERG S.p.A. is composed of 12 members, including three women. The average age of members is about 52 years. 3 members (25%) are less than 50 years old.

The Corporate Governance structures, consisting of **Board Committees** and **Internal Committees**, are the pillars that underpin the practical implementation of these principles.

The new Board of Directors was appointed in April 2015 and will remain in Office until the approval of the financial statements for the year ending 31 December 2017.

**Two lists** of candidates have been presented: the Board is now composed of 11 members elected by the majority shareholder and one elected from a

list filed by some minority institutional investors.

The minority shareholders, concerning the lists of candidates, are protected by the provisions of the Italian Consolidated Finance Act (adopted by CONSOB): "shareholders that alone or jointly with others hold at least 1% of shares are entitled to present lists, provided that the candidates meet the conditions set by the regulations to act as Director".

For further information, see the "Report on Corporate Governance" section on the Group's website [www.erg.eu](http://www.erg.eu)

## THE STRUCTURE OF THE BOARD OF DIRECTORS AND THE BOARD COMMITTEES AS AT 31 DECEMBER 2015

Office	Members	List (M/m) *	Executive/ non- executive	Independent from Code and Italian Consolidated Finance Act	% participa- tion **	No. other positions ***	Date of first appointment ****	Risk and Control Committee		Nominations and Remuneration Committee	
								****	**	****	**
Chairman	Edoardo Garrone	M	Executive		90%	2	16/10/1997				
Vice Chairman	Alessandro Garrone	M	Executive		100%	2	16/10/1997				
Vice Chairman	Giovanni Mondini	M	Non Executive		100%	1	16/10/1997				
Chief Executive Officer	Luca Bettonte	M	Executive		100%		15/12/2009				
Director	Massimo Belcredi	M	Non Executive	Italian Consolidated Finance Act	100%	1	29/04/2003	Yes	100%	Yes *****	100%
Director	Mara Anna Rita Caverni	M	Non Executive	Code Italian Consolidated Finance Act	100%	4	24/04/2015	Yes	83%	Yes	100%
Director	Alessandro Chieffi	m	Non Executive	Code Italian Consolidated Finance Act	100%	2	24/04/2015				
Director	Barbara Cominelli	M	Non Executive	Code Italian Consolidated Finance Act	100%		24/04/2015	Yes	100%		
Director	Marco Costa- guta	M	Non Executive		90%	5	20/04/2012				
Director	Luigi Ferraris	M	Non Executive	Code Italian Consolidated Finance Act	100%		24/04/2015				
Director	P. Francesco Lanzoni	M	Non Executive	Italian Consolidated Finance Act	90%		29/04/2003	Yes *****	100%	Yes	100%
Director	Silvia Merlo	M	Non Executive	Code Italian Consolidated Finance Act	88%	3	24/04/2015			Yes	100%

\* This column shows M/m according to whether the member was elected from the majority list (M) or the minority list (m).

\*\* This column shows the percentage participation of Directors at the Board of Directors and Committee meetings (no. appearances/ no. meetings held during period in which the member has held their position).

\*\*\* This column shows the number of Director or Auditor positions held by the relative subject in other companies listed on regulated markets, including foreign markets, in financial, banking and insurance companies of significant size, different to those held in ERG Group companies.

\*\*\*\* This column shows participation by a member of the BoD in the Committee.

\*\*\*\*\* This column shows the date of the first appointment of the Directors as of 16 October 1997, the date the company was listed on the stock exchange.

\*\*\*\*\* In office until 24 April 2015.

## THE INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM

The Internal Control and Risk Management System (SCI GR) consists of a set of internal rules and organizational structures aimed at contributing to the **protection** of the Company's **assets**, to an efficient and effective management of the Group, to the **trustability**, **accuracy** and **reliability** of financial reporting and, more in general, to **compliance** with applicable laws and regulations.

### Consolidation of the Integrated Risk Management process

From the perspective of proper risk management and mitigation, Senior Management has defined a "**Risk Management Policy**" which relates the Risk Management process with the business strategy definition processes, assigning objectives to management and resulting in preparing and implementing operational plans.

This framework has entailed setting up, on one hand, an organization able to clearly attribute the governance, monitoring and reporting responsibilities, on the other hand to institute an inter-relationship between the Organizational Units and the bodies assigned to carry out risk management and control activities.

More specifically, our Corporate Governance System adopted requires setting up specific **board committees** (Control and Risk Committee, Nominations and Remuneration Committee, Strategic Committee) and **internal committees** (Corporate Committee, Investment Committee, Risk Committee, Human

Capital Committee, Business Review Committee, Leaders Meeting, Sustainability Committee) tasked with studying issues, providing advice and/or making proposals on matters that are particularly relevant economically, financially and strategically, to enable an exchange of opinions and a series of checks on those topics, so that the Board of Directors can take informed and clearly represented decisions.

These committees concur in the definition of the **methods** for **measuring**, identifying, assessing and controlling **risks**, and they provide advice and make proposals to the Chief Executive Officer in relation to:

- definition of risk management strategies and policies;
- assessment of the most relevant transactions and analysis of the associated risks;
- monitoring the progress of the most relevant transactions and verification of the enforcement of risk management policies.

In this context, the **Risk Management** process includes:

- the identification and assessment of the main strategic risks tied to the Business Plan and to extraordinary transactions, as well as the definition of the policies required to mitigate them;
- the identification and assessment of the main risks tied to business processes, as well as the definition of the procedures to manage them and the control instruments;
- the continuous verification of the smooth running and effectiveness of the risk management process.

## THE BOARD COMMITTEES

19

**SHAREHOLDER'S MEETING**

Approves the Financial Statements, appoints the Board of Directors, the Board of Auditors, the independent auditors and decides on statutory changes and extraordinary transactions such as mergers, demergers and share capital increases.

**BOARD OF DIRECTORS**

Approves periodic financial reports, sets strategic guidelines, the guidelines of the organizational structure, and the corporate governance system, decides on significant transactions, assesses the company's performance.

Composed of 12 members, 5 of which are independent\*, held 10 meetings during 2015 which lasted on average approximately 3 hours.



10 Meetings  
3<sup>h</sup>00' Duration

**BOARD OF STATUTORY AUDITORS**

Monitors compliance with laws and with the Articles of Association, with the principles of sound management, the adequacy of the CIGR System\*\* and the independence of the Independent Auditors.

Composed of a chairman, 2 standing auditors and 3 alternate auditors, held 9 meetings during 2015 which lasted on average approximately 2:30 hours.



9 Meetings  
2<sup>h</sup>30' Duration

**INDEPENDENT AUDITORS**

Carries out audits of financial statements and the limited accounts audit of the half-year financial report, and ensures the proper keeping of accounting records.

**INTERNAL CONTROL AND RISK COMMITTEE**

Supports the Board of Directors in decisions on the approval of periodic financial reports, those related to Group Governance, to the CIGR System\*\*, to the obligations pursuant to Legislative Decree 231/01 and to the Finance Area.\*\*\*

Composed of a chairman and 2 members chosen among the Independent Directors, held 9 meetings during 2015 which lasted on average approximately 2 hours.



9 Meetings  
2<sup>h</sup>00' Duration

**NOMINATIONS AND REMUNERATION COMMITTEE**

Makes recommendations for the remuneration of Directors with powers or specific duties and for the definition of remuneration policies and Group's management incentive schemes.\*\*\*

Composed of a chairman and 2 members chosen among the Independent Directors, held 8 meetings during 2015 which lasted on average approximately 1:30 hours.



8 Meetings  
1<sup>h</sup>30' Duration

**STRATEGIC COMMITTEE**

Supports the CEO and the Board of Directors in the definition of strategic business guidelines, portfolio guidelines, and strategic finance guidelines and decision making related to long-term strategic plans, investment budgets of the Group as well as significant capital expenditures.

Consisting of a Chairman and 4 members, held 10 meetings during 2015.



10 Meetings

\* Independent Directors in accordance with the Corporate Governance Code.

\*\* Internal Control and Risk Management System.

\*\*\* May issue opinions for the purposes of the procedure for transactions with related parties.

## THE INTERNAL COMMITTEES

**LEADERS  
MEETING**

Agrees on the activities and the performance of the various BU, guarantees a common vision and teamwork, develops the Group's Human and relational Capital and promotes the managerial culture and its values, enables comparisons with external best practices through success stories and benchmarking.

**HUMAN CAPITAL  
COMMITTEE**

Defines and monitors the main Human Capital development programmes and activities, provides support in terms of decisions regarding the development of personnel and mid to long-term variable remuneration and incentive systems.

**BUSINESS REVIEW  
COMMITTEE**

Monitors the results of the management of the relative Business Unit with the respective Managing Director, identifies value creation opportunities in the business "as is", provides a preliminary assessment of eventual investment / disinvestment opportunities.

**SUSTAINABILITY  
COMMITTEE**

Defines the Group's directions on sustainability and promotes the implementation of consistent practices concerning corporate social responsibility; approves, monitors and assesses the sustainability-related objectives and the priority action areas relating to CSR; approves the timing and media for the Sustainability Report and for CSR initiatives.

**RISK  
COMMITTEE**

Supports the CEO in defining financial and market risk management strategies and policies, supplies useful input for the authorisation of financial and market risk management operations, for the monitoring of the implementation of major operations and the checking of their relative effects.

**INVESTMENT  
COMMITTEE**

Provides support in the evaluation of BU investment proposals, expresses its technical and economic-financial opinion in the various phases of the investment approval process.

**The CIGR System: general principles and parties involved**

The CIGR System, as an integral part of the company's business, concerns and hence applies to the entire organizational

structure of the ERG Group: from the Boards of Directors of ERG and its subsidiaries, to Management and to the company's personnel. The main persons and bodies involved in the ERG Group's



internal control and risk management system, according to their respective skills (established in the guidelines for the CIGR system) and in compliance with current laws and regulations, as well as with the recommendations of the Corporate Governance Code, are:

- the **Board of Directors**, that orients and assesses the adequacy of the CIGR System, and is the central body of the System;
- the **Chief Executive Officer**, who identifies the main corporate risks;
- the **Executive Vice President in charge of the Internal Control and Risk Management System**, who assures that the CIGR System's functionality and overall adequacy is maintained;
- the **Internal Control and Risk Committee**, tasked with supporting, through an

adequate preliminary analysis activity, the assessments and decisions of the Board of Directors pertaining to the CIGR System, as well as those pertaining to the approval of periodic financial reports;

- the **Chief Audit, Risk & Compliance Officer**, in charge of verifying the viability and suitability of the CIGR System.

The Chief Financial Officer, the Manager responsible for preparing the company's financial reports, the Board of Statutory Auditors, and the Supervisory Committee round out the group of relevant players with specific Internal Control and Risk Management duties.

For complete details, see the Guidelines of the Internal Control and Risk Management System available on the Group's website.

## STRENGTHENING THE GOVERNANCE OF RISKS RELATING TO LAW 262

The main objective of the provisions of Law 262/05, on the Internal Control and Risk Management System, which governs the preparation of financial statements, is to ensure that financial reporting provides a true and fair view of the company's financial position and of the results of its operations, in accordance with generally accepted accounting principles, by defining suitable administrative and accounting procedures and auditing their actual application.

Our Group has organized its financial reporting activities on the basis of the CoSO\* Model and on benchmark best practices, separating the definition of administrative and accounting procedures for which the "Manager in charge of preparing the company's financial statements" is responsible, from the auditing of the application of those procedures, for which the Internal Audit, Risk & Compliance Department is responsible, and that therefore does so independently and jointly with its other Audit activities.

(\*) Framework developed by the Committee of Sponsoring Organizations of the Treadway Commission.

## THE GOVERNANCE OF SUSTAINABILITY

As a result of the Group's reorganization called "**Fast Steering**", the hierarchical structure of Sustainability Governance has also been revised in 2015 to make it leaner and more responsive, capable both of directing the Group's activities and monitoring its results.

This framework includes a Senior Management Committee, tasked with guidance and monitoring, and a broad operational base, rooted in the Business Units within which specific Working Groups bring together representatives of each department and "assemble" their know-how in a bi-directional manner: on one hand to apply and integrate sustainability in everyday activities, on the other to identify those potentially relevant to top management.

Sustainability, as a concrete example of the Group's business principles, is headed by the Chairman of ERG S.p.A.

The Chairman is supported in his guidance activities by a structure consisting of three bodies:

- the Sustainability Committee;
- the Sustainability Department;
- the CSR Working Groups.

The **Sustainability Committee**, made up by the Chairman, the Executive Deputy Chairman, the CEO of ERG S.p.A. and the Managing Directors of the Renew and Power business units and the Chief Public Affairs and Communication Officer, is responsible for the following tasks:

- **define** Group's sustainability directions and promote consistent practices in the context of corporate social responsibility;
- approve, monitor and evaluate sustainability **objectives** and priority areas for action related to CSR;
- approve the **timing and media** for the Sustainability Report and for CSR initiatives.

The presence of the BU Managing Directors ensures that the Sustainability Strategy and Policy are implemented in depth within the different companies of the Group.

This process is managed:

- in the Human Resources area by a special internal committee (the HCC, Human Capital Committee), which includes all the members of the Sustainability Committee except the Chairman;

### CSR IN THE GROUP'S ORGANIZATION CHART

"The Chairman of ERG S.p.A. is responsible for Institutional and International Relations concerning [...] Corporate Social Responsibility": **the Chairman's direct report line ensures that CSR principles permeate the Group's organization and activities.**

*Resolution of the Board of Directors of April 2015.*

- in the Investment area by the Strategic Committee (including the CEO and Vice Chairman) and by the Investment Committee (including the CEO and the Managing Director of the business unit concerned).

The **Sustainability Department** acts as a link between the BUs (represented in the CSR Working Group) and the Sustainability Committee:

- collects all the inputs coming from the lines, representing them in the Sustainability Report set up according to international benchmark standards;
- supports the Committee in carrying out its tasks, in particular in the monitoring and reporting process and in implementing the directions that have been decided (via the CSR Working Group);
- operationally implements the CSR-related actions identified by the Sustainability Committee within the Group.

The **CSR Working Groups**, one for each Business Unit, are working groups which cross the organizational units, and focus on:

- identifying CSR initiatives and collecting CSR-related concerns from key stakeholders, and also to include them in the Sustainability Report;
- identifying the areas to report on in the Sustainability Report;
- developing and proposing sustainability objectives and monitoring their achievement;
- collecting the KPIs that have been defined for sustainability reporting purposes, including those concerning continuous improvement projects implemented in relation to the certification systems in place within the Group;
- proposing CSR initiatives to raise the awareness of Group's staff.

The Sustainability management system also includes the **Supervisory Committees**, set up in each of the Group's companies' pursuant to Model 231, and the **CSR Initiatives Evaluation Committee** at group level, made up of representatives from the operating companies, the Communications Department and the Sustainability Department.

## THE SUSTAINABILITY POLICY

At its first meeting, the Sustainability Committee approved ERG Group's new Sustainability Policy: a document which, in line with the principles set out in the Code of Ethics, directs the Group's activities, combining the objective of creating sustainable value with environmental responsibility and attention to internal and external stakeholders. Our Sustainability Policy defines our values, commitments, objectives and our organizational structure in relation to sustainability and must be applied in conjunction with laws and regulations in force in the countries in which ERG operates, with the rules of conduct defined in the Code of Ethics, with the Organization and Management Model pursuant to Legislative Decree 231/01, the Anti-Corruption Guidelines and with the other policies and rules adopted by the Group.

## SUSTAINABILITY GOVERNANCE



### BOARD OF DIRECTORS

Defines the Group's principles of conduct summarized in the Code of Ethics and approves the Sustainability Report.



### SUSTAINABILITY COMMITTEE

Comprises the Chairman, the Deputy Chairman, the CEO of ERG S.p.A, the Managing Directors of the Renew and Power BUs and the Chief Public Affairs and Communication Officer. Defines the Group's directions on sustainability and promotes the implementation of consistent practices concerning corporate social responsibility; approves, monitors and assesses the sustainability-related objectives and the priority action areas relating to CSR; approves the timing and media for the Sustainability Report and for CSR initiatives.



### SUPERVISORY BODY

It is tasked with:

- monitoring the effectiveness of the Model and compliance with the Code of Ethics;
- verifying the adequacy of the Model to prevent the commission of the crimes specified in Italian Legislative Decree 231/01;
- overseeing the updating of the Model;
- providing training on the Code of Ethics and 231 issues;
- assessing the information received.



### SUSTAINABILITY DEPARTMENT

Has the responsibility to implement the guidelines and to periodically monitor their performance. The set of inter-functional monitoring actions result in drafting the annual Sustainability Report that is initially reviewed by the Sustainability Committee and subsequently approved by the Board of Directors.



### CSR WORKING GROUP

Working groups which cross the organizational units, and focus on:

- identifying the areas to report on and collecting the KPIs;
- developing and proposing sustainability objectives and monitoring their achievement;
- identifying CSR initiatives and collecting CSR-related concerns from key stakeholders;
- proposing CSR-related initiatives to raise the awareness of Group's staff.



### CSR INITIATIVES EVALUATION COMMITTEE

Working group composed of personnel of the operating companies, of the Communications Department and of the Sustainability Department. Analyses all the initiatives coming from the community, based on the values they express and the positive impact expected over time in that area.

# ANTI-CORRUPTION: ONE OF THE GROUP'S FUNDAMENTAL PRINCIPLES

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ERG conducts its business in accordance with the highest national and international standards of Corporate Governance. With this in mind we are committed to respect and apply the principles of **integrity, impartiality and transparency**. These principles assume an even greater importance when we must deal practically with the problem of corruption, a global phenomenon that irreparably destroys the integrity of companies, both public and private.

Of particular relevance among the Group's Governance and Anti-Corruption tools is

Model 231, which all companies under Italian law have adopted by a resolution of their Board of Directors.

## Composition of the Supervisory Committee and reporting

Legislative Decree 231/01 requires companies to set up Supervisory Committee (SC) vested with autonomous initiative and control powers, which is assigned the task of supervising the operation and compliance of the Organization and Management Model and to manage the updates thereof.

## THE CODE OF ETHICS

The Code of Ethics contains all of the values that guide the operations of the Group and represents a tool for encouraging all employees and associates to respect the highest standards of transparency and honesty when carrying out their roles. The document was updated in 2014, coinciding with its fourth edition, in order to take account of new legislation, and was adopted by all of the Group Companies with specific resolutions by their respective governing bodies.

In order to guarantee the alignment of all those that work with the Group as regards the principles to observe and the conduct to adopt, the Code of Ethics is also disseminated externally with clauses in supply contracts calling for it to be respected.

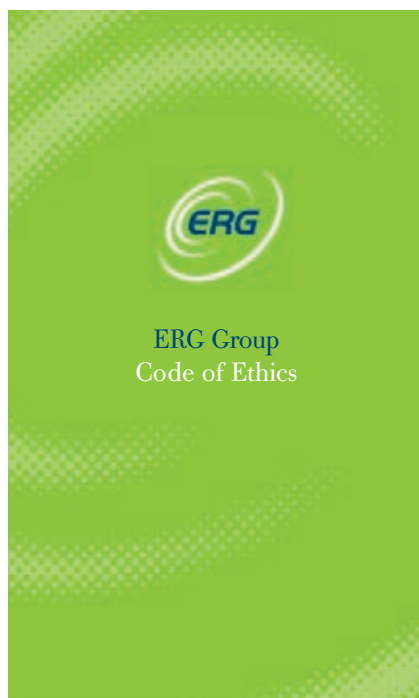
In order to further emphasise how all aspects of our business are carried out in strict compliance with national and international laws and regulations, that concern, among others, anti-corruption matters and as further proof of our respect for the values stated above, we decided to adopt the Anti-corruption Guidelines in addition to our Code of Ethics. Whereas for all companies under Italian law Model 231 also concerns the checks done to prevent corrupt behaviour, those same checks are contained in the Anti-corruption Guidelines that all our companies under foreign law must adopt.

Specifically, the Supervisory Committee of ERG S.p.A. consists of 3 members of whom one is an external member and two are members from within the company.

The Supervisory Committee is chaired by the external member, who is chosen among individuals that can contribute their specific in legal, economic, financial or technical experience.

The presence of an external member is also driven by the need to ensure the Supervisory Committee's effective independence of the corporate hierarchy.

The Supervisory Committee **is established by resolution of the Board of Directors** which, when appointing the members, must state its assessment of the independence, autonomy, integrity and professionalism of said members.



The term of office of the members of the Supervisory Committee is the same as that of the Board of Directors that appointed it and its members may be re-elected.

Most direct or indirect subsidiaries of ERG S.p.A., under Italian law, have Supervisory Committees: in particular, companies with employees usually have a collegial supervisory body composed of 3 members of whom one is an external member and two are members from within the Group.

The Supervisory Committee is chaired by the external member, in line with the way the parent company has chosen to do.

The compliance activities of the Supervisory Committees and of the Internal Audit, Risk and Compliance structure that supports it is guided by the Confindustria Guidelines and by the recommendations of the Supervisory Committee Association that, by issuing position papers, provides methodological guidelines and best practices.

Each Supervisory Committee has its own **email address** to receive any reports from both inside and outside the organization. Such reports may include, without limitation, violations of the Code of Ethics, of the Model 231 or of the internal procedures on topics related to controls that are relevant to the prevention of the offences covered by Legislative Decree 231/01. The Supervisory Committee must keep confidential all reports received and protect the reporting party.

### Model 231 and Anti-corruption Guidelines

The Model's principles are inspired by the **Code of Ethics** and its goal is to



guarantee the **honesty, transparency** and **traceability** of the daily management of the company's activities:

- the general part defines the overall structure of the Model in relation to the content of the decree and the specific nature of the company's business;
- the special part defines the rules to be followed in the context of the sensitive activities carried out.

The **Supervisory Committee** is tasked with **overseeing** the observance of the Code of Ethics and guaranteeing the implementation of the Model (for example by implementing specific information flows and on the basis of the outcome of Model 231 and audit monitoring programmes), as

well as identifying the need for subsequent updates.

During 2015, based on regulatory changes that occurred during the year, twenty-seven 231 Models have been updated: specifically those of ERG S.p.A., ERG Renew and its subsidiaries under Italian law (22 companies), ERG Power Generation, ERG Power and ERG Services.

As regards business abroad, however, our foreign companies have adopted the Anti-Corruption Guidelines issued by ERG that reflect the key principles of Model 231.

#### **Related parties, inside information**

In May 2015 the Procedure for related party transactions was updated, and then

## **ERG GROUP'S PRINCIPLES AND INTERNATIONAL DEVELOPMENT**

As a result of the continuous international development of ERG Group, we felt that it was necessary to simplify the communication of the Group's principles to companies abroad and to local counterparties: our Code of Ethics was therefore translated into English and French and all our foreign companies adopted it. The Model 231, instead, has been translated into English and then posted on the Group's website [www.erg.eu](http://www.erg.eu).

All our companies under foreign law have also endorsed the Anti-corruption Guidelines issued by ERG, that reflect the principles of conduct, in line with what is already covered by Model 231. In particular, the management of ERG business activities must comply with the principles of conduct that apply to:

- the principles set out in the Code of Ethics;
- the separation of duties;
- the allocation of powers;
- transparency and traceability of processes;
- appropriateness of internal rules;
- the training of employees;
- job rotation.

approved by the Board of Directors. As part of the Procedure in question we revised the threshold values of transactions with related parties that require six-monthly and annual reporting.

## TRAINING

### On line training

As a result of the reorganization of the Group, in addition to e-learning training on Model 231 issues, divided by business area (Corporate, Renewables, Power, Services), we implemented a course entirely devoted to the Code of Ethics.

**All employees** were asked to complete the online training (each session lasted about an hour) and to pass a final test. Newly recruited employees, in addition

to attending online training on the Code of Ethics, must complete an **additional training module** on the contents of the Model 231 of the company to which they belong.

### Model 231 training to Senior Management

In accordance with the provisions in Confindustria's guidelines, information/training sessions were held for members of the Board of Directors of the ERG Group companies. The information activity was focused on the responsibilities of the Board of Directors concerning compliance with Legislative Decree 231/01, on the main risks associated with the business carried out by the company and on some practical cases (rulings).

## CLASSROOM TRAINING ON MODEL 231

In 2015, 27 Group companies approved the updating of their Model 231, which was followed by employee training.

**375\***

HOURS OF  
TRAINING ON  
THE CODE OF  
ETHICS AND  
MODEL 231

**250**

EMPLOYEES  
THAT  
ATTENDED  
TRAINING

**33\***

HOURS OF  
TRAINING  
FOR BOARD  
MEMBERS

**100%**

BOARD  
MEMBERS  
THAT ATTENDED  
THE TRAINING

\* Training sessions on Model 231 last 1.5 hours on average.

# ERG GROUP'S CERTIFICATIONS

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Within our Group, the approach to environmental and workplace safety issues goes beyond mere "regulatory compliance": we seek the best industry practices and integrate them into our management systems, to make them increasingly refined, performing and safe, striving for continuous improvement.

**Health and safety in operations and minimizing the environmental impact** of the Group's activities are principles of the Code of Ethics that are pursued continually, in particular by implementing **Management Systems** (environmental, quality or safety) that are **certified according to international standards**: this approach is one of the commitments of our Group's CSR – Corporate Social Responsibility – for the three-year 2013-2015 period.

At the end of 2015, by achieving the safety certifications for ERG and ERG Services, we have reached the target set by our three-year Sustainability Plan.

## A BUSINESS UNIT 100% EMAS

The Power Business Unit includes the Group's programmable energy production plants: ERG Power's thermoelectric power plant and the Terni hydroelectric complex.

In both plants the utmost attention has been given to safety management, by complying with OHSAS\* 18001 regulations, and to environmental management, by

implementing procedures in line with the requirements of ISO 14001 certification.

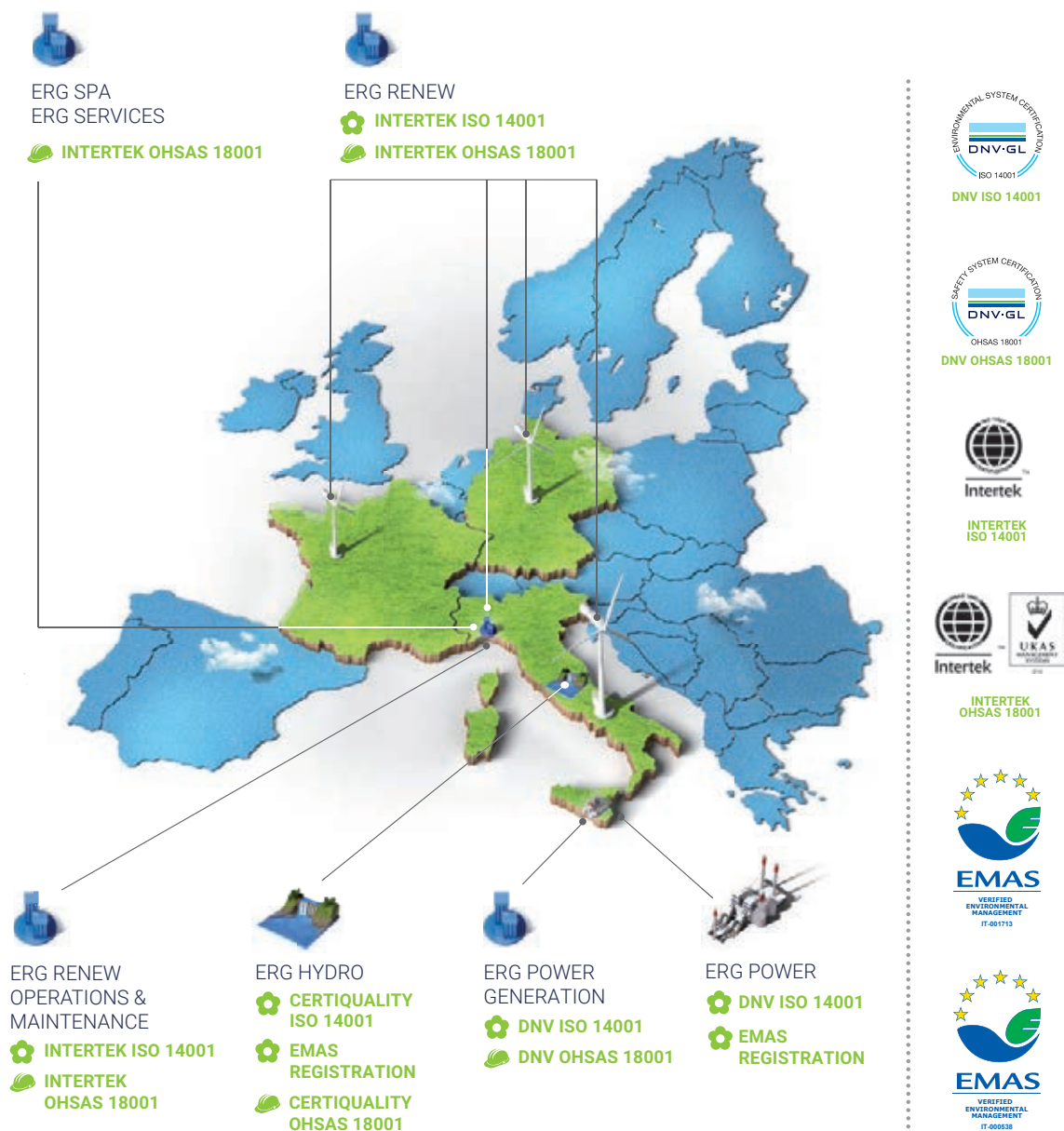
In the environmental aspect, both our plants have an **"extra"**: the **EMAS registration** (Eco-Management and Audit Scheme, pursuant to Regulation (EC) 1221/2009). ERG Power's plant achieved this important registration in 2015, while the Terni hydroelectric complex, which ERG acquired in December 2015, has been certified since 2006.

Our companies' **voluntary** participation in a European Union eco-management and audit scheme is a further confirmation of the importance of environmental sustainability for our Group, as well as a tool to make even more effective one of the objectives of our "Corporate Social Responsibility" (CSR): an open dialogue with our stakeholders.

We are convinced that only through active dialogue with our stakeholders and by applying a sustainable development model we can ensure continuity and quality of results, combining them with full respect for the environment and for the community. Our **Environmental Declaration** will be updated **each year and renewed every three years**, subject to confirmation of ISO 14001 certification (a prerequisite of EMAS registration). The registration will make it possible for us to more effectively pursue the improvement of our environmental performance, which is already monitored by our environmental management system.

\* Occupational Health and Safety Assessment Series

## ERG GROUP'S ENVIRONMENTAL AND SAFETY CERTIFICATION



## ERG POWER'S HSE INTEGRATED MANAGEMENT SYSTEM

ERG Power's CCGT plant is operated and maintained by the personnel of ERG Power Generation, which works under an integrated management system (Environment, Health, Safety, and Quality) that is consistent with the provisions of our HSE policy and that was renewed, without finding any nonconformity, in mid-2015. The Integrated Management System aims to:

- **identify and describe in detail the production processes** we manage, highlighting the various processes,

interfaces, inputs and outputs, and control elements;

- **measure and monitor processes**, so as to achieve the planned results in compliance with the principle of effectiveness, efficiency and continuous improvement;
- **manage processes** in accordance with the requirements of international standards.

The renewal in 2015, "without finding any nonconformity", was of even greater significance since it was the first one after reorganizing the business unit after the sale

## THE PROCESS FOR ERG POWER'S EMAS REGISTRATION

At its meeting on 3 July 2015, the EMAS Italy section of the Committee definitively approved the EMAS registration of ERG Power's plants, issuing the long-awaited certificate, valid until 17 June 2017. Some of the main benefits of this recognition are:

- the "ECO-guarantee" certification from the competent authorities;
- the extension to sixteen years of the term for the next Integrated Environmental Authorisation (IEA);
- the use of the EMAS logo as a vehicle for the promotion and improvement of our corporate image, to highlight our efficiency and our commitment to environmental protection.

To register with EMAS, ERG Power has:

- carried out an environmental analysis, examining the impact of its activities;
- adopted an Environmental Management System compliant with the ISO 14001 standard;
- carried out an environmental audit, assessing the effectiveness of its Management System and of its environmental performance in the light of its policies, improvement goals, the company's environmental programmes, and current legislation;
- drafted an Environmental Declaration that describes the results achieved compared with the environmental goals it has set, and describes how and with what programmes the company intends to continuously improve its environmental performance.

of ISAB Energy (see the 2014 Sustainability Report) and after taking direct control of Operation & Maintenance tasks.

The System documentation was checked for being up to date and it was found that the general and operational management processes had been implemented adequately both at the headquarters in Siracusa, where the Operation & Maintenance units are located, and at the Genoa offices where, among others, the Management Control, Energy Management and Procurement (sourcing and supplier management Government) processes take place.

The **main positive aspects** found during the system upgrade and certification renewal were:

- the **consolidation** of the “**continuous improvement**” process, based on the analysis of available data and the results achieved in 2015;
- the corporate **reorganization** process, implemented by the “Fast Steering” management model and by implementing personnel empowerment initiatives;
- an effective and well structured **internal communications** management process implemented within the Group by various initiatives including, in particular, the TeamERG magazine, the use of our intranet portal and group meetings;
- the strengthening of the human resource **management** process and in particular the new development logic in the context of corporate reorganization;
- the significant “risk based” **approach** implemented by the organization regarding the analysis of the internal

audit results (for 2014) to identify improvement and risk mitigation measures;

- the considerable and high-level **professional expertise** of the internal working groups, and the motivation and awareness to focus on business objectives.

As regards the management of environmental and safety aspects, it was found that special attention was paid to information activities addressed to the staff of **third parties**, also by using a specific IT tool platform, which ensures the maintenance of the qualification over time. Also worth mentioning is the adoption of contractually agreed penalty mechanisms for suppliers, to be applied upon detecting non-compliant situations.

Staff **training** was also very well structured, with monthly and quarterly planning, a quarterly check-up and a high participation rate, close to 100%.

### ERG RENEW'S INTEGRATED MANAGEMENT SYSTEM

ERG Renew considers as a priority objective the **publication, support and implementation of its HSEQ Policy** (Health, Safety, Environment and Quality). The **Quality** of the services provided to subsidiaries, the protection of the **Environment**, the **Health** and **Safety** of employees and third party workers are primary values of our corporate culture.

To achieve the objectives set out in its HSEQ Policy, ERG Renew has implemented and maintains active its Integrated Quality,



Environment and Safety Management System (SGI), in compliance with ISO 9001, ISO 14001 and OHSAS 18001 standards.

That SGI is extended to all subsidiaries that produce electricity from wind power in Italy and, concerning foreign countries, to some French and German companies.

At the same time, ERG Renew Operations & Maintenance (EROM) has also implemented, as early as 2014, its own SGI, compliant with the standards mentioned above, for the management and maintenance of its wind power assets. During 2015, the Certification Body carried out a maintenance audit on the SGIs of ERG Renew and EROM, extending the scope of EROM certification to the German branch at its headquarters in Celle, Germany.

### OHSAS 18001 FOR ERG AND ERG SERVICES

In 2015, ERG and ERG Services completed the project to certify their Health and Safety Management Systems according to OHSAS 18001 international standards, obtaining the certificate of registration on 23 November.

Project activities were initiated in late 2014 with the regulatory compliance analysis and subsequently completed by all the “process” and management aspects, according to a systemic approach (i.e. a coordinated set of elements).

In early 2015, when we restructured HSE roles and responsibilities between Corporate and BU Power, we drafted a detailed “action plan” to prepare for the certification audits.

Beyond the pure aspects of regulatory compliance, which under a voluntary certification process are in fact a prerequisite, the project activities focused on two areas:

- the **definition of the system architecture**, fundamentally a coordinated set of internal rules: aside from certain elements which were specifically created in order to implement a system, all the documents already existed were revised and updated to bring them into line with the OHSAS requirements;
- the **development of the processes and operational tools** required to ensure proper operation of the system, particularly concerning the internal communication flows between the various parties within the system, the document archives, the system performance monitoring tools, the system audit process.



At the beginning of November the certification audit took place, to verify both the application and the operation of the system at the company's Genoa, Rome and Siracusa sites.

Obtaining the certification was the result of significant team work, and it showed that the system is undoubtedly young, and being brought up to speed, but already capable of meeting the requirements of the

standard because its logic and principles are properly set up.

The certifications make us certain that the system is capable of ensuring the protection of ERG's people, confirming our focus on human capital as an essential element – a value that has always characterized the Group's culture and actions and which qualifies our sustainable approach.

## CERTIFICATIONS OBTAINED IN 2015

In 2015 the ERG Group completed its three-year goal of sustainability related to its HSE policy: to obtain, for each company, a safety management system and/or environmental certification.

With the latest certifications obtained during the year by ERG (OHSAS 18001), ERG Services (OHSAS 18001) and ERG Power (EMAS) all our companies, as at the end of 2015, have achieved the certification of a management system consistent with its business.

### ERG Power

Starting from 2014 the company, which has always been sensitive to environmental issues, had set the objective of obtaining EMAS registration along with maintaining the certification of its Environmental Management System in accordance with the ISO 14001 benchmark standard.

The environmental statement made available to all interested parties via the [www.erg.eu](http://www.erg.eu) website. It is an important tool which describes the main activities, the environmental issues, the objectives and the improvement programmes related to the industrial activity carried out at the Priolo Gargallo (SR) site.

### ERG and ERG Services

The OHSAS 18001 certification for occupational safety issues concerned the sites of Genoa, Rome and Siracusa.

The value of the certification is the protection of the safety of ERG's people in their workplace.

# DIALOGUE WITH OUR STAKEHOLDERS

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Legality, honesty, fairness, equality, privacy, fairness, integrity, transparency, accountability, sustainability: these are the values that our Code of Ethics puts at the heart of our way of doing business. Values that well represent **our work ethics** and on which, along with the respect of individual laws, we have based our relationship with all stakeholders: from central authorities to local bodies, from customers to suppliers, from shareholders to employees.

Over the years we have **modulated our policies** of engagement and communication to stakeholders to better

respond to their needs and to the change of our business. The strong growth in the wind power industry has led us to become the first operator in Italy and one of the first in Europe and the acquisition of the Terni Hydroelectric Complex, in late 2015, has made ERG a leading renewable energy player in the heavily regulated power market. Institutional relations have thus taken on an increasing importance for the company.

ERG's change of business has brought more attention and more intense dialogue with the financial community and with the media.



Compliance with the GRI-G4 standards, on the basis of which the Sustainability Report is drawn up, also requires a significant commitment in terms of “meeting” and “discussion” to integrate

stakeholder expectations into the content of the Sustainability Report.

Below is a summary of our main stakeholder engagement activities in 2015.

## OUR STAKEHOLDERS: EXPECTATIONS AND TERMS OF ENGAGEMENT

Stakeholder	Stakeholder expectations	Terms of engagement
<b>Institutions</b> European Union, Governments, Ministries, Regulatory bodies, Public Administration, Trade associations.	Collaboration, technical support and sharing of information. Participation in the territorial planning of activities. Respect for the legislation in force in all countries in which the Group operates.	Dedicated meetings, round tables and conferences.
<b>Shareholders</b>	Creation of value. Corporate Governance and Risk Management. Representation of minorities. Transparency and timeliness with regard to economic and financial information.	Webcasts. Press releases. Roadshows. Events related to the presentation of the business plan.
<b>Financial community</b>	Creation of value. Corporate Governance and Risk Management. Transparency and timeliness with regard to economic and financial information.	Webcasts. Press releases. Roadshows. Events related to the presentation of the business plan.
<b>People and trade union organizations</b> Workers with employee contracts, workers without employee contracts, trade unions.	Equal opportunities. Workplace safety. Professional development for all employee categories. Participation in company life and all related initiatives. Work-life balance. Stability.	Activities and tools for training, measurement and internal communication. Events during the year. Team building.
<b>Local communities</b> Cultural, religious and research associations, health service, NGOs, Committees of citizens, residents close to production plants.	Consideration of their requirements. Contribution to and support for local initiatives and local communities. Access to information. Safeguarding of assets and environment. Health and safety.	Relational activities with local communities in line with our businesses. CSR initiatives on the territory for “environment and health”, “culture”, “youth and sports”. Events with the local press.
<b>Future generations</b> Schools and Universities.	Prevention and environmental respect. Training and sharing expertise. Business strategy aimed at reducing the consumption of natural resources.	Training and information projects. CSR initiatives on the territory concerning “culture”, and “youth and sports”.
<b>Average</b>	Complete, timely and transparent information.	Events with the financial press, press releases to disclose our financial statements, business plan and corporate transactions.
<b>Suppliers</b>	Respect for all competition and antitrust laws in the countries in which it operates. Accessibility to the “vendor list”. The safety of in-field activities.	Web platform. Involvement and monitoring on “occupational safety” issues.
<b>Partner</b>	Creation of value. Acceptance of common values in the development of the strategy and business management.	Specific mini relational events.
<b>Customers</b>	Maximizing value for the consumer. Quality and continuity in the supply of electricity and steam (site customers).	–

## WIND POWER RENEWAL CHARTER

Today in Italy about 20% of the installed wind power capacity (approximately 2,000 MW) is over 10 years old. This is an important heritage of the Italian electricity system, which, together with new installations, is essential to achieve the medium-term energy and climate change objectives. The age of these plants on one hand, and the technological advances achieved over the years on the other, lead to the need to renew them, to boost their future productivity. In this perspective, the main wind power sector operators worked together with the many national and local institutional stakeholders to define both the objectives and the best practices to ensure the sustainability of the renewal and revitalisation of the existing wind farms. Therefore we drafted the "Charter for Sustainable Wind Power Renewal", and signed it on 3 November 2015 at the "Key Wind" event in Rimini. ERG Renew, E2i, Enel Green Power, Falck Renewables, IVPC, Legambiente and ANCI identified the operational rules, the application criteria, the standards, the procedures and the best practices to ensure efficiency and transparency in the renovation projects of the existing wind farms in Italy and to build a path towards qualifying sustainability. By renewing the plants we will improve their integration with the environment and with the landscape, making it possible to more fully enjoy and develop those "windy" areas and municipalities which are often of great cultural and tourism interest, besides being important for agriculture.

The Charter highlights how a synergistic link between Environment, Energy and the Community is essential for truly sustainable growth. It is therefore necessary to agree methods and criteria that meet the needs of all affected companies and public and private stakeholders, in accordance with the principles of "shared participation". This is the way to combine optimal resource utilization with the utmost respect for the social and environmental context in which the wind farms are located.



## ERG AND THE FINANCIAL COMMUNITY

We have been listed on the Milan stock exchange for almost twenty years. The growing importance of our relations with **analysts** and **investors**, over the years, is therefore no surprise.

Our commitment is to provide to the financial community all the information it needs to assess opportunities for investing in our company – in a transparent and timely manner, and in compliance with the regulations on the disclosure of price sensitive information. **Communication** with investors and financial analysts is primarily through one-to-one meetings and roadshows, both in Italy and abroad. Especially in times of great volatility and economic downturn, clarity is critical when communicating business strategy and discussing industrial accountability versus our commitments, to maintain market confidence and support the value of the company on the stock market.

With this in mind, on 16 December 2015, we met the financial community and the business press to present ERG Group's **2015-2018 Business Plan**.

On that occasion, the company's top management, on the basis of our financial performance, could both take stock of its achievements over the previous business plan and illustrate the strategic guidelines underlying the development prospects for the Group, which at the end of its transformation, by entering the hydroelectric sector, is increasingly positioned as a leading producer of electricity from renewable sources.

### Financial communication tools

The presentation of our latest business plan boosted interest in our Group's activity. The market appreciated the strategic guidelines contained in our plan and that led to an increase in our meetings with analysts and investors, interested in finding out more on

## OUR SUSTAINABILITY RATINGS

We are fully open for discussion and disclosure of detailed information on specific areas of expertise, not only to shareholders but also to companies that assess ERG according to ESG parameters (environmental, social, and governance).

In this respect it is important to point out that in November 2015 the ECPI upgraded its rating of the ERG Group by assigning it an **EE+** score in a scale ranging from F to **EEE** proving that it has "a clear long-term strategy, an efficient operational management and a positive contribution to the environment and to society as a whole".

According to statistics issued by the ECPI, only 0.35% of rated companies worldwide have achieved a score higher than **EE+** while those who obtain an **EE+** score are 3.95% of the total.

our business directions to assess potential investments in our company. In order to meet this demand for information, in 2016 we are planning a busy schedule of top management roadshows in major financial centres.

Another major tool we use for our communication with the market is **conference calls**, more flexible than meetings and, also for this reason, used more and more frequently with our stakeholders.

Investor Relations' communication is addressed not only to large financial players but also to small investors. Any private investor (real or potential) that – showing its confidence in our Company – is interested in investing in it even a small sum can easily find the information it needs on the company's website, [www.erg.eu](http://www.erg.eu). In addition to facilitating contacts and the communication flow, the contacts of the Investor Relations team are posted at the bottom of every press release and in the relevant areas of our **website**.

Our website is another valuable communication tool; structured according

to best practices, that includes areas dedicated to Press, Investor Relations and Corporate Governance.

Browsing it accesses not only the **corporate information** that is required by law, but also other documents on the company and on its business, including press releases, financial reports, corporate presentations and documents on the Shareholders' Meetings.

The website also offers live webcasts and conference calls of the presentation of quarterly financial statements, and access to the full text and slides thereof: indeed – in the spirit of transparency of communication – access to this type of corporate events is open to the public.

The framework of communication tools used by Investor Relations also includes a dedicated **email address** through which anyone interested in our Company and in its business may request information or clarification. Lastly, since mid 2015, ERG is present and active on the most popular social media: Twitter, LinkedIn, YouTube, SlideShare.





## ERG AND ITS INSTITUTIONAL STAKEHOLDERS

Operating in a heavily regulated industry, such as that of the production and sale of energy, requires a continual analysis and monitoring of the sector's regulations,

as well as of the political-institutional framework, both at Italian and European level. This need can be met only through a constant and transparent dialogue with institutions, organizations, associations and businesses.

## THE ERGLAB EXPERIENCE

ERGLab is the think tank ERG created to study in depth the energy and environmental challenges which Europe and Italy will have to face in the near future. It is a "workshop" open to "select" representatives of the various stakeholders in the energy world, where it is possible to exchange different points of view, seeking to imagine and agree upon the sector's potential development paths and evolution. The ERGLab format is characterized by:

- **FOCUS** - specific issues of energy and environmental policy, approached concisely and concretely
- **DEBATE** - one or more main discussants present their view and initiate the debate
- **INVOLVEMENT** - all parties freely express their views
- **CONFIDENTIALITY** - the meetings take place under the Chatham House Rule, which states that the identities of the individuals cannot be revealed outside
- **DELIVERABLES** - while respecting confidentiality, the content and the positions expressed are summarised in a policy document and/or a final working paper
- **NETWORKING** - participants have the opportunity to continue to discuss the issue in greater depth through a special "mail group".

Since it started in 2014, in 2015 ERGLab has organized three workshops that have addressed some of the issues most relevant to our Group's business. In particular, we discussed:

- the reform of energy markets, an essential element to achieve the integration of European electricity markets which has already started with the market coupling between Italian, French and Austrian borders;
- effectiveness of the CO<sub>2</sub> emission allowance trading scheme, that despite recent corrective action does not seem able to adequately support the fight against greenhouse gas emissions and that would therefore open to possible alternative measures focused on "carbon added tax";
- enhancement of "corporate social responsibility" as a competitive lever for those companies that, beyond reporting, prove their actual level of sustainability by facts and by their behaviour.



ERG interfaces with the institutions clearly representing its interests as an operator with a strong emphasis on renewable energy and thus contributing to the **development of legislation** in the areas of interest.

This is a way to support achievement of the Group's strategic objectives, through a process that includes:

- agreeing on corporate objectives and targets and defining structured stakeholder engagement activities;

## ASSOCIATIONS IN WHICH ERG HAS A PRESENCE IN THE GOVERNANCE BODIES AND/OR TECHNICAL GROUPS

Association	Purpose	ERG participation
<b>Assoelettrica</b>	National Association of Electricity companies bringing together around 120 companies operating in the free market that provide about 90% of the electricity generated in Italy.	Governance Bodies and Technical Groups.
<b>AssoRinnovabili</b>	Association representing renewable energy manufacturing and service companies, with over 1,000 associates. Since 1987, it has represented producers of electricity from renewable sources and providers of professional services, technologies and components in the renewable energy supply chain to protect their rights and promote their interests at national and international levels.	Governance Bodies and Technical Groups.
<b>ANEV</b>	The National Wind Energy Association that brings together about 70 companies in the wind power sector and more than 5,000 parties, including producers and traders of electricity and technology, installers, designers, engineering and environmental offices, electricity traders and developers who operate in compliance with the rules and regulations of the association.	Governance Bodies and Technical Groups.
<b>AIGET</b>	Associazione Italiana di Grossisti di Energia e Trader (The Italian Association of Energy Suppliers & Traders) is an association of about 50 companies which operate in the sale of electricity and gas. It aims to promote competition and transparency in the energy markets, supporting the development and standardisation of tradable energy products and contracts, including derivatives, and the related markets. It represents its members before national, European and international organizations and institutions related to the energy sector, to safeguard common interests.	Governance Bodies and Technical Groups.
<b>Assonime</b>	Association of Italian Joint Stock Companies that works towards improving industrial, commercial, administrative and tax legislation in Italy.	Governance Bodies.
<b>Confindustria</b>	Together with the local associations, national trade associations, regional Confindustria federations and regional and national trade federations, Confindustria is the main association representing manufacturing and service companies in Italy.	Governance Bodies and Technical Groups.
<b>Confindustria Energy</b>	Federation of associations representing companies that produce and distribute energy (ANEV, ANFIDA, ANIGAS, Assocarboni, Assocostieri, Assogasliquidi, Assomineraria, Assosolare and Unione Petrolifera).	Governance Bodies and Technical Groups.
<b>EWEA</b>	European Wind Energy Association, the body representing the interests of the wind industry in Europe and the European branch of the WWEA, the World Wind Energy Association.	Governance Bodies.
<b>IEFE</b>	The Research Centre at Bocconi University, dedicated to the study of energy economics and policy, also focusing on technology issues	Technical Groups.
<b>Fondazione Civita</b>	Organization established by a group of companies, public research institutions and universities which, with over 160 associates (both public and private organizations and companies), is engaged in the "promotion of culture" through research, conferences, events, publications and projects.	Governance Bodies.
<b>Fondazione Magna Carta</b>	Foundation dedicated to scientific research, cultural reflection and the development of proposed reforms on the main themes of political debate.	Governance Bodies.
<b>WEC Italia</b>	A multi-energy network of industrial, institutional and academic members in Italian energy sector: from research to production, from transformation to the distribution and marketing of all energy sources, from nuclear and fossil to renewables.	Governance Bodies.
<b>Unione Petrolifera</b>	Association of the major oil companies involved in petroleum refining and the distribution of petroleum products in Italy.	Governance Bodies and Technical Groups.

- mediation and internal coordination of the different positions within the Group to ensure a single position for ERG;
- coalition building, aimed at defining joint positions with structured and reliable industry stakeholders;
- dialogue with the involved institutions; internal reporting on the results achieved.

Advocacy activities are carried out by the Group “on its own”, and through memberships in representation bodies, where appropriate, at local, national and European level (Confindustria, Assoelettrica, AssoRinnovabili, AIGET, EWEA, ANEV, etc.).

Within the associations, in particular, we work actively, through our representatives in the context of statutory bodies, in specific technical working groups and committees.

In recent years we have participated in many round tables: from the reform of the electricity market to the introduction of the capacity market, to systems providing incentives for renewable sources, and on to Emission Trading and energy taxation. These are issues on which the discussions with the institutions, but also within associations and among the various players, have been very complex.

These discussion opportunities helped us establish an “active” cooperation with the various stakeholders, institutions in particular, based on sharing know-how and **specific expertise**, enhancing ERG’s **reputational capital**.

Our relations with institutional stakeholders are based on **transparency**,

**ethics, independence**, credibility and compliance, values that have always been part of our DNA, besides being part of our Code of Ethics and of our organizational model (pursuant to Legislative Decree 231/01).

To ensure maximum effectiveness in managing these relationships, ERG Group has adopted an **Internal Control System** supported by a specific system of penalties.

That system of penalties is supplemented by ERG’s policy under which no direct or indirect contributions are paid, in any form, to political parties, movements, committees, political organizations or trade unions, or to their representatives or candidates (with the exception of cases established by specific regulations).

### The International Round Table

The presence of the European institutions makes Brussels a privileged observatory of changes in legislation, in particular on energy and on the environment. Besides, the definition and management of institutional relations with the European countries in which the Group has an interest are favoured by significant national representation.

### ERG AND THE COMMUNITY

A systematic and constructive approach to the community, an iteration between Company and Community for the **development of common projects**: these are the ways in which ERG relates to local communities.

In 2015, we continued to co-operate and involve local communities, pursuing social

and cultural projects in collaboration with public administrations.

Our approach is to engage in projects that generate added value for the area and its inhabitants. To do so, the “CSR initiatives Evaluation Committee”, composed of personnel of the operating companies, of the Communications Department and of the Sustainability Department, selects initiatives coming from the community, based on the values they express and the positive impact expected over time.

In the areas of the country where we have wind farms, we implemented the “**Go with the wind!**” project which involved **third-year secondary school** pupils (who are dual stakeholders since they belong to both the “future generations” and the “local communities”) on issues such as the production of renewable energy (focusing specifically on wind energy), energy saving, resource protection, and the reduction of impacts on the ecosystem.

Classroom meetings were followed by a **visit to a wind farm**, a “neighbour” to be discovered in all its aspects.

In Sicily, home to our thermal power plant over the years, we invested for the benefit of students with our “**Progetto Scuola**” (School Project), created to educate new generations on road safety issues, as well as with other projects to support **culture** and **sports**.

## CSR WORKING GROUPS

ERG participates in:

- of the CSR Manager Network Italia – a working group covering Corporate Social Responsibility issues.
- EticLab is a working group for the promotion of the culture of Corporate Social Responsibility in Liguria.



## METHODOLOGICAL NOTE

ERG Group has been publishing its Sustainability Report since 2007, to highlight the Group's development from a business perspective, its organization, its activities and the best practices it has identified in order to improve its profitability and the sustainability of its business.

Where possible we always try to **integrate the texts with data or KPI** in order to make the effectiveness of actions taken clearer, more comparable and more measurable.

Because a business like ours typically develops over the medium-term, many of our initiatives develop over several years: for this reason our Reports should be viewed as a continuum.

Each document outlines the events of the year, but our overall approach and strategy can be understood even more fully by also reading those of the previous years.

In this report we have focused on the "strictly CSR-related" aspects of our Group; economic and governance issues are covered in depth in other official documents, generally published and available on the Group website [www.erg.ue](http://www.erg.ue) (Group Consolidated Financial Statements, Corporate Governance Report and other public documents).

Again, this year, we wanted "an independent third party" to check both the information contained in the document and the processes underlying their preparation.

We believe this step is essential to ensure that we give our readers high quality and

reliable information, that we have always collected and analysed following seven basic principles:

- **materiality**, according to which information that may really interest stakeholders is presented;
- **comprehensiveness**, according to which all relevant issues and related information are included in the report;
- **balance**, according to which the issues are presented transparently and objectively;
- **comparability**, according to which all data is presented in a 3-year context to make it easy to compare and analyse the evolution of the indicators over time;
- **accuracy**, according to which the data and information are presented exactly and accurately;
- **timeliness**, according to which the report is issued together with Consolidated Financial statements;
- **straightforward** tone according to which clear language is used so it can easily be understood by all stakeholders.

The gathering of data and information is carried out under the supervision of the Sustainability Committee through the Sustainability Department and involves all the Group's companies and departments.

The Report is approved by ERG's Board of Directors together with Consolidated Financial statements.

### METHODOLOGICAL PRINCIPLES

The 2015 Sustainability Report was drafted in accordance with the most

recent GRI-G4 Sustainability Reporting Guidelines, published by the GRI (Global Reporting Initiative) in 2013, and includes the information required by the “Electric & Utilities” sector disclosure of the GRI, specifically for companies in the electric utilities sector.

The report has been prepared in compliance with the GRI G4 “**in accordance-core**” criteria. However, the Report also provides a **set of indicators far greater** than the minimum required by the benchmark standards: this allows us to give more visibility to the Group’s impact in different areas.

It is important to point out that the **hydroelectric** business, which became part of ERG Group 1 December 2015, for this year is integrated into the various indicators differently depending on the availability of the data: the general guidelines are given below while within the report, if “hydro” data is not included, it is noted for each indicator.

Unless otherwise noted, the data and information contained herein refer to ERG’s activity until 31 December 2015: in general “**operational significance**” refers to activities in Italy.

The data regarding wind farms installed abroad are however included – particularly in the economic section – in order to provide a complete picture of the Group’s activity.

The **information** and the **financial data** of the document refer to subsidiaries as at 31 December 2015 and reflect the Group’s

consolidation scope in accordance with the IAS-IFRS accounting standards: the economic/financial values are based on the Group’s Consolidated Financial Statements, which have already been audited and include the hydro sector which is fully consolidated. To provide a proper comparison with 2015, the “2014 proforma” column was added to show the 2014 data within the 2015 scope.

The data relating to **personnel** and to the organization of work refer to the workforce as at 31 December 2015 and are inclusive of employees that joined the Group following the acquisition of the hydro sector and of the foreign companies in the wind power sector. Any other exceptions are described below the tables.

Data on **personnel training** refer to managerial, technical-specialist and HSE training (Health, Safety and Environment) organized, managed and provided in 2015 in Italy by the “talent management” department of the holding company or by the respective Business Units.

The main **atmospheric emissions** are calculated through continuous measurements at emission points and, where necessary, by intermittent measurements combined with estimates that take into account both the combustion systems and the type of fuels used. CO<sub>2</sub> emissions are certified by an independent third party, as provided for by law.

The **operating** parameters of the thermoelectric plant are taken from the plant’s management and reporting systems.

## MATERIALITY ANALYSIS

The 2015 Sustainability Report has been prepared in accordance with the GRI G4 and AccountAbility 1000 principles for which the reporting methodology (and therefore the selection of topics to be dealt with) is centred on the **materiality analysis**, meaning the identification of economic, environmental and social issues that significantly impact the ERG Group and which substantially influence the assessments and decisions of relevant stakeholders.

The Sustainability Department has managed the **process to identify** material topics: an initial documentary analysis phase mapped the aspects that were considered relevant for the Group's sustainable development, on the basis of the Company Management's sensitivity, of the instructions provided by the GRI (both in the general principles and in industry specific documents), of questions collected during ESG ratings received during the year, and of benchmarking against other companies in our field.

The topics identified by that process (about 60) were then grouped into 23 "relevant

topics": of these, 19 were assessed by internal and external stakeholders while 4 were considered prerequisites to properly portray the ERG Group and therefore were not subject to assessment.

Especially the "ERG Group profile and its activities", "The Group's Governance", the "respect for diversity and equal opportunities", the "protection of the health and safety of employees" as well as all issues concerning "regulatory compliance" were considered "material topics regardless".

The relevant topics were then assessed by the Group's top management by **interviewing 12 managers** (including the Chairman, the Vice Chairman and the Executive Deputy Chairman, the CEO and all his direct reports) and by **direct interviews** or questionnaires distributed at public events, by **12 categories of stakeholders** (shareholders, suppliers, financial community, local community, faculty members, third sector representatives, students, public institutions, press and bloggers, organizations and associations, companies, other), who were asked to

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Important aspects identified for the Group's sustainable development and aggregated in 23 relevant topics

19

Relevant topics assessed by internal and external stakeholders

24

Assessments of relevant topics by top management and by different types of stakeholders

Weighting stakeholder assessments

Materiality analysis



state the **5 subjects** that they considered to be a **priority**. The final relevance scores were calculated as the arithmetic mean of the assessments expressed by the stakeholders (number of times each issue was assessed as relevant) weighted in relation to the number of members in each category of stakeholders.

The joint evaluation of two relevance

ratings (that of top management and that of the stakeholders) produced the materiality analysis, i.e. the identification of the topics considered relevant. These topics were discussed at Group level in the Sustainability Report except for specific cases of irrelevance (e.g. the emission topic does not concern the production of renewable energy).



● Governance

● Business ethics and responsibility

● Relationship with the Institutions

● Risk management

● Business development outlook

● Economic performance

● Economic effects on the local community

● Sustainability of the supply chain

● The Group's approach to climate change issues

● Management of emissions

● Protecting biodiversity

● Health and safety of employees and of third party companies

● Training and development of employees

● Development and evaluation of employees

● Well-being of employees

● Diversity and equal opportunities

● Development of local communities

## MATERIAL ASPECTS: SCOPE

GROUP PROFILE AND GOVERNANCE	Internal	External*
Governance	Group	Shareholders
Business ethics and responsibility	Group	Institutions
Relationship with the Institutions	Group	Institutions
Risk management	Group	Shareholders
Outlook and business development	Group	Shareholders, Financial community
ECONOMIC RESPONSIBILITY		
Economic performance of the Group	Group	All
Economic effects on the local community	Group	Local communities
Sustainability of the supply chain	Group	Suppliers
ENVIRONMENTAL RESPONSIBILITY		
The Group's approach to climate change issues	Group	All
Management of emissions	Thermo	All
Protecting biodiversity	Wind, Hydro	All
SOCIAL RESPONSIBILITY		
<b>Health and Safety</b>		
Health and safety of employees	Group	Employees
Health and safety of third party companies	Group	Suppliers
<b>Human Capital</b>		
Diversity and equal opportunities	Group	Employees, Future generations
Development and evaluation of employees	Group	Employees, Future generations
Training and development of employees	Group	Employees
Wellbeing of employees	Group	Employees
<b>Area</b>		
Development of local communities	Group	Local communities

\* "Outer perimeter" means the stakeholders that are affected by the topic being reported.

# SUSTAINABILITY COMMITMENTS

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The year 2015 ends the three-year period, covered by the latest Business Plan presented, which included some sustainability objectives.

Year after year, in our Sustainability Reports we have **reported** the **evolution** of our business towards the achievement of the objectives we had set and now, after

three years, we can see that **they have all been achieved**.

Our new 2015-2018 Business Plan, will include new projects and new objectives: in 2016, the Group's Sustainability Committee will define commitments for the next three years, thus aligning strategy and sustainability.

Areas of commitment 2013-2015 3-year period	Status as at 31/12/2015 (and activity in the 3-year period)	Goals achieved
<b>HSE POLICY</b>		
Extend OHSAS 18001 certification to ERG S.p.A. and integrate existing certifications in the areas of thermoelectric and renewable power generation.	ERG S.p.A. and ERG Services were granted OHSAS 18001 certification. ERG Power attained EMAS certification. ERG Renew O&M has received ISO 14001-OHSAS 18001 integrated certification	✓
<b>BUSINESS STRATEGY</b>		
Consolidate the Group's business leadership in the production of electricity from renewable sources	The increase of the installed capacity of wind farms continues: +165 MW in 2015 (1,506 MW installed at the end of the year against 597 MW total in early 2012) and an additional 215 MW in the first two months of 2016 (1,721 MW total at the end of February 2016). Acquired 527 MW of hydroelectric generation facilities.	✓
<b>INNOVATION AND DEVELOPMENT</b>		
Follow the Group's strategies and transformation, completing research and development activities and identifying and evaluating new business opportunities.	The expansion abroad in the renewables sector continues. Acquired the Terni hydroelectric plants. The entry into new businesses is being assessed.	✓
<b>ENERGY EFFICIENCY</b>		
Contribute to improving the energy efficiency of the ERG Power plant through measures design to optimize the plant.	Since 2014, ERG Power has been implementing plant engineering reorganization and energy saving in offices. Scheduled general shutdown of ERG Power in 2015: general overhaul plant engineering to improve the efficiency and safety of the plant.	✓
<b>SUPPLIERS</b>		
Consolidate the supplier qualification and assessment system based on objective principles and with attention to aspects relating to Health, Safety and the Environment.	New supplier qualification system: added new and specific questions on HSE topics; System of sanctions introduced for non-compliance with health and safety requirements during operations.	✓

Areas of commitment 2013-2015 3-year period	Status as at 31/12/2015 (and activity in the 3-year period)	Goals achieved
<b>EMISSIONS</b>		
Avoid 2,500 kt of CO <sub>2</sub> emissions in the period 2013-2015 and a total of approximately 4,000 kt since ERG's entry into the wind energy market (2006 baseline).	During 2015 avoided 979 kt of emissions.  With a combined value of 4,344 kt we reached and considerably exceeded the objective (4,000 kt).	✓
Consolidate the exclusive use of gaseous fuels and reduce atmospheric emissions (at the SA1 North power plant operated by ERG Power).	The SA1 Nord natural gas powered plant was commissioned in 2014 to replace the previous oil powered plants.	✓
<b>EFFLUENTS AND WASTE</b>		
Reduce the ERG Power plant's consumption of fresh water through the recovery of industrial water.	To produce demineralised water, a system was built to use backwash water and waste water from the TAF (groundwater treatment facility).	✓
Adopt efficient systems and technologies to reduce the volume of waste produced.	Systems to reduce the waste generated in the production of deionized water have been implemented since 2014.	✓
<b>SAFETY</b>		
Consolidate the safety culture, both within the company by pursuing the objective of "zero injuries", and for third party companies through monitoring programmes and audits.	In recent years there have been no accidents caused by non-compliance with the operating procedures or by safety deficiency in plants.  A system to check on the safety of field activities carried out by contractors has been implemented.  The "Safety Competition" for employees and contractors in ERG Power and ERG Renew O&M is up to speed.	✓
<b>PEOPLE</b>		
Enhance and develop the know-how of ERG's human capital in line with the company's strategic direction.	In 2015 over 27 thousand hours of training have been provided with an average of 5.7 days per employee (essentially constant over the three year period).	✓
From 2013 onwards, implement tools for monitoring and reporting on the corporate culture in order to strengthen our strategic identity.	In 2013, climate analysis was carried out, and in 2015 a survey on "People Satisfaction".  Implemented new intranet site with knowledge sharing tools.	✓
Adopt feedback and talent management systems to support the process of change and reorganization of the Group.	The training path "Boost your enERgy" is up to speed.  The "Next" project, for the development of your resources with an international back ground is up to speed.	✓
<b>COMMUNICATION</b>		
Make contact with and inform our stakeholders in an increasingly complete, transparent and timely manner.	The new Group website and the activation of social channels (Twitter, LinkedIn, YouTube) has helped us reach stakeholders more broadly and effectively.  The "ERGIab" appointments with partners and stakeholders, including institutions, have become a recurring opportunity for discussion on the main topics of debate in the energy sector.	✓
<b>AREA</b>		
Contribute to the development of local communities through social responsibility initiatives at a local level.	The educational project "Go with the wind!" was extended to all regions in which the ERG Group is present with its own wind farms.  Other initiatives within the general lines of action (youth, culture and sports) in the areas served.	✓

# Economic responsibility



# 1

**ECONOMIC  
RESPONSIBILITY**

**759**

MILLION EUR  
OF ECONOMIC VALUE  
DISTRIBUTED

**26%**

LOAD FACTOR  
WIND FARMS

**1,506** MW

INSTALLED CAPACITY  
OF THE WIND FARMS

**5,330** GWh

OF ELECTRICITY  
PRODUCED

## ECONOMIC VALUE GENERATED AND DISTRIBUTED

### ADJUSTED REPLACEMENT COST (MILLIONS OF EURO)

	2015	2014	2013
<b>Production value</b>	<b>958</b>	<b>3,957</b>	<b>10,385</b>
<b>Economic value distributed</b>	<b>(759)</b>	<b>(3,780)</b>	<b>(10,068)</b>
Production costs	(484)	(3,292)	(9,597)
Compensation of personnel	(71)	(129)	(154)
Compensation of public administration	(44)	(97)	(136)
Compensation of debt capital <sup>(1)</sup>	(87)	(96)	(113)
Compensation of risk capital <sup>(2)</sup>	(71)	(165)	(68)
Compensation for the community	(1)	(1)	(1)
<b>Economic value withheld by the Group</b>	<b>199</b>	<b>177</b>	<b>317</b>
Amortisation and depreciation	171	241	291
Compensation of the company	28	(64)	26

(1) Interest paid and other financial expenses for indebtedness.

(2) Overall dividends distributed by the Group.

	2015	2014	2013
<b>Net value added</b>	<b>958</b>	<b>3,957</b>	<b>10,385</b>
Production costs	(484)	(3,292)	(9,597)
Compensation of personnel	(71)	(129)	(154)
Compensation of public administration	(44)	(97)	(136)
Compensation of debt capital	(87)	(96)	(113)
Compensation for the community	(1)	(1)	(1)
Amortisation and depreciation	(171)	(241)	(291)
<b>Result before third party interests</b>	<b>99</b>	<b>101</b>	<b>94</b>
Result of third party shareholders	(3)	(25)	(56)
<b>Net Group result</b>	<b>96</b>	<b>76</b>	<b>38</b>

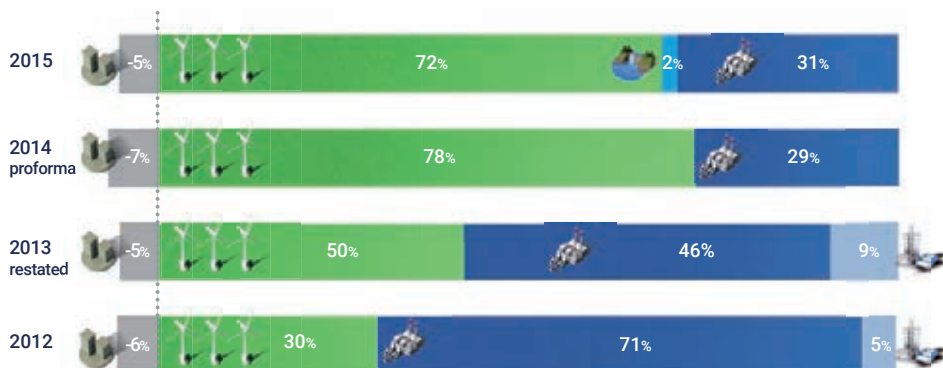
## ERG AND ECONOMIC RESPONSIBILITY

ERG's growth strategy is strongly oriented towards renewable energy sources, with particular focus on wind energy and hydro power. Our main objective is to create lasting, sustainable value by increasing profitability and also through a balanced management of its portfolio.

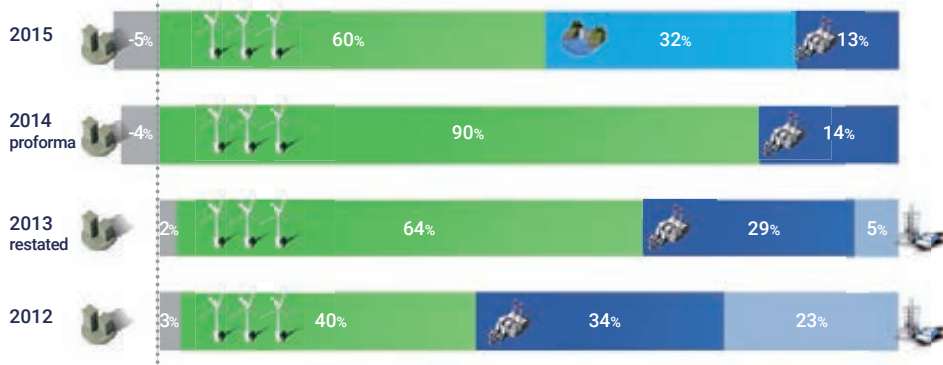
# KEY ECONOMIC INDICATORS

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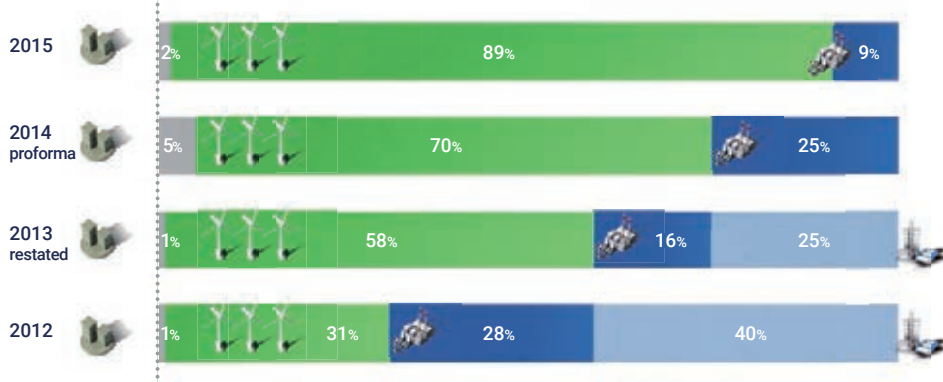
## EBITDA



## INVESTED CAPITAL



## INVESTMENTS IN THE YEAR



The years 2015 and 2014 proforma do not show the contribution of TotalErg as a result of the company's exit from the Group's consolidation scope.



## ERG'S STOCK MARKET PERFORMANCE

ERG VS. EURO STOXX UTILITIES, FTSE ALL SHARE AND FTSE MID CAP  
% VARIATION FROM 30/12/2013 TO 10/3/2015



SHAREHOLDER COMPENSATION IN COMPARISON  
WITH ANNUAL FINANCIAL RESULTS



## SHAREHOLDER COMPENSATION

Our Group has always maintained a careful asset management policy in order to guarantee the long-term continuity of the company. An analysis of the financial results over the years and related distributed dividends provides further evidence of the success of this approach. In recent years, ERG has been able to satisfactorily compensate the capital invested by its shareholders. In 2015, an ordinary dividend of 0.50 euro per share was paid out, besides an extraordinary component of 0.50 euro per share.

# ERG GROUP'S PLANTS

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	Installed capacity in MW	Production in GWh			Wind farm load factor <sup>(1)</sup> technical availability thermal power plants			Scheme/ CO <sub>2</sub> allocations
		2015	2014	2013	2015	2014	2013	

## WIND

Campania	239	414	453	437	20%	22%	21%	Green certificates
Calabria	120	240	249	246	23%	24%	23%	Green certificates
Puglia	249	472	502	497	22%	23%	23%	Green certificates + CIP 6
Molise	79	155	163	164	22%	23%	24%	Green certificates
Basilicata	89	164	173	103	21%	22%	21%	Green certificates
Sicily	198	274	313	336	16%	18%	19%	Green certificates
Sardinia	111	192	198	220	20%	20%	23%	Green certificates
Other	2	–	–	7	n.a.	n.a.	13%	Green certificates
<b>Total Italy</b>	<b>1,087</b>	<b>1,910</b>	<b>2,051</b>	<b>2,010</b>	<b>20%</b>	<b>22%</b>	<b>22%</b>	
Germany	86	156	144	155	21%	19%	21%	Feed-in tariff
France	128	206	122	127	24%	22%	23%	Feed-in tariff
Poland	82	68	–	–	37%	–	–	Certificates of origin
Bulgaria	54	74	67	57	31%	28%	29%	Feed-in tariff
Romania	70	201	196	54	30%	29%	31%	Green certificates
<b>Total Overseas</b>	<b>420</b>	<b>705</b>	<b>529</b>	<b>393</b>	<b>26%</b>	<b>22%</b>	<b>22%</b>	
<b>Total Wind</b>	<b>1,506</b>	<b>2,614</b>	<b>2,580</b>	<b>2,403</b>	<b>21%</b>	<b>22%</b>	<b>22%</b>	

## HYDRO

ERG Hydro	527	84	–	–	–	–	–	Green certificates (for 40% of production)
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## POWER

ERG Power	480	2,632	2,623	2,663	92,5%	92,4%	94,9%	(2)
ISAB Energy <sup>(3)</sup>	–	–	2,042	4,142		–	–	–
<b>Total thermoelectric</b>	<b>480</b>	<b>2,632</b>	<b>4,665</b>	<b>6,805</b>				
<b>Total electricity production</b>		<b>5,330</b>	<b>7,245</b>	<b>9,208</b>				

1 The total value is calculated based on the actual production values in relation to the theoretical maximum production values (calculated taking into account the actual commissioning of each individual wind farm).

2 ERG Power does not have any free CO<sub>2</sub> allowances under the EU-ETS regulation.

3 The ISAB Energy plant was sold on 30 June 2014.

## THE REORGANIZATION PROJECTS

In 2014 we **concluded** and **consolidated** the **transformation** of our business, becoming the first wind power operator in Italy. At the same time, through the **"Fast Steering"** project (see Sustainability Report 2014), we reviewed our organization making it leaner, faster and more efficient to respond better and more effectively to our new operational requirements.

In 2015 we continued both the adaptation of the organizational structure to our new business needs (with particular emphasis on foreign expansion of the wind power sector following the entry in the Group of new wind farms in Poland, France and Germany), and the improvement of operational procedures, aligning them to the industry's best practices by the digitisation of our archives.

This resulted in two projects:

- the adoption of a foreign development model, to systematize the presence of ERG Renew in Europe;
- the digitisation of archives, that will have tangible benefits in terms of efficiency, safety and cost.

### THE WIND SECTOR'S FOREIGN ORGANIZATIONAL MODEL

ERG ERG Renew continued a path of internationalization, adding **operations centres** with local staff to its assets.

This evolution has highlighted an important organizational issue: the need to define a to-be model to support our development path.

The definition of the foreign organizational model started by identifying the fundamental processes typical of the business and by modelling the possible "business configurations" that can be attributed to a wind farm operator.

With regard to the core processes, we identified:

- **Business Development**, which must grow the size of the business in terms of installed capacity in the target geographical areas by direct development and/or acquisition of third party projects including plants already running;
- **Asset Management**, which must maximize business performance of assets in operation by optimizing its management, maintenance and regulatory compliance processes;
- **Operation and Maintenance**, which must ensure the optimization of production by operating and maintaining assets in compliance with the rules concerning the protection of health, safety and the environment.

Considering possible business configurations in view of a progressive growth, we identified an evolutionary path based on three phases as illustrated on the following page.

Our choice was to implement a vertically oriented path and therefore one that is increasingly based on people. To create a human capital base that is richer in international and diversity components: work culture and multiple languages now

## FOREIGN DEVELOPMENT MODEL



must be integrated by organizational models capable of gaining value from diversity.

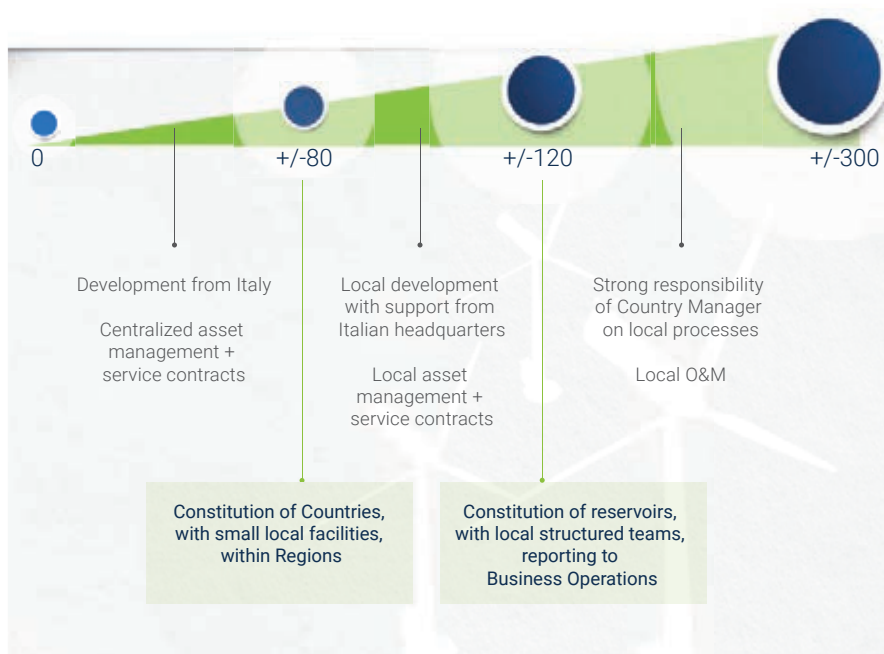
To switch from the conceptual modelling to the definition of an organizational model capable of reaching this goal, we had to identify, firstly, the drivers of business development and then those within the organization that must support their operation.

Considering the objectives and analysing the benchmarks available on the market,

there are two dimensions on which we must focus.

We must, in fact, consider on the one hand the growth in terms of MW installed (the growth of which increases the importance of the Asset Management process and can determine the success rate of the Business Development process), and on the other the geographical dispersion of MW installed (whereby concentrated assets generate economies of scale and scope and, only beyond a certain size, it is efficient to set up centres of expertise and responsibility).

## MW OPERATING



We then defined the following macro evolutionary model for ERG Renew.

Consistent with this model, during 2015 **"Business Operations Europe"** created first the France Country area and then the East Europe Region, starting a path that at the end of the 2015-2018 plan is expected to bring BU Renewables to be present in 6 European countries with a structure of about 50 people, organized under a uniform and consistent business model in each country.

### THE DIGITISATION PROJECT

In 2015 we have started implementing the digitisation project by means of which we will manage with more ease and efficiency the various paper documents, not quicker and easier for those who have to manage the documents, but also more secure with

regard to confidentiality and accessibility. The primary objective is to create a new Enterprise Content Management (ECM) platform that includes **electronic document filing**, the automation and revision of a set of business document processes and extending "regulation-compliant replacement filing" to the whole Group, where considered necessary and cost-effective.

Until now this function had been partly carried out by a documentation filing system that is now considered no longer adequate in relation to the capabilities and potential of current technologies and to the current legal requirements.

Many processes were involved and concerned multiple business functions.

On the basis of a feasibility study conducted by the Electronic Billing and Digitisation Observatory of the Politecnico di Milano, we identified the possible economic benefits of implementing a document management system developed according to the various types of documents within our Company.

We matched that study with an analysis of critical issues/opportunities of the existing business processes, reaching the optimal technical solution also by redesigning the following business processes:

- uniform and centralized management and filing;
- control and traceability of processes;
- new document management system and migration of Archiflow;
- gradual implementation of processes and functions;
- creation of a "core" system in the first year and then developing it further;
- achieving user acceptance through specific training, support and consensus on project objectives.

This new system will provide a benefit in terms of:

### Efficiency

- A single archive: data are centralized and easily searchable more quickly.
- Time saving: people take less time for ancillary activities (photocopies, prints, searches).
- BPM (Business Process Management): process management time decreases due to the "computerization of processes".

### Control and Safety

- Control: the processes managed using

BPM undergo continuous monitoring for timing and correctness.

- Traceability: at any time it is possible to know at what point an active process is and analyse the history of processes that have terminated.
- Security: the documents are centralized and protected at all times.

### Costs

- Materials: reduced consumption of paper and toner.
- Operational costs: reduction of electricity consumption, of postage expenses and costs for shipping documents with carriers, storage management.
- Indirect: the time saved by the staff in low-profile activity can be diverted to higher value added activities.

The first processes affected by the new plan that "migrated" to the new platform were: purchases, orders and sales and purchase contracts, customer and supplier invoices, money transfers and payments, account books, procedure manuals, offices guest access registers.

Later, in the first quarter of 2016, personnel management, investments, corporate books, and privacy documents were implemented.

The benefits that this path will ensure are not just limited to an increase of efficiency, but will also provide better control of business processes, resulting in increased data **security**.

In addition, we must point out, the reduced use of paper and the energy savings will bring great environmental protection benefits.

# THE EFFICIENCY IMPROVEMENT PROJECTS IN THE WIND POWER SECTOR

In recent years our Group has exponentially grown in the wind industry, reaching about 1,000 turbines which it manages directly and on a daily basis in many regions of southern Italy.

This complex task is carried out by ERG Renew with a focus both on the efficiency and speed of intervention and on sustainability and respect of people and the environment.

In 2015 we worked on two main areas:

1. we created a corporate database (DB) to provide access to all the information on our wind farms. It includes both **technical and operating** information and **administrative and management** information. The information is structured and live, and has very

positively impacted our management of timing and costs;

2. we improved the efficiency and reliability of our plants and of the technical and computing tools supporting their management, to optimize the resources we use and to reduce our response times when malfunction and breakdowns occur.

## THE DATABASES

### The Asset Book

Our "Asset Book" project was set up to put together a database on our wind farms in Italy. It contains all the administrative and technical information of each wind farm, including: wind farm master data, company, project financing, operating centre, generating unit, logistics, technical characteristics, development history,

THE ASSET BOOK SCOPE		
58 WIND FARMS	971 TURBINE	1,087 MW INSTALLED
8 REGIONS	12 PROVINCES	52 MUNICIPALITIES



main contracts, energy exploitation, main contracts (O&M for turbines, O&M for infrastructure, permitting support, agreements with municipalities, construction permits, property rights on land).

The Asset Book specifically met our need to restructure a heterogeneous complex of information that, as a result of integrating multiple archives following several acquisitions, had been organized and operated on different media.

Now we have a database that is easy to read, query and update, devoid of redundancies and built to provide all kinds of information to all business divisions.

The **Asset Book works together with** other tools that we designed and built “in house” and that we used in our day-to-day management, including:

- the “**Permitting DB**”, which provides a clear view of all activities related to obtaining permissions for extraordinary maintenance,
- the “**Municipality Agreement DB**” which contains all the contracts and agreements in place between the design companies and the local authorities,
- the “**Landowner DB**” which deals managing all the financial contracts with the owners of land on which parts of the assets (roads, trenches, accesses, turbines etc.) have been built.

### The Permitting database

The Permitting DB combines geographical data and assets of the areas where our wind farms are located with regulatory data to become a real **geographic information**

**system** with a **geolocation** interface. This information – when we work closely with the public sector – helps us shorten the time needed to obtain permits for unplanned maintenance of wind farms and related works, roads, trenches, etc.

For extraordinary maintenance tasks, even before the “actual” intervention, a complex **authorization process** must be carried out, which is mandatory for mechanical or civil works in a specific geographical area (whether in all the farm or in a portion thereof): obtaining the “authorization to work” as soon as possible (“response time”) is essential since it limits the loss of energy production due to the plant’s downtime.

The de-localized and fragmented organization of administrative competencies and the lack of a “parent body” that acts as a “single source” for maintenance further accentuates the difficulty of these delicate preliminary activities.

We have to apply to different offices, often located in different cities and with characteristics that vary from region to region.

Even the forms required, the approval procedure and the deadlines for tax-related paperwork lack homogeneity, without counting the constant local changes at all levels.

To minimize the time for permitting we **have mapped each plant** by dividing its assets into thousands of pieces, each of which has been associated with a “tab”, complete with the constraints to which it is

subject and the procedures to be followed with respect to land use planning and regulations.

By simply clicking on the part of the plant affected by the extraordinary maintenance, the Permitting DB interface provides access to a **summary data table** – and to the related forms – to submit to the Body responsible for issuing the authorization, and information on how to submit them (by email, fax, etc.).

An initial upgrade of the Permitting DB was related to defining actual “Maintenance plans” for recurring tasks in areas subject to

constraints, prepared in collaboration with the bodies, offices and representatives of the area. By doing so we were able to obtain prearranged approvals, specific for each constraint and valid for 1 to 3 years. These approvals let us start working immediately, since we have already agreed with the authorities the operational procedures we will use to handle the job.

In two years we have achieved considerable savings in terms of company time and cost, with approvals for maintenance work being issued much earlier than in the past, on average. In some cases the waiting time has been slashed from days to just hours.

	2013	2014	2015
Impact of time spent to manage the permitting process, on the availability of the plant	1.54%	0.25%	0.12%
Number of processes managed	150	157	218

## REMOTE CONTROL OF ITALIAN WIND FARMS

The ERG Renew's turbines portfolio is the result of a quantitative growth and technological development history that spans nearly two decades: it includes small, 3-blade rotor turbines on **trusses** as well as more modern, **tubular** models.

This diversity has created the need to develop a system capable of relating information that is very diverse quantitatively and qualitatively, to support efficient and effective monitoring and remote control procedures. Our SCADA 2 (Supervision Control and Data Acquisition) system was specifically designed to gather, centralise and manage the data from all of our wind farms in a standardised and uniform manner, regardless of the different

technologies installed in the field.

Since the start of its implementation in 2013, already at the end of 2014 the system – in two operating environments, “SCADA real time” and “GPM Power performance” – had been “linked” to most of the facilities and made it possible to control 748 turbines throughout Italy, for a capacity totalling 590 MW.

During 2015 it was extended to **all 971 turbines** in Italy, totalling 1,087 MW.

### Performance analysis

The “GPM Power” system with its “overview” screen on all Italian wind farms, displays, every day and in real time, the status of the turbines, substations, generation, average wind and highlights any turbines stopped due to limitations imposed by Terna.

Compared to the previous situation, when in order to know the situation of the entire system it was necessary to contact many different systems – generally one for each wind farm – today we can see, on a single web page, the events and stoppage of each wind farm, providing daily plant health monitoring and helping to identify causes and perform all the checks necessary to calculate performance indicators.

This tool has supported a sharp **efficiency increase**: the daily situation update makes it possible to provide more timely support to technical departments, to know the equipment’s performance and estimate availability on a weekly rather than monthly basis. The different screens provide statistical analysis over long periods and the data can be imported directly into Microsoft Excel, greatly simplifying reporting.



Some **evolutions** are planned for 2016 that will make it possible to improve the performance analysis of individual machines, including:

- analysis upgrading to identify power limitations, so as to discriminate between external limitations (e.g. active power constraints imposed by Terna) and limitations within the machine (e.g. temporary restraint in turbine power due to overheating of some components);
- the ability to associate the correct power curve to each wind turbine, depending on specific conditions (e.g. wind direction), and multiple curves can be associated to the same turbine.

Web-based access enables operators with suitable credentials (the controller, technicians in the field, management), to display the same information, to share the same approach to analysis, to have a common tool to identify areas for improvement and to track the results of any corrective measures.

### PREDICTIVE MAINTENANCE ON WTGS: THE CONDITION MONITORING SYSTEM (CMS)

Two of the main steps along the development of the maintenance of industrial machines have been **"maintenance on breakdown"** (based solely on corrective action, inevitably leading to unexpected stoppages and potential damage to the equipment) and **"preventive maintenance"** (which involves periodic servicing regardless of working order and operating conditions of the machinery, with high costs for planned replacement of elements expected to be worn out but actually but still usable).

**"Predictive maintenance"** revolutionized the approach to the management of rotating machines, since it identifies problems in components directly at the source and supports decision making on operations to be carried out well in advance - a huge step up from scheduled maintenance in terms of both reliability and safety of the system.



In the field of wind energy, Condition Monitoring Systems (CMS) are used to monitor the operation of the drive-trains of wind turbines (consisting of the bearing of the main shaft and rotating shaft, gearbox with its mechanical oil pump, high speed shaft and coupling, generator).

The basic difference between CMS and the monitoring systems installed on other types of rotating machines that work under "constant load" (i.e. hydraulic pumps) is due the variability and the continuous change of weather that determine continuous variations of load and speed of the rotating elements.

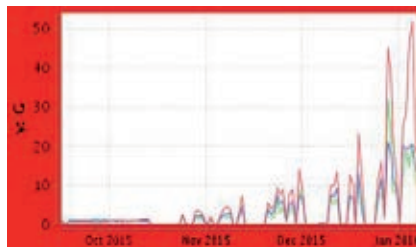
Considering all these factors, by measuring and assessing the significant physical quantities that characterize a rotating machine during its operation, the CMS allows to make predictive analytics to:

- **determine** the condition of the machine, comparing vibration levels and functional deterioration of mechanical components;
- **identify** abnormalities far in advance and assess their dangerousness and related causes in order to avoid unplanned shutdowns;
- **minimize and optimize** unscheduled downtime defining the type of fault in advance and planning maintenance during periods of low wind to increasing the turbine's lifetime;
- **minimize** the number of periodic inspections, disassemblies, repairs and replacement parts in order to reduce environmental impact;
- **increase** safety of the plants by avoiding sudden failures;
- **have** the machines available to generate during times of stronger wind.

The system requires the installation of 7 sensors in the nacelle:

- 2 on the generator (rotor end and gearbox end side);
- 3 on the gearbox;
- 1 metal particle monitor for the oil;
- 1 high speed shaft revolutions counter.

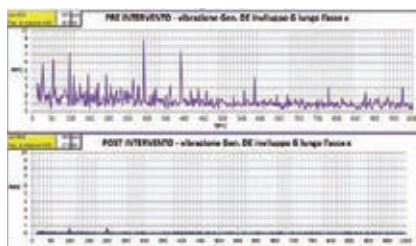
Monitoring is done through web interfaces and applications that display vibration data of each CMS system-equipped turbine.



The data received is initially analysed according to a scale of criticality and then identifying which mechanical components have originated the alarm.

After detecting a problem, a report is prepared that lists the components involved in the "failure", accompanied by a description of the planning urgency.

After the maintenance has been performed, the "vibrational signature" is checked to have returned below the alarm thresholds and a report is prepared to certify the resolution of the problem that had been found.



Each operation cycle feeds our database, that thanks to the experience acquired helps us continually improve the accuracy of the analysis and the success of the maintenance operations.

Consistently with our maintenance service verticalization strategy, ERG Renew has significantly developed these predictive systems, by investing a large amount of resources and investments.

This choice is also dictated by the increase in the average age of the plants: in 2015 approximately 110 CMS systems were installed on "multi-megawatt" turbines and we expect to complete the installation on all our turbines of the same type by early 2016.

As a result of the installation of CMS systems and of the critical analysis of the data collected during the year we have been replacing the bearings of those generators that had shown signs of abnormal vibrations: these operations were carried out in low wind conditions,

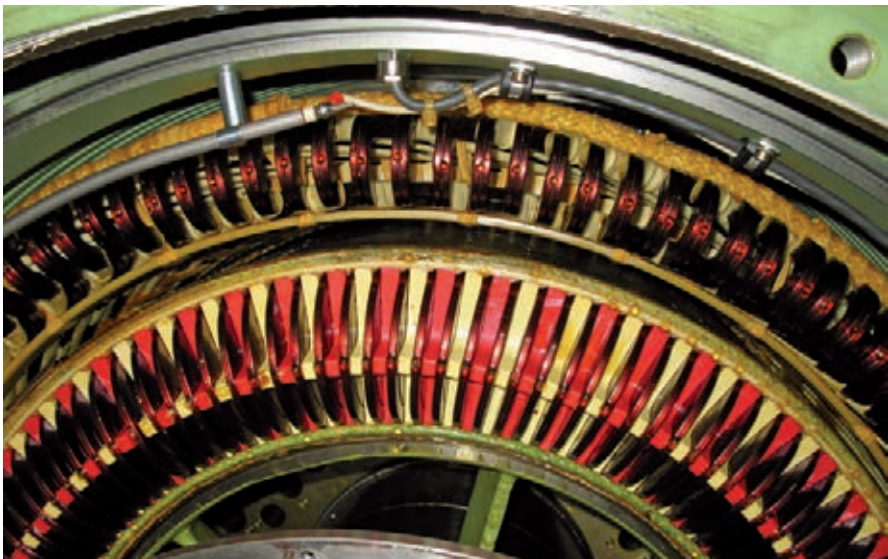
with a near-zero generation loss.

We have also avoided "destructive breakdowns" which generally involve replacing the electric generator, with long periods of downtime, high costs for spare parts and equipment necessary to perform the replacement.

The implementation of these activities is part of the Group's strategy to vertically integrate plant management, directly taking charge of Operations and Maintenance activities.

The main consequences of this process will be:

- improving plant availability (because maintenance activities are done during periods of low wind during which production is close to zero);
- the resulting increase in production (because the facility is available to produce when there is wind) and therefore, ultimately, a better return on investment.





# PERFORMANCE ANALYSIS OF WIND TURBINES

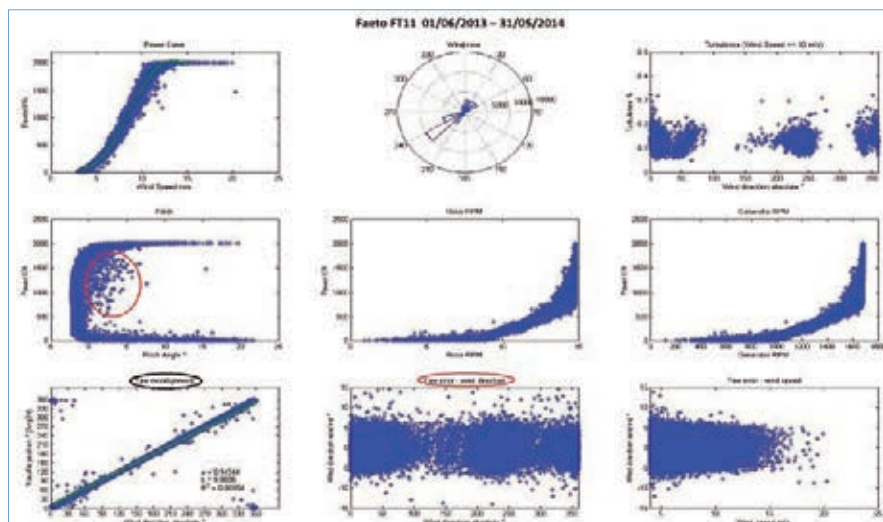
67

Inspection of the performance of the individual turbines was performed using the analysis modules of the 1st level SCADA systems (Supervisory Control and Data Acquisition) provided by the manufacturer of the turbines which were homogenized, aggregated and standardized by the 2nd level SCADA, developed by ERG Renew.

To analyse the performance of a wind turbine, events detected by the control systems, such as warnings and alarms, are **downloaded** every 10 minutes, i.e. the real time information that characterizes the behaviour and operation of the turbine. This data may concern the condition of the machine (run, ready, stop, fault, etc.), electrical data (active and reactive power, voltage and phase currents, power factor, etc.) and the environmental conditions (wind speed and direction, temperature, etc.).

Before it can be used for the analyses, the data must be **processed** by appropriate bespoke algorithms and filters to analyse operational and environmental parameters and remove “spurious” data. Currently most of these algorithms have been implemented and automated in the GPM Power system, making it possible to greatly reduce the processing, and as a result also reducing the time for analysis and for obtaining the results.

The next phase creates the **charts** (9, in standard conditions) that are the basis to perform initial qualitative analysis of electrical or mechanical problems, of pitch anomalies (incidence of the blades relative to the wind direction), of yaw misalignments, to check for possible power limitations, to calculate the prevailing wind direction and the turbulence affecting the machine and in which sector.





Next, the **power curve** of the generator is plotted for each angular wind direction sector (each of which covers 30°, generating 12 charts).

This value is compared to those guaranteed by the manufacturer, taking into account the alarms and warnings recorded for individual turbine being analysed.

On the basis of the statistical analysis of these data (e.g. duration of the alarms, occurrences of the error code, error rate, etc.), the operator seeks the anomalies that determine the problems shown in the charts.

A further analysis step adds data from the Condition Monitoring Systems (CMS) to analyse - among many items - the vibration on all components and sub components of the turbine's drive train (rotor, gearbox, generator).

Any **performance deviations** or malfunctions detected are sent, in appropriate reports, to the Asset Management department that sends the information to the plant's, to **schedule appropriate checks** and, if necessary, response in the field.

## REVAMPING THE CARLENTINI CONTROL ROOM

The table below shows a summary of the main steps of the strategic and technological change that brought the Renew control room to manage independently all the Italian asset and part of the country. Initially ERG Renew's wind farms were handled using 1st level SCADA, a technologically effective method but that loses efficiency as the number of farms increases because it requires a specific link for each one. The implementation of SCADA 2 has provided a "quantum leap", making it possible to obtain centralized control and management of all assets.

2013	2015	Advantages
<p>4 control rooms located in the areas most affected by the Italian assets (Sardinia, Sicily, Sicily and Campania) and directly connected to them by locally or remotely manageable servers.</p> <p>PRIMARY USERS</p> <ul style="list-style-type: none"> <li>Daily staff looking after the wind farms and notifying technicians of anomalies.</li> <li>Staff on duty carrying out the same tasks in during evenings and nights, with the resulting coordination problems.</li> </ul>	<p>A single screen contains all the information relating to our plants in Italy.</p> <ul style="list-style-type: none"> <li>Ability to zoom in from the overview screen, that shows all the farms, to individual turbines or to the individual sensors (rpms, speed, temperature, vibration etc.).</li> <li>insourcing of maintenance procedures to make turbine servicing faster and more effective if the problems cannot be solved remotely.</li> </ul>	<p>Continuous supervision of the facilities is ensured by the constant presence of two people.</p> <p>Triggering a virtuous "continuous improvement" cycle by transferring competences from more experienced colleagues to younger ones and continuous dialogue among different career paths.</p> <p>Optimization of the external training of staff, that during periods of relative calm can more easily be released, resulting in a marked improvement in the quantity and quality of the activities carried out.</p>

# WIND ENERGY AND THE UNDERGROUND WORLD OF CABLE DUCTS

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When most people think of a wind farm, the main component that comes to mind is the turbine, the technological element that transforms the wind's kinetic energy into mechanical energy and then into electricity.

Impressive tubular towers topped with futuristic and increasingly powerful generators capture the wind with their big blades, and turn it into energy to power our homes.

But without a complex **electrical connection system** it would not be possible to send the electricity generated by the wind turbines to its far-away users.

The architecture of a wind farm, with installed power that can reach tens of megawatts, includes a whole system of electrical connections, electro-mechanical equipment, **protection**, **switching** and **measuring** systems, that is absolutely essential to its operation.

The flow towards the grid of the energy produced by the generator can be simplified as follows:

- the electricity is transformed from low voltage (<1 kV) to medium voltage (20 kV) in the nacelle or in cabinets at the base of the tower;
- the electricity is channelled through underground cable networks that electrically connect the wind turbines,

in parallel, both to each other and to the substation (ESS);

- the electricity collected in the substation is transformed from medium-voltage to high voltage and fed into the 150 kV grid.

Measurement and switching cabinets, anemometers and sophisticated protection and control systems complete the functional architecture of a wind farm.

In our analysis we will focus on the underground cable system.

## The underground cable ducts

To understand the "underground world" of cable ducts and everything that revolves around it, we first have to explain how they are made and what their purpose is.

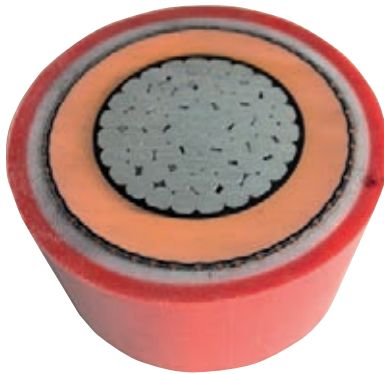
**Conductor:** a metal element that passes current, consisting of one or more twisted strands of aluminium or copper; the conductor's size determines the "capacity" of the cable. Sections range from small (120-185 mm<sup>2</sup>), to large (500-630 mm<sup>2</sup> and over).

**Semiconductor** (internal and external): a material that insulates at very low temperatures but that has appreciable electrical conductivity at room temperature.

**Insulation:** a layer of non-conductive material that surrounds the conductor and that withstands the electric voltage.

**Screen:** a metallic element that surrounds the outside of the cable's insulation and prevents its electrical field from leaving its containment area (that of the primary insulation).

**Outer jacket:** a non-metallic protective cover.



The length of a MV (medium voltage) underground cable can range from a few hundred meters up to several tens of kilometres.

As the distance to be covered increases, the cable requires a greater number of connection joints to join together multiple stretches (each reel is between 300 and 500 meters long).

ERG Renew manages the infrastructure of all the Group's plants: it maintains 25 SSEs, approximately 900 MV/LV cabinets, and above all it provides the ordinary and extraordinary maintenance of about 1,350 km of underground cable, across an area that covers the whole of southern Italy and its islands.

#### Ordinary maintenance (preventive)

Underground cables are almost always

laid in trenches that are about 1.5 meters deep; the only easily accessible areas where ordinary periodic maintenance can be carried out are the terminations and the protection and measuring systems.

Maintenance is performed periodically in the MV/LV cabinets and in the substations, checking:

- the MV terminals – the end parts of the cable – where the cables connect to the various components of the plant;
- switches and MV disconnectors – systems that remove power from a plant or a portion thereof, to make it safe to work on;
- measurement transformers for protection;
- trench protection systems.

#### Extraordinary maintenance (repair on failure)

Troubleshooting and repairing underground cables is of strategic



importance in electricity production from wind power. The increasing need for specific measures and the availability of cutting edge measurement and inspection devices have encouraged the development of the expertise that makes us particularly efficient along the Group's entire national network of underground cables.

MV underground cables have a series of connection **joints** that join two cable sections, to reach the lengths needed (in all we have about 10,000 electric joints in the entire system). Joints are the weak points of the whole underground cable system and are the 'nodes' where what in jargon we call "ground faults" are most likely to occur.

If a fault does occur, the monitoring centre (the Carlentini Control Room) alerts an engineer who organizes an on-site inspection to determine the type of malfunction. All the wind turbines connected to the "faulty" line must be disconnected, resulting in lost generation. Therefore, the repair procedure must get running as soon as possible.

The technical authorization process initially goes hand in hand with the organizational management process; the HSE office prepares the documentation required for the job, while the "permitting" procedure starts to obtain all the permits required for any excavation work that may be needed.

After reaching the site, our technicians start to locate the fault and after the body holding the concession has granted its permission, we start to excavate to reach the underground cable to repair.

Extraordinary repairs must even be **done on holidays**, given the possibly significant economic impact of shutting down the dozens of turbines connected to the underground cable.

Setting up the construction site and the excavation are required preparatory actions to carry out the repair. Once the underground cable is uncovered, we repair it, in compliance with safety requirements (proper operations to ensure worksite safety and proper use of PPE) and following the manufacturer's assembly instructions.

In more detail, repairing a cable joint or an MV termination requires:

- a **preliminary phase** during which the type of cable laid and to be repaired is uniquely identified;
- the **preparation of the cable**, which includes cleaning, stripping and cutting it;
- **electrically jointing the cable**, connecting the connectors and restoring proper insulation.



The Operation and Maintenance process described above requires careful inventory management, specially equipped vans, constantly training of the staff that does ordinary preventive activities, to troubleshoot using specialised instrumentation and to properly install cable joints.

In 2014 and in 2015 we drastically reduced operation times for locating, repairing, "permitting", and for the HSE process, which raised our BoP (Balance of Plants) availability factor from approximately **97% in 2013**, to 98.4% in 2014 and to an excellent **98.8% in 2015**.

Besides the **quality** and **speed** of the repair, the goal is to **minimize** the number of malfunctions that involve a considerable loss of system availability, and the resulting loss of production.

This is why we carefully **analyse the causes** that are mainly attributable to:

- excessive length of the underground cable, resulting in excessively high capacitive leakage current;
- ageing of the underground cable and degradation of its insulation;
- impassable underground cable route;
- cable screens that are not "grounded" thus increasing the potential between the metal parts involved;
- insufficient switching cabinets along the route of MV lines of a wind farm;
- stresses due to the variability of energy produced;
- mechanical stress (landslides and subsidence).

As a result of these analyses, whenever possible we field **preventive maintenance** and land consolidation, to reduce adverse events.



# THE EFFICIENCY IMPROVEMENT PROJECTS IN THE POWER SECTOR

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During 2015 ERG Power revised all the organizational and technical processes in place at the Priolo plant, thanks to the self-analysis initiatives that had already been started in past years (the **"Fast Steering"** project for the organizational part and the **"Continuous Improvement"** project for the technical part).

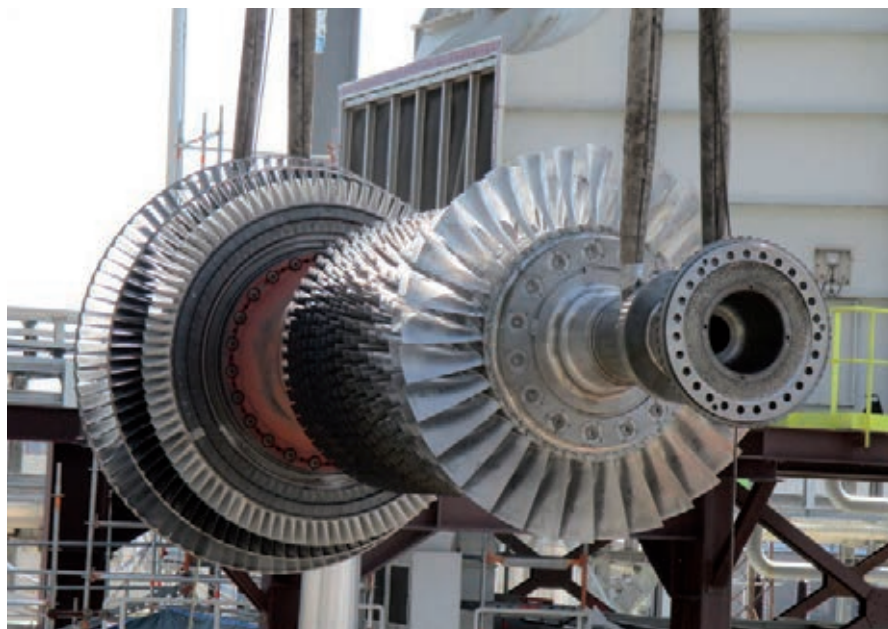
The simplification of working practices, the insourcing of certain activities, the plant-engineering improvement and some innovative solutions have helped **maximize the efficiency and reliability** of a plant which, in terms of age and advanced technology, is one of Italy's top performers. Below is an overview of the main activities carried out in 2015.

## THE GENERAL SHUTDOWN OF CCGT UNIT 1

Between March and April, after **48,000 hours of operation**, unit 1 of our CCGT was shut down to service not only the plant and its systems but also for a so-called major overhaul of the turbines.

The shut-down was scheduled as part of the multi-year maintenance plan which, together with other operations, is an essential and extremely delicate step to improve operating performance and management of this thermoelectric asset in terms of safety, reliability and efficiency.

The inspection of its main components, the revision of its safety valves, the inspection





and cleaning the steam turbine condensers and checking the combustion chambers and gas turbine blades lasted **33 days**.

Overall, we overhauled 50 valves, checked and calibrated 67 safety valves, examined in depth the **control and regulation systems** of the turbines and the fire protection system.

#### The “major overhaul” of the steam turbine

This job involved opening the mid-low pressure section of the machine and extracting its rotor, while no maintenance was done on the high-pressure section since it had already been replaced in 2014.

#### The “major overhaul” of the 2 gas turbines

This maintenance required completely opening the machines and **extracting** their **rotors** to check the blades of the compressor and of the three stages of the turbine, two of which were totally replaced.

All **electrical tests** and the checks to verify the condition of the stator windings were performed. The **combustion chambers** and the entire ancillary fuel system **were dismantled**.

We also implemented a series of **plant changes** that will increase the reliability and efficiency of the thermal cycle of the CCGT, in terms of reduced water/steam leaks.

This was definitely the most important and challenging shutdown in the history of this plant, by quantity and type of work done, because of the use of external labour and of the strong commitment required of all

staff in the production unit to meet time and cost goals while ensuring maximum compliance with safety procedures.

#### THE PROJECT FOR SELF-MAINTENANCE

As a result of a special and thorough analysis conducted on all maintenance contracts in place with third-party companies and with the primary objective of **improving plant performance** and reducing fixed costs of the plants, we decided to set up a specific project to improve the efficiency of our maintenance activities, reviewing the figure of the “maintenance engineer” in its entirety.

This involved transitioning from a concept of “having something done” to “doing something”, **insourcing** some maintenance activities – both predictive and corrective – which had been generally outsourced.

The self-maintenance project involved and will involve all affected resources (electrical, instrumental, mechanical, and automation maintenance) in a process of change and **acquisition of new skills**, implemented between October 2015 and January 2016 by a special technician training plan.

Overall, this project marks a further evolution in the operation of the plant due to advantages such as:

- a greater degree of efficiency;
- increased management and organization flexibility;
- the reorganization of line structures to insource maintenance;
- the additional contribution from Maintenance to the supervision of works relating to the investments.



## HEATING NATURAL GAS FOR THE CCGT PLANT

In 2015 we completed a series of interventions on the manifold that supplies the methane used in ERG Power's CCGT combined cycle power plant, to improve its operation efficiency and reliability.

In the multi company site where our plant CCGT is located, the station where the natural gas is heated and its pressure is reduced is at quite a distance from the entrance to the turbines. The 4 km can make it harder to maintain the temperature and pressure parameters.

On account of this, striving to achieve maximum **reliability** and **flexibility** in the process that controls the temperature of the incoming natural gas, we installed two new heat exchangers: an electric unit on the incoming methane in the CCGT area and a water bath type unit, as a back-up to the existing ones, located at the pressure reduction point and powered by steam.

The devices were selected from among the best solutions available and both feature

remote control systems for their operation.

The electric heat exchanger installed in the CCGT area helps to ensure **optimum temperature control** of the natural gas fed to the gas turbine, under all operating conditions. It also improves the efficiency of the CCGT during starting since it reduces the natural gas conditioning time, until it reaches the required temperature.

The water bath heat exchanger, installed in parallel with the existing steam heat exchangers, keeps the temperature at the required level under all operating conditions, even if the main steam is not available or insufficient, by means of a simple and reliable method, based on heating of a volume of water with a small burner fed with the natural gas itself.

The completion of these projects confirms the Group's desire to constantly seek simple and effective solutions that support the **continuous improvement of the reliability and efficiency** of the combined cycle operation, which is the



reference plant for production and supply of electricity and steam for all companies on the site.

### IMPROVING THE EFFICIENCY OF THE STEAM NETWORK

In addition to producing the electricity needed to meet the requirements of the multi-company site where it is located, **ERG Power's** plant also **produces** much of the **steam** used as a heat transfer fluid by the companies present in the compound, through three networks at 5, 18 and 35 bar pressures.

Over the past six years we have recorded a significant reduction in the consumption of steam at 5 and 18 bar, due to changes in the plants of the site's customers: the lower steam consumption has increased the transmission imbalances (i.e. the difference between the steam produced and that actually consumed by our customers).

ERG Power Generation has developed a special **energy efficiency improvement project** to increase the efficiency and reduce the amount of losses.

In view of the specifics of the problem, of the many players involved and of the physical size of the networks (the 5 bar network alone is over 30 km long), the project has been addressed by gradual steps in conjunction with the steam distribution system operator, so as to narrow down the problem, understand its causes and **identify** possible **solutions**.

Step 1: **identification** of all loads present on networks, upgrading designs adding real-time measurement to monitor

consumption and production parameters (flow, pressure, temperature), on the three levels of steam pressure.

Step 2: **modelling** of steam networks with special software, in order to know the steam velocity and its thermodynamic conditions in each section of each network.

Step 3: **analysis** (along with the many companies on the site) of the **dynamics of the losses**, which has led to the identification of a number of causes, including some significant condensation caused by the characteristics of some of the steam production fed into the networks. Other relevant causes were determined by the conditions of the pipe insulation and by the efficiency of the steam traps, elements on which maintenance, partly already started in 2015, will continue in 2016.

The work done and the implementation of the new operation method (i.e. the site rules that determine how the production is carried out and fed into the steam network) have already borne fruit in the last quarter of 2015, reducing losses by over 30%.

The project also assessed the feasibility of changes to our steam pipes to reduce transmission losses in the networks outbound from the CCGT:

- for the 18 bar line we chose a new delivery point near the CCGT, reducing the line's length by over 1 km, with the advantage of recovering all the losses that the current pipeline involves;
- for the 5 bar network we will use the line formerly used for the 18 bar line, with a smaller pipe section, which determines an increase in the speed of the steam inside it, thus improving performance.

# ERG POWER'S PERFORMANCE ANALYSIS

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Carrying out "Performance checks" does not just mean monitoring the performance of a plant but also:

- inspire and guide decision making processes;
- improve control on the system's efficiency;
- strengthen accountability and responsibility at different hierarchical levels of the organization;
- encourage all-round continuous improvement.

For the monitoring to be effective:

- measurements of physical quantities (electricity produced, natural gas consumed, air temperature, etc.) must be reliable and representative of the operating conditions of the system;
- the model, i.e. the set of reference/correction curves and algorithms, must be able to simulate the behaviour of the system with a high level accuracy.

To support the Performance Audit process we have developed and implemented Simpred CP, an **application** on the company's IT system that we can use to **monitor the main the deviations** from optimal performance, so we can promptly take remedial action on ERG Power's CCGT plant.

Simpred CP, in operation since 2013, is based on a standardized industrial methodology that calculates and analyses factors such as:

- the plant's **specific consumption**;
- the specific consumption **variances** attributable to each operating parameter, dividing them into two categories:

**internal factors** (that can be corrected by specific maintenance operations) and external factors (dependent on uncontrollable **external factors** such as temperature, pressure and air humidity);

- the power unavailable due to both internal and external factors.

Another important step is the daily certification process both of the measurement of physical quantities of the process and of the results of the **performance calculations**, since it prepares a so-called "Specific Consumption Report," a daily assessment of the plant's operation and performance.

The Report is a useful tool to optimally manage the facility: in fact, it includes the **actual values** (measured), the **reference values** (or forecasted), the comparison between final and planned amounts and the economic impact of their difference.

In addition, the report's findings are available in the company database and this is a quantum leap for decision making. Its popularity has meant that all departments – including the more operational departments such as the operation & maintenance department – have increased their awareness and sensitivity to aspects that lead to critical conditions within the production process. Thanks to this analysis and control tool, all parameters can be continuously monitored, improving the calibration of the various components in order to optimize production, decreasing any economic loss.

## THE SALE OF OUR ENERGY

Energy Management consists of three departments:

- the **Front Office** department, that programs the Group's generation facilities and dispatches plants of third parties (origination);
- the **Wholesale & Environmental Markets** department, that buys and sells raw materials and finished products (gas, electricity, utilities) and manages the portfolios of environmental certificates (green, CO<sub>2</sub>, and energy efficiency certificates) both to cover the requirements of the EU-ETS system, and to sell the certificates on "organized" and "unorganized" markets (bilateral contracts);
- the **Back Office** department, that handles the effects of contracts concluded in different markets: spot contracts on the electricity market (MGP, MI) and on the dispatching services market (MSD), mandates for dispatching, cross-border trading, physical futures contracts (OTC) and financial hedging (swaps, etc.), bilateral contracts, gas sourcing (fuel for plants), gas portfolio (spot and long term), environmental certificates, and captive market contracts.

The Back Office functions, in particular, deserve closer examination. In addition to its three main functions (Metering, Settlement, Liquidation), it manages two

### ENERGY MANAGEMENT'S TRADING ACTIVITY

In 2015 ERG Power Generation entered into contracts with industrial customers for a total of 888 GWh, some of which are characterized by supplying green energy through certificates of origin from renewable sources (granted by the GSE to renewable energy producers upon their specific request and after a complex certification process).

In the field of environmental certificates, ERG Power Generation has covered the requirement concerning emission trading of ERG Power's CCGT (Combined Cycle Gas Turbine) of 1.23 million tonnes of CO<sub>2</sub>, reducing emissions by 2.4% compared to 2014. The volume of ERG's emissions amounted to 0.03% of the total certificates exchanged on the ICE ECX platform.

In 2015, 176 thousand energy efficiency certificates were put on the market, for the high-performance cogeneration of the CCGT in 2013 and 2014: the certificates sold by ERG Power Generation account for approximately 4.7% of the total traded in 2015 and reach 60.6% of the II-CAR category.

During the year about 93 thousand certificates were earned, of which delivery is expected in 2016, sharply up over the 86 thousand certificates received in 2014.

other no less important tasks (Contract Management, Reporting), in a number of markets, each with its own specific requirements.

At **Contract Management** level, the Back Office takes responsibility for contracts, validates their entry in the system (Validation), formalizes with the counterparty deals concluded under the Master Agreement (Confirmation) and meets regulatory and contractual obligations. During this phase it also handles obligations relating to recent EMIR and REMIT regulations: it is at this stage that we begin to study the most complex contracts, in collaboration with those who have physically signed them. After that, the contracts go to the delivery status and the billing cycle starts.

In the **Metering** stage we acquire the measurements of the transactions that have taken place (i.e. electricity fed into the grid, gas traded at the measuring points, steam delivered, etc.); by extension, this is also the stage where the delivery occurs (e.g. on CO<sub>2</sub> registers, etc.) and where we acquire the rest of the other information on volumes (i.e. outcomes in energy or services markets, etc.).

Subsequently, during the **Settlement** stage, we apply the terms of the contract to the volumes acquired and to market

indices to determine the correct amounts against which we must check the invoices received or at which we must issue customer invoices. This activity takes place in very different ways in the various markets in which we operate and in many cases requires a study phase prior to the delivery phase.

The Settlement phase is extremely sensitive: it must necessarily be “zero risk” and the personnel involved must know every detail of the contracts and be capable of mastering the most complex sales agreements. To do so we use multiple controls for the most complex deals and we have set up an efficient automation for the simplest and most frequent contracts.

With regard to **Reporting**, the Back Office deals with it precisely because it has full knowledge of all transactions and is actively involved in all related processes.

The peculiarity of ERG’s Back Office, compared with that of competitors, lies in the broad range of markets in which we do business. On one hand, this makes standardization more complicated, while on the other it ensures better management of details and greater depth of content. Nevertheless, the small number of contracts makes it easy to management the broad range, letting us focus on the most relevant contracts.



## SUPPLIER MANAGEMENT

For ERG, sustainability is a key point in purchasing management and in supplier relationships. The **ethics of the selection and award process**, the protection of local interests, the appropriate remuneration and respect for agreed payment deadlines are the elements that characterize the governance of our sustainable procurement activities.

To reaffirm common rules based on fairness and transparency and agreed with the Procurement departments of the Group's companies, in 2015 we reviewed the **"Procedure for purchase of goods and services to support the business"** centralized in ERG Services, not only purchases that span and are synergistic for the Group, but also the qualification activities, the management and control of all suppliers, with an overall collaborative view of the process. The HSE<sup>1</sup> departments of the site, however, assess the in-field performance of our suppliers, a requirement to confirm their inclusion or not in the Vendor List.

Our Group is committed to meet its requirements of goods and services by purchasing them on the market, of which the Vendor List represents a coherent and up to date cross-section. For each type of good/service, the Vendor List contains a minimum number of vendors suitable to be considered "representative" of the relevant market and to ensure **competition**; in exceptional circumstances there may be only one supplier if it has specific skills that

exclusively can meet a particular need (e.g. spare parts of equipment).

**All procurements** and works contracts are made, whenever possible, by tenders, largely managed through a dedicated web portal, to ensure full traceability of all stages of the process.

The results are assessed, taking into account all related variables, using an awarding criterion that privileges the offer most advantageous overall and not just based on the largest discount.

For the procurement of goods and services, we work only with suppliers and

### SUPPLIERS

The impact generated by ERG on Italy and on local communities is increasing: about 32% of the companies who acquired orders are based in regions where the Group's plants are located.

# 45%

IMPACT ON  
THE TOTAL  
PROCUREMENT  
VALUE VIA  
CALLS FOR  
TENDERS

# 24%

IMPACT ON  
THE TOTAL  
NUMBER OF  
PURCHASES  
VIA CALLS  
FOR TENDERS

<sup>1</sup> Health, Safety & Environment

contractors that have been **qualified in advance**; the corporate IT system does not allow issuing orders and contracts to companies that have not passed the qualifying process.

We favour as much as possible purchases from local suppliers: **89%** of the companies present in the Vendor List is **based in Italy**, while most of the remainder are European. The **qualification process**, which is carried out through a web portal, is completely free and open to companies doing business with ERG. At the time of application, they agree to the Group's Model 231 (organizational model) and to its Code of Ethics. The **specific acceptance** of these two documents is also a binding

contract clause for orders to be assigned subsequently.

Also by means of the qualification process, we control matters related to the health and safety of persons working on behalf of the company, and environmental issues, to manage risk on an overall and all-round basis, to maximize value creation.

By virtue of the central importance we attribute to the rights of employees, we pay special attention to working conditions, and to wage and contribution obligations, both when selecting vendors – for which specific questions were included concerning requirements and certifications (such as SA8000) – and when awarding tender contracts.

## ERG AND SUPPLIERS

ERG considers its suppliers a primary source of competitive success; thus, it strives to base its relations with suppliers on the same principles of sustainability, integrity and confidentiality and manage these relations with both current and potential suppliers in accordance with principles of legality, transparency, correctness and loyalty. In line with the aforementioned principles and in managing its purchasing processes, ERG requires that recipients:

- base their objective selection and the technical, financial, organizational and ethical qualification of potential suppliers on the Group's best interests;
- [...]
- require all suppliers to comply with all regulations specifically relevant at the time, with particular reference to the topic of safety and environmental protection;
- request compliance with the principles of the Code of Ethics, reporting to the Supervisory Committee any conduct by a supplier that appears to be contrary thereto;
- [...]
- claim observance and observe contractual conditions, with particular reference to health, safety and environmental topics;
- avoid suppliers with whom they have a family relationship or affinity;
- show clearly and transparently the evaluation criteria adopted and the reasons for the selections made.

From the ERG Code Ethics



The technical organizational units, and if required also the HSE units, check, to the extent applicable, the information the supplier has been asked to provide by means of a specific questionnaire and, if deemed necessary, they visit the supplier.

When the analysis has been **completed** they fill out the “**Appraisal Card**” and perform the overall technical appraisal, defined on the basis of the appropriate assessment criteria, supplementing it with recommendations or comments, if needed. As a final step, the report of qualification is sent to the Procurement Department of ERG Services.

Very strict **sanctions** apply to **violation** of the principles of our Code of Ethics, or to **serious non-compliance** with the requirements contained in the contractual

documents, to ensure real compliance with the values we believe in. The sanctions can even result in cancellation from the Vendor List.

Lastly, we carefully assess the companies we work with, not only in the qualification phase, but also for the entire duration of our relationship, using **periodic monitoring** based on a set of performance indicators that analyse operating scopes and ethical behaviours.

In order to ensure proper oversight of these activities, the Vendor Management & Compliance department was formed within ERG Services, tasked with managing the selection, qualification, and supplier monitoring processes and with monitoring Health & Safety aspects, working jointly with the managers of the respective areas.

## PROMOTION OF GREEN PURCHASING

We are continuing with the activities we started last year, aimed at integrating the best sustainability policies into the procurement process.

In 2015 we finalized a contract that was certified to have zero environmental impact, to rental multifunctional printers, at the Priolo plant. This contract, with a leading international company, involves that company voluntarily and fully compensate the CO<sub>2</sub> emissions of each device under the Carbon Zero program, created in collaboration with non-profit associations.

Also, we started a study at our Genoa office, which in 2016 will enable us to optimize the lighting and achieve significant energy savings.

We continue to raise the awareness of our travellers concerning business trips: the tools we have implemented in fact optimize the travel focusing on economic issues but also paying attention to aspects that minimize the impact on the environment.

## MANAGEMENT OF SUBCONTRACTS IN ERG POWER

We have increased our checks on subcontractors to improve their quality, efficiency and safety during maintenance activity in our power plants.

Over the years we have expanded and improved the process of qualification of our contractors, but lately we have broadened the **focus** to subcontractors, in view of the fact that non-local large firms engaged in scheduled maintenance activities increasingly use highly skilled local labour, that has a strong know-how of our plants.

Our **contractor and subcontractor selection policy** falls within the more general framework of activities based on Social Responsibility. In fact, we are well aware of the delicacy of this activity, which has significant effects on the processes and quality of the products/services purchased and which, for this reason, may influence our relations with the end customers and the communities in which we work.

Therefore, the **selection of subcontractors** starts from the time we identify the main contractor, by providing the list of contractors included in our Vendor List for the main specializations that can also be subcontractors.

The main contractor, when assigning tasks, must request **formal permission to enter** into "tier 1" **agreements**, indicating the value of the contract and listing the subcontractors it intends to use and their specialization.

We do not accept cascade subcontracting and normally we allow subcontracting only

ancillary and/or complementary works which are typologically different (with respect to the basic specialization) from those supplied by the main contractor. If the subcontractor is already in ERG's vendor list, subcontracting is authorized after checking that the following documentation is in place:

- a chamber of commerce certification;
- a valid DURC<sup>2</sup> (Tax Compliance Certificate);
- a declaration in lieu of affidavit;
- that the employees of the subcontractor that will do the work have been registered and entered in its employee register;
- references for the works carried out;
- summary of previous subcontracting requests and authorizations;
- proof of the subcontractor's insurance coverage (INAIL, INPS, ...);
- a copy of subcontractor's third party liability insurance, valid for the entire duration of the order.

If the **subcontractor is not yet on ERG's Vendor List** and the activities to be carried out are not economically significant, in addition to checking the documentation described above, we examine the documents certifying the suitability to the task of the workers and of the company before authorizing the subcontracting.

If the activities are of significant economic value and it is deemed that the same subcontractor could be of interest for subsequent work, in addition to checking the documentation described above, **the whole qualification process is started**, after which the subcontract is authorized.

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<sup>2</sup> Tax Compliance Certificate (DURC)

Permission is granted for each individual order assigned to the main contractor, with a limited lifespan, and for a predetermined maximum value defined on the basis of the work to be performed.

This is also linked to the timely identification of the personnel involved in the activities, a prerequisite to allow access to the plants.

**Careful choosing** the subcontractors

also **minimizes the risks** associated with **joint liability** of the principal, who is jointly liable with the contractor and with any sub-contractors during the two years from termination of the contract, to pay the salaries and severance indemnities, social security contributions and insurance premiums due in relation to the period of execution of the tender contract.

## EXPEDITING MAIN COMPONENTS: QUALITY AND SAFETY OF SUPPLIES AT ERG RENEW

Expediting main components is an activity included in supply contracts that allows the customer (ERG Renew) to monitor the production and assembly of main components of a supply, such as tower sections, nacelles, blades, and hubs. Part of the Engineering & Construction Team's efforts focused on visiting three of the production sites of our main wind turbine supplier, to check that it respects quality standards in its production process and to ensure its compliance with the contract's timing.

Before visiting the various production departments our personnel completed the recognition and entrance procedures needed to access the production facilities, received a brief on the specific health and safety issues at the plant, on emergency procedures and was provided with PPE.

During these visits we inspected the various departments that supply and handle raw materials, the processing centres, the assembly, painting, and testing departments and the staging area where the products are prepared for transport and delivery to the construction sites. Quality check points spaced along the line and define the time of passage of every single component from one department to another.

During the documentary inspection we viewed much of the HSQ documentation, paying particular attention to:

- the project engineering documentation of individual components and the structural calculations;
- the general quality plan, developed in compliance with international standards;
- the factory's certifications;
- management and implementation of workplace safety procedures.

The inspections we carried out at three different production centres confirmed that the manufacturer and its contractors have adopted a high level of quality, safety and respect for the environment.

# Environmental responsibility

# 2

ENVIRONMENTAL  
RESPONSIBILITY

979 kt  
CO<sub>2</sub> AVOIDED BY USING  
RENEWABLE ENERGY

96.8%  
WATER RETURNED  
TO THE NATURAL CYCLE

0.01 t/GWheq  
ERG POWER  
SO<sub>2</sub> INDEX

61.8%  
ERG POWER  
EFFICIENCY INDEX

## TACKLING CLIMATE CHANGE: A DUTY AND AN OPPORTUNITY

### THE CENTRALITY OF RENEWABLE ENERGY SOURCES

Climate change is one of the most obvious global happenings of recent decades and is destined to worsen if no concrete action is taken to stop it.

The international scientific community has now determined that the change is in large part man-made and it is therefore crucial that all countries in the world make a commitment to fight it and hopefully reverse its course.

The direct link between factors such as "greenhouse gas" emissions and **global warming** has impacted economic and energy policy choices of the most sensitive nations for some time, increasingly spreading a culture of **sustainability**.

In Italy, the current energy policy guidelines are defined by the "20-20-20 Climate and Energy Package" which is part of the strategy, "Europe 20-20-20".

In 2011, the European Commission published its "Roadmap 2050", a document drawn up specifically to

address the issue of sustainability and the cross-border effects of phenomena that cannot be managed purely at a national level. The aim of these new guidelines is to achieve the almost **total decarbonisation** of our **economy**, with the ultimate goal of keeping global warming as a result of anthropogenic climate change below 2° C.

As an intermediate step of the process outlined, in October 2014 the European Council reached an agreement on the environmental and energy policy for 2030, defining:

- a binding target to **reduce national** greenhouse gas **emissions** by at least 40% compared to 1990 levels;
- a binding target at EU level, but not for the individual Member States, for 27% of the **final gross consumption of electricity** to be produced from **renewable energy sources**; the Commission will set the national target under a new governance system that will have to be drawn up in the near future;
- an indicative target of 27% **increase in energy efficiency**, which is not binding for the EU or the Member States.

	Outlook to 2020	Proposals for 2030
Reduction of climate-changing gas emissions	20% with respect to 1990 levels	40% with respect to 1990 levels
Portion of energy produced from renewable sources	20% of final consumption	27% of final consumption (binding only at EU level, not for individual Member States)
Reduction of consumption	20% with increased energy efficiency	improvement of 27%, non-binding

On 12 December 2015, a full 195 States, plus the European Union, formally adopted the text of the Paris Agreement on climate change. Although the process is still strongly left to the voluntary commitment of each party, and lacking a real framework that includes control and sanction, the agreement:

- **commits each signatory country**, setting overall objectives for all parties, in contrast to the provisions of the Kyoto Protocol;
- **institutionalises a five-year review process** of data and of national targets;
- **recognises** the need to keep the average increase in the Earth's temperature "well

## THE PARIS AGREEMENT (COP 21)

This past 12 December 2015, in Paris, an agreement was reached on climate change and signed by 196 parties (195 States plus the European Union) in the world.

The signatories committed to:

- hold the heating "below 2 °C" above pre-industrial levels, with the desire to keep it within the 1.5 °C;
- reduce the overall CO<sub>2</sub> emissions to 40 billion tonnes (compared with the 55 billion resulting from the Intended Nationally Determined Contributions) to keep the temperature increase within 2 °C;
- outline National emissions reduction plans, to be reviewed every 5 years.

Appropriations are planned for 100 billion dollars annually starting in 2020 to develop green technologies, aimed at decarbonising the economy and supporting climate change mitigation and adaptation activities.

Another consolidated concept in the agreement is achieving the greenhouse gas emission peak as soon as possible, in order to devote more time to the control and reduction that will occupy much of the second half of the century.

The agreement has the advantage, never achieved before, of being widespread, since almost all countries of the Earth signed it.

Also, unlike the previous Kyoto Protocol, it assigns overall objectives for all parties to the agreement.

By contrast it does not include, at this stage, any sanctions and does not even include a description of the objectives on a national basis.

As activities proceed, it will be necessary to define unique emission certification criteria, which are currently opposed by emerging countries that have promoted forms of self-certification, while it will be necessary to more precisely define how fossil fuel will be phased-out hence eliminating the related emissions.



below" 2 °C, making all possible efforts to keep it under 1.5 °C;

- **anticipates** the need to make further efforts to keep global warming within these values, recognizing that the national voluntary programs undertaken by the parties to the United Nations Conference is not enough.

## EU-ETS SCHEME

### THE MARKET STABILITY RESERVE

From a management perspective, the main operational tool in the fight against climate change is the **Emission Trading System** (ETS), a cap-and-trade mechanism of greenhouse gas emissions allowances that provides for the **allocation** of a **specific quantity of** emissions **allowances** (EUA, European Union Allowances) to operators in participating sectors, which can be traded

on the market. The global economic crisis and the decline in European industrial production in recent years have resulted in a significant oversupply of EUA certificates compared to demand, with the effect of reducing the market value of the certificates offered and thereby reducing the incentive to invest in eco-friendly technologies.

As a remedy to this phenomenon, which threatened to undermine the mechanism's purpose and even its existence, in February 2015, the European Parliament adopted the so-called ETS Market Stability Reserve (MSR), a measure to mitigate the structural oversupply of shares on the market.

The MSR, based on automatic mechanisms, will receive or will release a

## ENERGY UNION STRATEGY

In February 2015, the European Commission published its "Energy Union Strategy", to ensure that Europe and its citizens have access to safe, sustainable and affordable energy. Specific measures cover five key areas, including energy supply security, energy efficiency and decarbonization. The "package" is divided into three communications:

- a framework strategy for the Energy Union that specifies its objectives and the practical measures that will be taken to achieve them;
- a communication outlining the EU's position for the new global climate negotiations in Paris;
- a communication that describes the steps required to bring the electricity interconnection level to 10% by 2020.

During the summer, the European Commission presented an additional package of climate and energy proposals regarding a new design for the European electricity market.



predetermined amount of shares, the size of which depends on the demand. The proposal contains the essential guidelines that will form the basis for adoption of an amendment to the ETS Directive.

In mid-September 2015 the EU Energy Council formally decided to create the MSR in 2018, so as to become operational as from 1 January 2019.

During the summer, the European Commission presented a proposal for structural reform of the ETS for the period after 2020, to support the energy transition and the goal of climate targets until 2030.

### THE ROLE OF RENEWABLES

Analysis of the regulatory framework that has been developed over the years shows the **central importance of the development of renewable energy sources** (RES) to retain the quality of life, or perhaps the survival of future generations.

Our country now has decades of experience in the use of renewable energy: suffice it to say that in 2014 renewable energy accounted for **38% of electricity consumption** and as much as **43% of the total production** (down to 40% in 2015 despite the global increase of electricity consumption and the substantial decrease in hydroelectric generation due to an exceptionally low rainfall).

ERG Group's **repositioning** towards an increasingly green production not only represents our constant attention to seize new business opportunities, but also

proves to be perfectly **consistent with the energy transition** that is affecting Italy and the whole world. This is how we contribute actively to improve the environment around us.

Over the past ten years, we have contributed to the fight against climate change through a radical metamorphosis that has led us to be the leading Italian wind farm operator and among the top ten in Europe.

Our recent acquisition of the Terni hydroelectric complex, and our new acquisitions and construction of wind farms in Europe, are further steps in the repositioning of our business.

For us, the quest for maximum energy efficiency at ERG Power's plant is a real commitment in the direction of sustainability, since it allows our systems to **reduce greenhouse gas emissions at constant electricity generation levels**.

The application of best available techniques (BATs) can increase the overall performance and reduce the fuel consumption of our plants (powered by natural gas, i.e. the fuel with the lowest carbon content available in nature).

2015 data show the above concisely and clearly:

- 979 kt of CO<sub>2</sub> production was avoided;
- 5,330 GWh of electricity produced at virtually zero CO<sub>2</sub> emissions;
- 61.8% of the "1st principle overall performance" index (Ministerial Decree 5 September 2011 - CAR).

## ERG AND ENVIRONMENTAL PROTECTION

ERG believes that the complete compatibility of its activities with [...] the health and safety of workers, the local area, natural resources and the surrounding environment is an essential condition both for the acceptability of its plants and its operational activities, and to achieve its growth objectives.

ERG thus constantly works to ensure that the business operations of all Group companies are carried out with full respect [...] for the health and safety of its employees and third parties, as well as the environment, intended in the broadest sense, carefully considering these factors as part of the long-term planning process and encouraging the adoption of environmentally-friendly and energy efficient technologies.

As a socially responsible business, which also counts on the active contribution of all Recipients, ERG aims to:

- [...] ensure constant attention and commitment to improving its performance in the environmental field, monitoring and reducing energy use, minimizing waste production, complying with the legal limits for atmospheric, water and ground emissions, responsibly and carefully using natural resources and protecting local ecosystems and biodiversity;
- assess the environmental and social impacts before undertaking new activities or introducing modifications and innovations to processes and products;
- establish dialogue and constructive collaboration, marked by the highest transparency and trust, with institutions and all stakeholders, with the goal of developing its activities while respecting local communities;
- maintain elevated levels of safety and environmental protection by implementing management systems that are developed, periodically verified and certified according to internationally recognised standards and introducing means and procedures for management and intervention, based on a careful analysis and evaluation of risks, designed to deal with possible emergencies;
- continuously strive to enhance information, awareness and training aiming to strengthen [...] environmental protection principles as a shared asset throughout all levels of the company.

Finally, as confirmation of the huge importance ERG gives to [...] environmental protection, the evaluation of each employee's individual performance takes into account whether or not their conduct is in line with company policies, and particularly those referred to above.

**From the ERG Code of Ethics**

## CO<sub>2</sub> AVOIDED: YEAR 2015

91

	Installed capacity (MW)	Production (GWh)	CO <sub>2</sub> avoided (kt)
Wind power – Italy	1,087	1,910	701
Wind power – France	128	206	13
Wind power – Germany	86	156	82
Wind power – Romania	70	201	64
Wind power – Bulgaria	54	74	32
Wind power – Poland	82	68	56
Hydroelectric	527	84	31
<b>TOTAL</b>		<b>2,698</b>	<b>979</b>

## CO<sub>2</sub> AVOIDED: TREND 2006 - 2015



To calculate CO<sub>2</sub> avoided, we have used the gCO<sub>2</sub>/kWh conversion factor published by Terna in its annual report and referred to the electrical output of each country.

## PREVENTION OF HYDROGEOLOGICAL INSTABILITY

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Wind farms are generally located in sparsely populated areas, on the tops of mountain slopes which are always difficult to access and where the limited frequency of road maintenance and containment works can cause poor soil stability.

The inevitable consequence is, unfortunately, hydrogeological instability, meaning events such as landslides, erosion, floods that generally occur very quickly but very intensely and that therefore are highly destructive for the affected area's morphology.

These phenomena are the main cause of deterioration of the **infrastructures** of wind farms (access roads to turbines, assembly pitches), as well as one of the possible causes of faults of the **electrical infrastructure** (failures of underground

cables, breakage of electrical joints, etc.).

Every year, ERG Renew produces an **ordinary and extraordinary maintenance plan** of civil engineering works in accordance with the safety policy on the management of the sites. This involves constantly seeking an overall environmental balance between the area's features – closely dependent on the geology and geomorphology of the soils and slopes – and the plant's supporting infrastructure (975 wind turbines and related clearings, 800 km of roads and underground cables in Italy).

The ordinary and extraordinary maintenance plan is divided into the following phases:

- specific **inspections** on-site every six months to check for any abnormal deterioration of the wind farm



infrastructure particularly of the structure (foundations), of the technical networks (collectors, pipes, fittings, water collection sumps, stone perforated drain pipes, drains), of other infrastructure (gutters, ditches, paving of roads and pitches), of existing containment works (reinforced soil, gabions, wooden piling) and of those related to electrical civil engineering (underground cables and fibre optic conduits);

- and **preparation** of inspection and photographic **reports**;
- **detailed design** of maintenance required;
- setup of the **construction site**;
- **implementation** of the measures;
- **conclusion** of the works.

In designing important structural consolidation works, ERG Renew supports the adoption of **environmental recovery techniques** using the methods typically taken by the bioengineering.

They are low environmental impact techniques where the use of cement is limited to a minimum, while the main

consolidating components are live plants or parts thereof (seeds, roots, etc.), the wood, the stones and the soil itself affected by landslides and subsidence, sometimes combined with artificial biodegradable materials such as bio matting, galvanized netting, geogrids, geonets, and geotextiles. There are two main advantages: **the natural environment is not affected** and naturalization and integration with the different infrastructures is simultaneously promoted.

In 2015, to prevent the instability generated by the exceptional weather and to ensure the structural consolidation of assets as a result of landslides and subsidence, we designed and executed five major unplanned maintenance interventions.

In addition there were over 30 different routine maintenance interventions of the civil works, which restored, when necessary, the functionality of the road infrastructures of the wind farms and of the related works by consolidating and restoring the road structure.



## ENVIRONMENTAL REQUIREMENTS IN POLAND

As in many other countries, also in Poland any building permit is subject to certain environmental constraints (valid for the development, construction and operation phases), and in particular for granting authorizations for the construction of a wind farm.

For the wind farms built during 2015 the constraints set by local authorities have substantially influenced the construction phase.

Our collaboration with institutions makes it possible for us to work in an environmentally respectful manner, causing as little disruption as possible not only to the population but also to the habitat (in this regard see also the 2013 and 2014 Sustainability Reports): in doing so, environmental protection and biodiversity always remain at the centre of all the projects of our business.

Specifically, the greatest environmental constraint for the Szydłowo Park concerned the prohibition excavate the foundations of the turbines in the period between mid-February and mid-August, during the spawning season of some protected species of birds that nest in the humus of the soil.

The project planning was designed so as to begin all the work independently of environmental restrictions (located in areas not inhabited by breeding species) before mid-August, to focus on building the foundations shortly thereafter (August - November 2015).

To comply with another environmental constraint we activated an in-field monitoring for a three year period, to analyse any impact on the populations of resident and migratory birds. In addition, each turbine and the entire wind farm must meet noise emission limits, particularly in protected areas such as near multifamily housing, collective housing and land with farms and recreational areas.

As for the wind farm in Slupia, one of environmental restrictions requires monitoring and analysis of noise emissions, of the shadow flicker (stroboscopic effect) and, lastly, the post construction monitoring of the behaviour of birds, especially of bats. For the latter purpose "bat monitoring systems" were installed on 4 separate turbines. The equipment will start its monitoring activity between late March and early April 2016.

# EFFICIENCY AND ENERGY AUDIT FOR ERG POWER AND ERG HYDRO

95

An energy audit is a systematic, documented and regular assessment of the energy consumption within the organization, to identify potential energy efficiency improvement measures.

Although they cannot be defined as Large Enterprises, both **ERG Power** and **ERG Hydro**, wholly owned by ERG Power Generation, **carried out** – due to economic factors and the extent of its staff – audits and prepared their **energy audits**.

Improving energy efficiency results in consuming less energy (per unit of output), thereby reducing the “indirect” greenhouse gas emissions related to production and increasing the plant’s performance.

During the second half of 2015, the companies performed the analysis according to reference best practices, following a very thorough path that included the following steps:

- **interviews** with the **Management** and collection of the data and information

needed for an initial classification (energy supply bills and contracts, process layout, utilities, main products and production levels, raw materials, etc.);

- site inspections at power plants to analyse the structure of energy plants and other process plants, to identify energy users and collect operational parameters, to collect data and information, from local officials, concerning energy use, the peculiarities of the production cycle and any changes to be made to the energy utilization cycles;
- **processing of the data collected**;
- **calculation of characteristic performance indexes** and construction of energy models (electric and thermal);
- **identification** and sizing of any energy rationalization **measures**.

Clearly, the energy system extends to all the production facility and includes:

- all the activities related to the organization of production or that characterize the service provided, structured into distinct functional phases (main activities);

ERG POWER – ENERGY EFFICIENCY INDEX*		
2013	2014	2015
64.7%	60.3%	61.8%

\* “1st principle overall performance” index calculated in accordance with the procedures laid down by Ministerial Decree 5 September 2011 (CAR).



- all the activities that support the main activities (ancillary services);
- all the activities related to the production process or to the service offered, the requirements of which are not however closely related to them (general services).

We put together an **energy inventory** (energy patterns) by cataloguing and analytically quantifying the uses of energy, the main equipment and its operating characteristics.

The consumption of the individual energy carriers was divided among the different corporate areas and departments, in order to identify those with an energy consumption higher than those that affect

only marginally (less than 5% of the total). At that point we built appropriate energy models that described the power drawn by the main equipment/machinery, the hours of operation, the load factors and other factors, to determine the appropriate conditions of use.

The “operational” **energy performance indexes** (called IPS), calculated for individual departments/functional areas, and energy indexes of actual performance (called IPG) calculated on the basis of purchase invoices and taking into account the general use of the site, were compared with objective indexes (market benchmarks) and were found comparable and **in line with average market references**.

## REUSE OF WATER

Starting in 2014, we analysed and evaluated opportunities for **improvement of water management**, an environmental aspect that is certainly of interest to the local community.

In the previous edition of the Sustainability Report we discussed the plan to reuse water from ERG Power’s demineralised water plant (SA9), to improve the system’s efficiency in terms of water demand, resulting in reduced fuel consumption.

During 2015 we **performed the technical work** necessary to recover that water, merging it into the production cycle upstream of the sand filters of the ion

exchange lines on the SA9 unit.

The quantities of water that can be recovered from the backwash section, and which in the past were discharged, will vary depending on the demand of the other customers of the multi-company site and therefore on the plant conditions of the Unit.

With the aim to plan interventions in the best possible way and to provide the competent authorities with a comprehensive information base, we studied the forecast data “at the current production capacity” as regards supplies of fresh water.

Based on this technical analysis we have been able to show the supervisory bodies

the **plant optimization** we had achieved, resulting in improved environmental impact due to the recovery of water within the production cycle. This will **significantly reduce the consumption of precious water resources** (freshwater): of the approximately 8 million m<sup>3</sup> treated each

year, about 1.2 million (approximately 15%) will be saved thanks to this measure.

The plant came into operation in its new configuration at the end of the year, so an initial comparable measurement of the actual water use savings will not be available until 2017.

## A POSITIVE CHECK...

In 2015 ERG Power carried out an analysis of the presence of hazardous substances in its production cycle, so as to identify and optionally to monitor storage areas and management of these products and prevent any possible impact on the soil or groundwater.

The procedure took place in two phases:

1. inspection on the use or release of hazardous substances and their classification;
2. assessment of the possibility of contamination of the site where the plants are located, on the basis of the physical and chemical properties of the substances, the storage conditions, the use and handling and the containment systems adopted.

The fuel, as raw material, that powers our plants is only in the form of gas (natural gas) and its products are electricity, thermal energy (steam) and demineralised water, that do not contain hazardous substances.

The only substances addressed were:

- the products used – in small quantities – in the demineralisation system;
- the anticorrosive products and additives used in the boilers;
- the dielectric oils of transformers;
- diesel fuel for the emergency generator.

On the basis of the chemical and physical properties of the hazardous substances and the geo-hydrological conditions of the site, the second phase of the analysis confirmed that:

- the management of hazardous substances within the ERG Power plant is compliant with the requirements;
- there are no underground structures such as tanks and transfer lines;
- the areas where the chemicals are stored and used are paved and equipped with containment devices to be used in case of accidental spills.

In conclusion, there was no effective possibility of contamination of soil or groundwater related to the presence and use of the hazardous substances used and to the handling methods used.

## THE EMISSIONS OF ERG POWER'S CCGT

ERG Power's plant started running at the end of 2010. It is a latest generation combined-cycle high-efficiency cogeneration plant recognized as high-yield cogeneration – CAR.

Built according to the latest technology and powered exclusively by natural gas, thanks to continuous technological updates and management methods\ software, it has achieved very low emission levels that are constant over time.

The emission indicators (that correlate the emissions to unit of output – MWheq) are fairly constant over the years and for the 2015 showed the following values:

- CO<sub>2</sub> index: 0.39 kt/GWheq;
- NO<sub>x</sub> index: 0.11 t/GWheq;
- CO<sub>2</sub> index: 0.01 t/GWheq;
- particulate index: 0.002 t/GWheq.

The plant's performance coefficient calculated in accordance with Ministerial Decree of 5 September 2011 (CAR) is shown in the "Power – environment and territory" table.

## OTHER EMISSIONS

In order to improve the information provided to stakeholders and the increasingly comprehensive environmental impact assessment of the Group's activities, in 2014 we established a method for reporting "SCOPE 2" emissions (indirect GHG emissions from energy consumption) and "SCOPE 3" emissions (other indirect GHG emissions, according to the international GHG protocol classification). The data related to SCOPE 2 emissions pertaining to the Group's entire scope were extracted from the technical reports for plant purchases (power and wind energy), invoices from the distributor for the energy consumption of the office space, and reports supplied by the property administrators for consumption generated by the centralised heating and cooling services.

Final data on SCOPE 3 emissions were provided thanks to reports provided by the travel agencies and relate to business travel by employees (calculated according to a certified methodology).

11 kt

CO<sub>2</sub>  
EMISSIONS  
SCOPE 2

1.1 kt

CO<sub>2</sub>  
EMISSIONS  
SCOPE 3

# *Social responsibility*

# 3

**SOCIAL  
RESPONSIBILITY**

**100%**

ISO 14001 AND/OR OHSAS 18001  
CERTIFIED COMPANIES CONSISTENT  
WITH THEIR ACTIVITIES

**20.6%**

FEMALE EMPLOYMENT

**99.1%**

OF EMPLOYEES ON  
PERMANENT EMPLOYMENT  
CONTRACTS

**5.7 DAYS/YEAR**

OF TRAINING  
PER EMPLOYEE

## SAFETY WITHIN THE ERG GROUP

People's Health and Safety, as the "Health, Environment and Safety Policy" clearly points out, are the core values of our enterprise culture. Their promotion is therefore one of our main goals.

**Our staff's awareness and active participation** in day-to-day management is a necessary condition for implementation of our HSE Policy.

That condition can be achieved by constantly **informing, training and involving** people by incentivising those who effectively reduce environmental impacts, risks for workers' health and safety or those who **promote ideas** for further improvement.

In this context, the "**Safety contests**" that our Group has organized in various sectors within the company have been quite successful. These were addressed to both internal staff and third-party Companies working at operating sites.

The main aim is for employers and workers (both internal and external) to cooperate, sharing common goals:

- preventing accidents at work;
- avoiding contracting occupational diseases;
- identifying the real issues;
- sharing the best operational solutions;
- finding optimal solutions in security management in the plants.

Over the year, we have adopted a set of activities to "continually improve" our

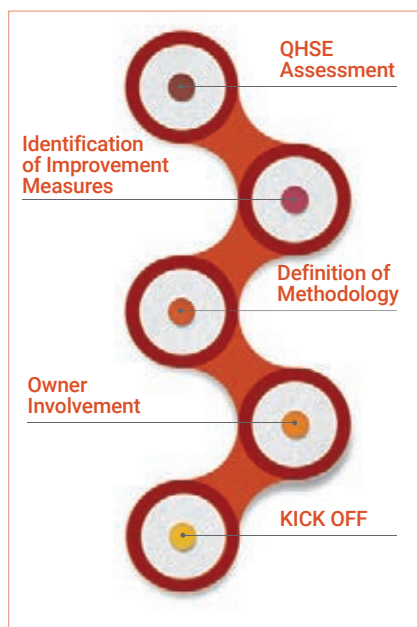
performance in terms of environment and safety:

- the "Safety First" project in EROM (ERG Renew Operations & Maintenance);
- the "**Safety contest**";
- the **assessment** of ERG Power's contractors' safety performance.

### THE "SAFETY FIRST" PROJECT

Having concluded the start-up phase of the new ERG Renew Operations & Maintenance (EROM) company, in May 2014 we launched the project called "Safety First", to increase the **culture of safety** within ERG Renew.

The initiative focussed on all the issues relating to the protection of workers' **health and safety**, protection of the **environment**



and attention to **quality**, thus proving to be a transversal project on Quality, Environment and Safety that involves the whole Company.

The guiding principle lies in its ultimate goal, that is to say the insight on the "culture of safety" within the Company. A bottom-up approach that we prefer over the more traditional top-down one.

Up until now, the project has been implemented by identifying the main streams, actions, owners, time-frames and careful monitoring.

### THE "SAFETY CONTEST"

#### For EROM employees

ERG Renew Operations & Maintenance decided to organize its first "Safety Contest". The competition is open

to all its staff and complements the measures it has already taken to **raise its personnel's awareness** on the **protection** of occupational health and safety, which requires everyone's contribution.

The initiative's internal Organizing Committee will award 3 individual prizes for each of the following categories:

**Creativity:** employees were asked to create a poster (slogan + image) aimed at encouraging people to think about occupational health and safety. The best three posters for creativity and message effectiveness have been posted in all the operational centres.

**Reporting:** designed to reward employees who have submitted the largest number of safety reports judged to be valid.

## ERG AND SAFETY

ERG believes that the full compatibility of its activities with the Health and Safety of its workers is a primary factor for the management of its plants and of its business in general. Therefore, it is committed to ensuring that all the Group's companies perform their activities safeguarding their workers' and third parties' Health and Safety, as well as the Environment in its broader sense. Such factors are taken into account starting from when annual and multiannual budgets and investments are defined, by carefully considering the use of technologies capable of ensuring high safety and protection standards.

According to the procedures, employees, third parties and occasional guests are informed and trained on what to do if an emergency occurs. Emergency management simulations and evacuation drills are carried out periodically.

The Group actively collaborates with the workers' safety representatives and constantly involves them to analyse the risk related to organizational changes and organizes systematic meetings in order to discuss and evaluate any improvements that could be made.

**Improvement:** it awarded the best three suggestions concerning procedures or systems.

Many of the reports and suggestions received turned into actions or new operational practices.

#### For the Siracusa employees

A similar initiative was organized for the staff that works in the province of Siracusa.

Employees were divided by department and a Commission was formed including the department managers of ERG Power Generation and ERG Power.

Prizes were awarded according to the scores of the various groups during 2015.

The following criteria were taken into consideration:

- **undesirable environmental events** that took place during the validity period of the contest;

- **accidents** and/or injuries due to human error;
- **accidents** and **potential accidents** not due to human error (a positive score was assigned for each report ;
- **suggestions to improve both safety and the environment:** briefs on possible improvements concerning either procedures or plants, also for non-industrialised areas, to be accompanied by all necessary details and information, pictures, technical information, best practice and the like;
- **laudable actions** that highlighted a particular interest in the issues of the Contest and that set an example for the company's staff;
- attendance of the **groups in HSE training**, meaning the attendance of the various groups in the quarterly training sessions, including fire-fighting training.

Quarterly, annual and participation prizes





were given, on the basis of a random drawing among all the groups' employees.

The probability of an employee winning was determined by the number of reports he/she had presented, as well as to the score obtained for each report.

### For ERG Power's outside firms and contractors

The contest is a way to encourage **staff of contractors** at the Priolo Gargallo facility to work applying **prevention criteria**, so as to prevent occupational accidents and hazardous conditions in general.

An organizing committee – formed by staff from ERG Power Generation – was tasked with managing the contest, checking that the data was properly processed to define its results, and awarding the prizes on the basis of the best performance of the participating firms, taking into account the following five criteria:

- **results of the Health, Safety and Environment tests** in the field: based on the total percentage of non-compliances and in proportion to the number of hours worked and the company's specialisation;
- **injuries** that have caused an absence of more than one day: based on the "frequency index" of injuries that occurred at ERG Power's facility;
- **working days lost** due to injury: based on the "accident severity index" of injuries that occurred at ERG Power's facility;
- **safety tips** and near accident reports: according to the number of tips or reports compared to the hours worked at ERG Power's facility;
- **complaints received**: each of which reduced the overall points total.

Annual prizes will be awarded on the basis of the scores achieved by the contractors during the year, and individual prizes will be awarded to the contractors' staff for the best reports, regardless of their connection with the companies that have received awards.

### HSE PERFORMANCE OF SUPPLIERS AT ERG POWER'S FACILITY

Periodically, HSE-related departments carry out spot checks (according to the criticality/level of risk of the activity performed) to ensure that the suppliers that work at our facilities meet requirements, and to assess their performance, so as to:

- **verify** that their work is carried out in line with the information they provided for their qualification;
- **ensure** that such activities are managed in compliance with the requirements the Group has defined;
- **promote continual improvement** of the supplier's HSE performance;
- **stimulate** both the development and maintenance of the suppliers' culture of safety.

The criteria and methods used to assess the suppliers' HSE performance are defined in specific operational procedures and, therefore, are in line with the activities and the specific needs of the facility.

Taking into account the safety-related behaviour of each supplier, ERG Services' Procurement Department, in cooperation with operational departments, can suggest that the principals implement appropriate incentive and training policies in order to address possible shortcomings.

In the most serious cases, access to the facility can be forbidden for a certain amount of time; alternatively, the supplier can be removed from the "Vendor List".

Without prejudice to the above mentioned assessment, if a Group company identifies serious events, the HSE Organizational Units must promptly inform the Group's Procurement Department (and the Supervisory Committee), so it can duly analyse the matter and apply possible **sanctions**.

The analysis of contractors' performance is based on the results obtained according to 5 criteria:

- in-field HSE **checks**;
- the **Injury frequency index** (IFI) at ERG Power's facility;
- specific **Accidents severity index** (ASI) relating to ERG Power's facility;
- **HSE attention** rate (it indicates Supplier's

proactivity when receiving anomaly reports)

- other **objections** received (ex. traffic offences).

Data relating to the Suppliers' performance are periodically collected and inserted in a detailed report (containing all information about the single inspections performed) which is useful for both HSE organizational units and the Management.

Field surveys are conducted filling in a check list with general information (third-party company, plant, work permit details and the like) as well as 38 elementary items grouped into 11 categories.

To make sure that safety norms are respected, specific inspections are performed on scaffolding (because of specific HSE risks) by means of a check list with 24 characteristic items.



The **relevant information** used to assess ERG Power Generation's suppliers' safety behaviour is **extracted** from the data collected and duly **analysed**.

Taking into account the results of the previous year, the following **indicators** have been identified:

- number of injuries resulting in absence from work lasting at least one day (excluding the day when the accident occurred);
- number of working days lost due to the accident (excluding the day when the accident occurred);
- number of inspections performed;
- number of surveys with a "non-compliant" result;
- percentage of surveys with a "non-compliant" result out of all the surveys carried out;
- number of suggestions and reports on safety.

Every month, the trend of the above mentioned rates is reported, assessing whether the result is in line with the goals set forth both in the period and in the current year.

The rating scale used to assess suppliers' HSE performance is as follows:

Assessment	Minimum	Maximum
Lacking	0	70
Sufficient	71	90
Good	91	97
Excellent	98	100

Our overall results for 2015 show that **most** companies obtained a **good** (28%) or **excellent** (48%) rating.

During 2015 some "non-compliance" events were identified at three companies:

- two minor non-conformities were due to the injuries of two employees;
- a major non-conformity was due to the injury of an employee.

In each case, detailed surveys were conducted in order to find the causes of such events and to define effective corrective actions that could prevent similar situations from occurring again.

## SAFETY WALKS AND IN-FIELD HSE AUDITS

During the year, the HSE departments of the ERG Group companies and the corresponding site departments in the Power and Wind Energy sectors carried out numerous in-field checks to monitor the compliance of contractors with Health, Workplace Safety and Environment principles and regulations.

366

CHECKS AT  
ERG RENEW

127

CHECKS AT  
ERG POWER

## INVESTMENTS IN THE HIGH-VOLTAGE NETWORK

The ten-year investments program on the assets of ERG Power's 150 kV transmission system ended at the end of 2015. It was strongly backed by the Group to increase the efficiency, reliability and operational safety of the personnel.

The work focused, in particular, on the technological improvement of the electrical infrastructure used to distribute the energy produced by the plant and on the implementation of a management and remote control system.

One of the main goals, envisaged for 2015 by the equipment rejuvenation plan, is the replacement of both the switchgear and the measuring devices of the high voltage power line towers installed in the three power stations.

To deal with these works, investments were made to optimize their significant operational complexity, which reduced both the duration and the number of interventions performed on the Power Grid. This also helped to rationalize the fixed costs linked to maintenance procedures, thus further increasing safety levels.

The experience acquired over the years has shown that the choice we made was farsighted: performance indicators regarding both the continuity of the provision service and workers' safety have significantly improved.

Besides, the technological improvement of the hardware used, as well as the adoption of modern monitoring systems of the electricity infrastructure, have paved the way for the implementation of a new electrical configuration for the high-voltage transmission system that will allow to simultaneously:

- reduce the transport losses of the energy we produced, thus increasing the system efficiency;
- further increase the system's stability, thus ultimately contributing to the sustainability of the investments made.



# INDUSTRIAL RELATIONS: PRODUCTIVITY AND PARTICIPATION

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2015 has been a year of **great innovation** in the field of Industrial Relations.

Our Group has always considered collective relations with its people and with their **representatives** a fundamental intangible asset for business development. By using an Industrial Relations model based on **participation** and on **debate**, we have been able to support the profound transformation from being an "oil" company to being a "green" company, minimizing impacts on people and **leveraging the change to support the growth of our people**.

## Key indicators of Industrial Relations in 2015

Labour disputes	0 hours lost due to strikes
Sick leaves	2.2%
New disputes with personnel	none

Based on this data, in 2015 we initiated negotiations with the trade union representatives (RSU - Rappresentanze Sindacali Unitarie) at all of ERG's sites (Genoa, Rome and Siracusa) on **individual productivity** and the tools that can be put in place to provide people with new ideas and motivation to improve.

Clearly, sector-level collective bargaining uses productivity/participation bonuses for this purpose, that can be negotiated at company level taking into account the company's financial performance.

The Group-level participation bonus – mainly tied to the Group's "oil" part – had formally expired in 2012 and, as a result of the business transformation process underway, it had been jointly decided to postpone the negotiations until the consolidation of the new structure provided a clearer picture.

Having completed the organizational transformation process that we called "Fast Steering", ERG is now an Industrial Group based on two business units (Renewable and Power), service company that cuts across the Group and a Corporate Company with a strategic leadership role. **Each** of these organizational units has its own **specific mission** and its own business peculiarities.

Therefore, we have agreed on two goals:

1. **create a new system** that combines the sense of belonging to the same Group with the need for typical indicators for each business, to enable people to concretely feel their opportunity, as individuals and as members of a team, to contribute to the common success;
2. participate in the ongoing **process to restore the company's competitiveness**. The energy sector, in fact, is under strong market pressure that requires all operators to continuously improve internal efficiency in order to contribute to the development of Italy's system in general.

The word "productivity" therefore becomes more and more crucial in our business model and in the industrial relations system. The new variable bonus for all employees, defined by the company's agreements with the trade unions in September 2015, therefore takes the name of "productivity bonus" and no longer "participation bonus", to emphasize its purpose, aimed primarily at **creating value for shareholders and for the community** and – as a consequence and not as background – to let the people who helped create it, benefit from it.

Another important innovation is related to its **total variability**. Compared to previous bonuses – that however maintained a fixed quota not tied to business outcomes – the new type can drop to zero if the results do not make it economically viable.

The fact that people of ERG have accepted this challenge through their representatives is the confirmation of their sense of **identification** and **positivity** towards the future. In return, the variable range was expanded upwards, i.e. the potential for gain, which rose from 120% to 150%. In practice, ERG's people accept greater risk but also have the opportunity to earn much more through the **improvement of indicators** whose variability is **under their control**, both as individuals and as a team.

The productivity bonus for employees is valid for the 2015-2017 period and will play a key role in making all our people feel part of a single group, where everyone – regardless of their organizational role – can contribute concretely to corporate development and be a protagonist of a unique industrial adventure of primary importance for the Country.

## ERG AND PEOPLE

"People are key to the existence, development and success of every business; ERG therefore pays particular attention to promoting, protecting and developing the abilities and skills of all its employees, so that they can realise their full potential and professionalism and, as a result, contribute to reaching the Group's objectives in accordance with the commitments to social and environmental responsibility established by the management.

ERG offers equal working opportunities to all, on the basis of individual professional profiles and potential performance levels, without any discrimination, condemning all harmful behaviour against individuals and pledging to adopt the most suitable supervisory measures to this end.

For this reason ERG, in accordance with all laws, regulations and company policies in force, pledges to:

- select, hire, pay, train and assess people according to merit and professional expertise, without any political, trade union, religious, racial, language or sexual discrimination;
- [...].

(ERG Group Code of Ethics)

# ERG GROUP: PEOPLE AND ORGANIZATION

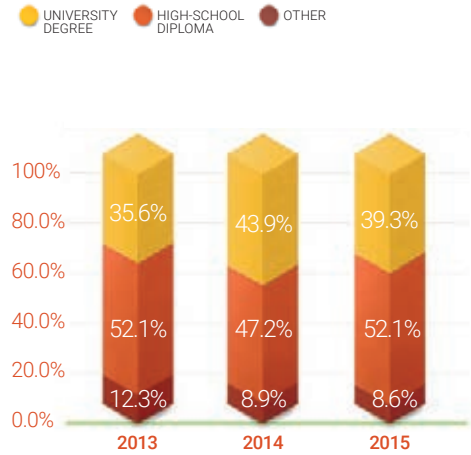
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## CHANGES IN POSITION



## EDUCATION

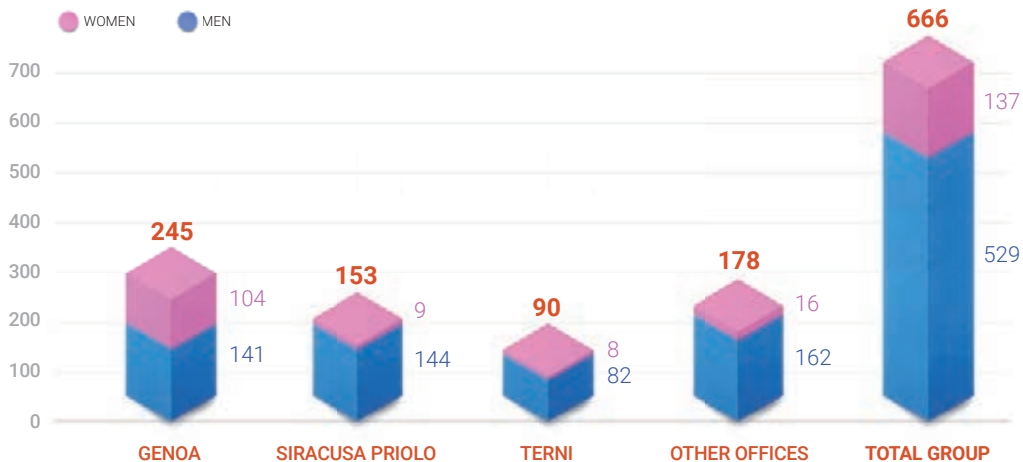




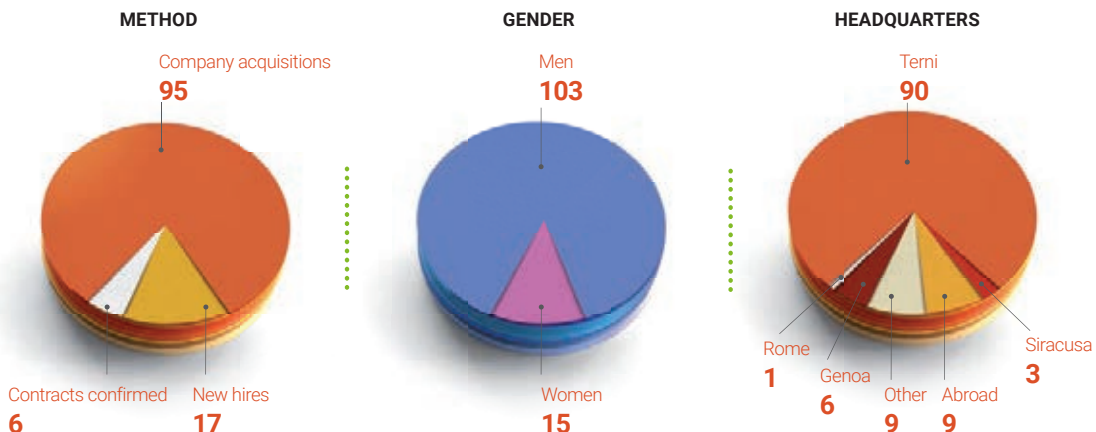
## ROLES BY AGE AND GENDER



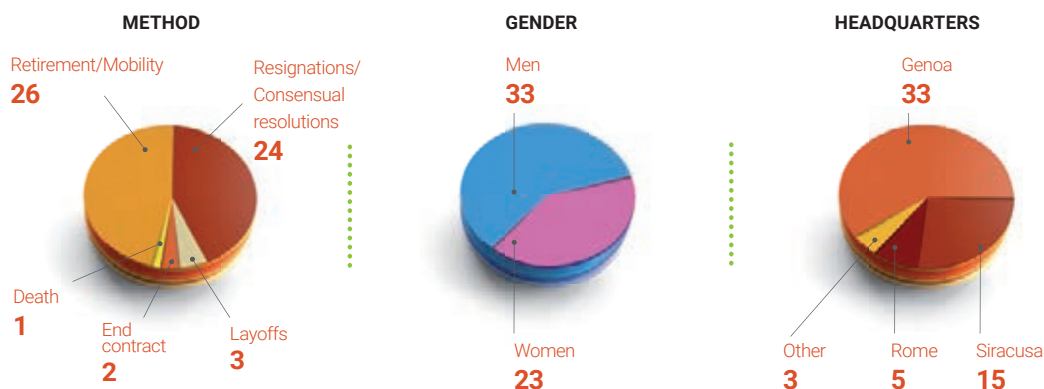
## GENDER BY SITE



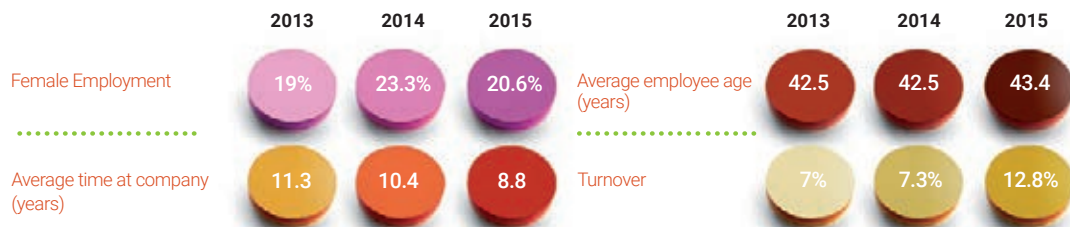
## INBOUND TURNOVER: 118 PEOPLE



## OUTBOUND TURNOVER: 56 PEOPLE



## OTHER INDICATORS



\* The data relating to turnover do not take into account employees that joined/left the Group following company acquisitions/sales: this is in order to present the actual change in the workforce that took place during the year.

## HUMAN CAPITAL AND REWARDING

**All our People** are employed under national labour agreements for the category (Energy and Oil, Electricity, Tertiary commerce distribution and services, Private Metalworking and Mechanical Engineering, Tertiary Distribution and Services, Executives of companies producing goods and services), which ensure contractual and pay-related standards that are in line with national and international labour regulations.

**Workers who are employed temporarily** on supply contracts are also guaranteed the **same economic treatment** (and benefits) provided for by contracts applied to employees on permanent contracts, **which also includes a productivity bonus**. Monitoring of the compensation structure versus contracts is constant: for 2015 the minimum wages paid were higher on average by 8% compared to the amounts applied by the National Collective Labour Agreement.

### MINIMUM WAGE COMPARISON BY ROLE

Position	Minimum National Collective Labour Agreement salary	Minimum company salary	Average company salary
Middle managers	100	109%	141%
Administrative staff	100	107%	159%
Workers	100	112%	121%

### COMPARING MINIMUM WAGE BY ROLE (Euro)

Position	Minimum National Collective Labour Agreement salary	Minimum company salary	Average company salary
Manager	45,900	67,677	77,296
Professional	43,362	47,380	60,741
Specialist white collar	26,982	28,975	42,986
Specialist blue collar	30,092	33,570	36,390

In defining our **remuneration policy**, one of our priorities is the **protection of gender equality**: the analysis carried out throughout the year highlighted that average pay levels for women are 3% lower than those of men. The main reason for this is the men to women ratio for each category.

76% of professional figure are men, mainly in middle management positions, whilst women (24%) in the same category are in high-level professional roles. Women account for 31% of specialists.

Sector-level collective bargaining uses productivity/participation bonuses to

AVERAGE ANNUAL EARNINGS BY GENDER/ROLE(EURO)

Position	Women	Men	% Difference
Managers	130,215	133,951	-3%
Middle managers	60,165	61,752	-3%
Administrative staff	40,865	41,996	-3%

AVERAGE ANNUAL SALARIES BY GENDER/ROLE (Euro)

Position	Women	Men	% Difference
Professional	60,165	61,247	-2%
Specialist	40,865	42,055	-3%

Average gross salary net of company productivity bonus.

motivate employees to create value in terms of sustainability of the business.

For this reason we revised both the base values and the baseline indicators. The newly agreed **productivity bonus** – valid for the 2015/2017 period – is designed so that that people have new ideas and motivation to improve, and applies to all **non-managerial staff** and is based on

**profitability** and **productivity** indicators, with a target value that represents an average 4.4% of the annual contract.

Profitability indicators are represented by:

- the EBITDA of the business unit of the employee belongs to;
- Group EBITDA for staff.

Productivity indicators are linked to the specific parameters of each business.



## WELFARE AND COMPANY INITIATIVES FOR THE INTERNAL COMMUNITY

Overall, our welfare services follow three general guidelines:

- the **working environment** (e.g. flexible working hours, training for individual development and cultural growth, celebration events);
- **health care** and related information and prevention campaigns;
- **leisure** (corporate CRAL social organizations and family days).

Integrative **health care** is offered both through participating in contractual

funds and by specific Group initiatives. A medical office is always present at all our main locations so that, during working hours, all employees can access health and medical specialists.

In these structures, besides first aid activities, counselling is provided on health problems unrelated to work, and health checks are carried out for workers exposed to specific risks.

The medical offices also support health promotion campaigns that are developed according to local programs, and promote prevention.

## SUPPLEMENTAL HEALTH BENEFITS

	NCLA	% participation
Phases	Industrial Managers	95%
Fasie	Energy and Oil	73%
Fopen	Electric	99%
Quas/Fondo Est	Commercial	100%
Metasalute	Metalworking and Mechanical Engineering	1%
<b>Weighted average</b>		<b>62%</b>

## PREVENTIVE HEALTHCARE PLANS

In 2015, in addition to the usual possibility of receiving free influenza vaccinations, we have added 3 voluntary-participation employee Health Projects:

- the Secondary Tumour Prevention Programme which gives all women over the age of 40 and all men over the age of 50 the chance to have ultra-sound scans to identify the most frequent forms of cancer, such as breast cancer and prostate cancer;
- the URO Programme - reserved for employees at the Priolo site - which aims to monitor urinary tract diseases over a two-year period;
- the CUTE Project - also reserved for employees at the Priolo site - which aims to raise awareness and monitor the population with regards to the risk of melanoma.

# PAY FOR PERFORMANCE

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The incentive system is designed to attract, retain and motivate highly qualified managers and consists of two parts:

- **a fixed part** which is sufficient to compensate the service if the variable part is not paid due to failure to achieve the performance objectives;
- **a variable part**, as an incentive to achieve non-routine objectives.

The variable portion is divided into two distinct incentive systems:

- **MBO (Management By Objectives)**, which aims at reaching predetermined economic/financial and strategic goals, related to creating value in the short term;
- **LTI (Long Term Incentives)**, tied to the achievement of specific performance objectives, announced and determined, related to creating value in the medium to long term.

This scheme aims at **enhancing the skills** of its beneficiaries, **in accordance with the contribution** required by the role assigned to them; the balance between its fixed and variable components, in particular, aligns the interests of the managers with the company's medium to long term strategic objectives and with sustainable value creation, in compliance with the Group's risk management policy.

Relative to its total target remuneration, the weight of the **fixed part** ranges from 50% and 60%, while the annual **variable component** (MBO) is from 15% to 35% and that of the **medium/long term** (LTI) variable component – in annualized terms– is from 25% to 30%.



*Composition of the total target compensation target for Management.*

## THE MBO SYSTEM

The MBO system aims to encourage participants to achieve the **annual targets defined in accordance with the Business Plan**.

The system includes attributing to participants some performance targets structured as follows:

- **a Group-level goal that is the same for everyone**, and that is 30% of the amount of the incentive, measured by the "consolidated income before IAS tax at current adjusted values" indicator;
- **additional individual goals** (up to three) related to the role, for 70% of the amount of the incentive, measured on the basis of quantitative indicators related to economic and/or project related parameters. A weight and relative share of total monetary incentive is associated with each goal.

The amount paid for outstanding performance cannot exceed a predetermined cap, which is 150% of the target value for the business objective and 120% of the target value for individual goals.

If minimum performance is not reached – 80% of the target value for individual goals and 50% of the target value for the corporate objective – no bonus is paid. Consistently with the high level of attention the Group has always paid to workers'

safety, it has been defined that if an injury occurs that results in the death of an employee or a permanent disability equal or greater than 46%, the **bonus** will not be paid to employees of that business unit.

Type	Definition	Target incentive allocation	Objective achievement level	Incentive paid
Business objective	Consolidated income before IAS tax at current adjusted values	30%	< Threshold Indicator	0% target value
			= Threshold Indicator	50% target value
			=> Outstanding Indicator	150% target value
Individual goal	Individual business-related and differentiated goals for each beneficiary, depending on the functions and responsibilities	70%	< Threshold Indicator	0% target value
			= Threshold Indicator	80% target value
			=> Outstanding Indicator	120% target value

### LONG-TERM INCENTIVE SYSTEM (2015-2017)

During 2015 we introduced a new long-term incentive plan for the CEO and top managers.

The system, which includes **clear retention objectives**, is designed in particular to:

- **encourage** recipients to support improving value creation performance for the Group and for its operating companies;
- **empower them** effectively on the organizational levers in play by modulating the EVA performance index depending on their organizational role (corporate resource or business asset);
- **increase** their will to achieve – and

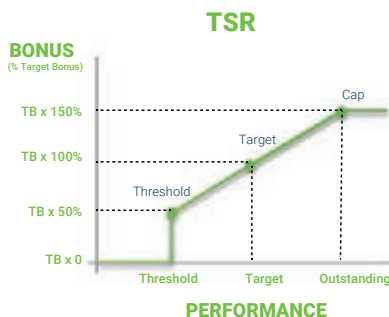
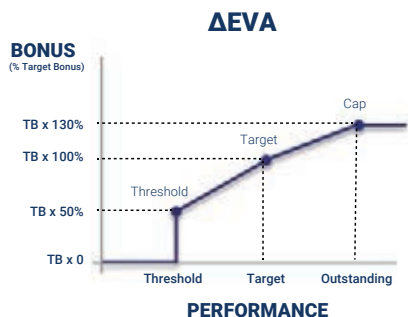
possibly to exceed– the value creation objectives laid down for the 2015-2017 period;

- **focus** their attention on the ability to propose and implement investment projects that foster the growth of the company's market value; all resources are also incentivized, in different ways, based on the TSR (Total Shareholder Return) parameter;
- **retain** the employees that are deemed critical to improve the Group's performance.

The target performance indices are differentiated depending on the role of the beneficiary in the Group, in relation to the scenario in the 2015-2018 Business Plan.



## THE INCENTIVE STRATEGY: LINK BETWEEN PERFORMANCE/BONUS

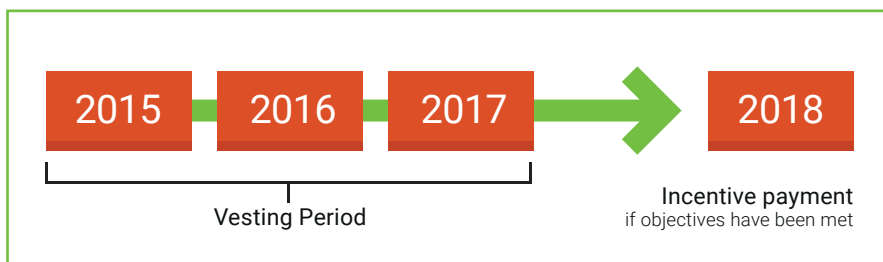


The amount paid:

- cannot exceed a predetermined cap if outstanding performance is achieved;
- is not paid if the employee fails to meet

minimum performance requirements;

- if it reached maturity, it will be fully liquidated at the end of the "Vesting Period".



## EVA AND TSR

The Economic Value Added of the ERG Group is a performance target that represents the "residual" economic value after having paid all production-related factors, including the cost of the capital used. It expresses, therefore, an income net of the cost of capital. EVA considers the asset and financial components alongside the income.

Total Shareholder Return is a performance objective linked to ERG's share price in the three-year reference period and the amount of dividends per share paid during the same period.

## THE “ROI” OF HUMAN CAPITAL

One of the best definitions of “Human Capital” is that provided by the OECD (Organization for Economic Cooperation and Development), which identifies it as “the knowledge, skills, and competencies and attributes of individuals that facilitate the creation of personal, social and economic well-being”.

In recent years the Group has developed a particular sensitivity to this issue. We have changed the words and concepts used within our Organization, moving from the idea of “Human Resources” to that of “Human Capital”: a substantial difference that lies mainly in consideration that a “resource” is “used”, while “capital” is “corporate wealth” since it is an asset that is not only made up only of the technical-economic component but also – if not predominantly – of the “human” component. To develop these concepts in practice and find a way to **measure the “value of human capital”**, we have created



tools for our Management (the initial focus was “give the People Managers a key tool to achieve the objectives of the plan”) and, more generally, for all the people in the Group: Organizational manuals, that help to understand what skills are actually needed to carry out one’s role within the individual’s operational context.

The **Organizational Manual** (of which the revised and updated versions are published 3/4 times per year) describes each **role** that has been defined by the Organization, how to carry out its activities and the **skills necessary** to fulfil it completely measuring its intensity as a “rating” based on a scale from 1 to 5 (where 1 is the lowest and 5 is the highest).



The Organizational Manual has been developed with reference to each of the Group's Organizational Units (for Corporate, for the Renewables Business Units and Power, and for ERG Services), according to an identical and consistent conceptual structure based on:

- the **specific organizational set-up** of each organizational unit, as regards the identification of the roles covered;
- a list of **unified and transversal skills** at Group level (the "skills catalogue"), identified by Human Capital in cooperation with the operating lines.

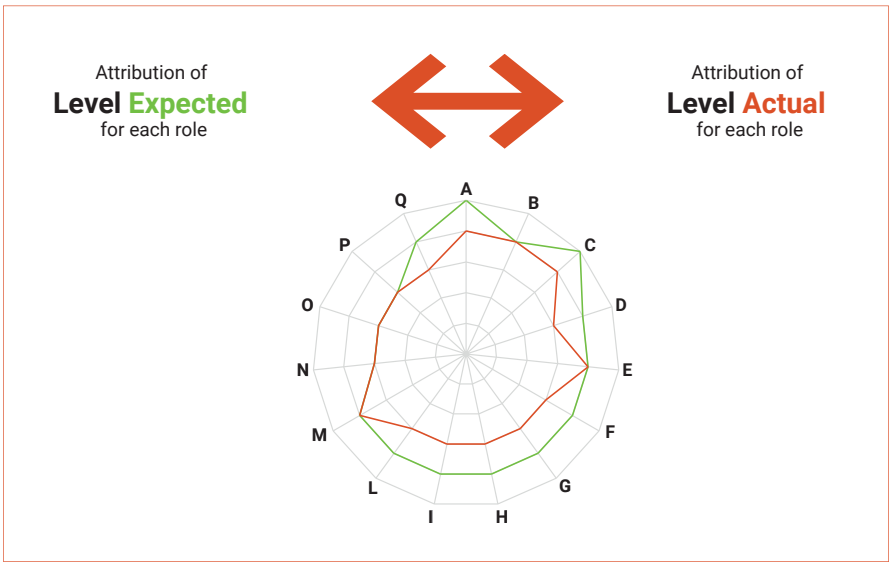
The next and equally important step towards measuring the value of our "Human Capital" was to identify the organizational areas found to be deficient of the skills needed to adequately cover the assigned responsibilities in order to understand how and where measures are most needed.

We then developed an internal tool to

perform a Skill GAP Analysis consistent with the profile of skills identified in the Organizational Manual. The process involved the entire Group through a process of **"internal assessment"**, mainly done with the collaboration of the first and second lines reporting to top management. The main objective was to **compare** the level of expertise **"expected"** for each role from the **"real"** level assessed for people in different roles.

The result is a set of information that "speaks" a common (in terms of method and content) and objective (via an internal verification process on the goodness of the evaluations provided) language, concerning the status of coverage of roles in the Group's various organizational units, with the ability to **analyse the situation at the level of the individual person/role** or by gradually aggregating the data up to the overall Group level.

Jointly, the database that we have put



together and the methodology we have developed form an **effective tool** that can help the "management" of "Human Capital" take a significant step forward, allowing us to express its value concisely and in numerical terms at any given time.

We have called it our HCC index, for Human Capital Coverage and in 2015 we measured it for our entire organization, obtaining the following indices:

94%	Corporate
95%	Renewables
76%	Power
74%	ERG Services
<b>84%</b>	<b>ERG Group</b>

By **comparing the profiles** of our people with those of the **roles defined** in the organizational set-up, HCC represents the cement within the "Human Capital" processes oriented towards the optimization and organizational efficiency/effectiveness: **it provides a SWOT analysis of each area**, useful for strategically planning manpower and it helps us within the **internal mobility, training**, and career **paths** to **allocate resources** according to

the level of "fit" between profiles and roles, and in the field of recruitment by helping us to understand the expected profiles, as a tool to select the best candidates.

Since HCC has an objective basis, it can express the return on human capital investment as a numerical value (considering it as the labour cost in a given year), according to the following formula:

$$\frac{\text{Actual Profile}}{\text{Expected Profile}} \times \text{Cost of the Labour} = \text{HC ROI}$$

Presented to all the Group's top management and included as a qualifying element of the 2015-2018 strategic plan, HCC is an extremely useful and innovative human capital assessment tool, to date unprecedented in the field of methodologies for managing and developing personnel and organizations. Therefore, we also considered it appropriate to register its trademark (in classes 9, 35 and 42) at the Italian Trademark and Patent Office ([www.uibm.gov.it](http://www UIBM gov it)).

#### KPIs OF THE PROCESS FOR DEFINING THE "ROI"

# 600

EMPLOYEES  
ASSESSED

# 91%

COMPANY  
EMPLOYEES

# 365

COMPETENCIES  
IDENTIFIED

# 147

ROLES  
DEFINED

# RECRUITING POLICIES

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Based on the strength of our values and our history, we believe that the **Company** is – more than a set of gears with perfectly defined tasks in a machine – **a living system** in which individual talents interact in a stimulating environment, that can be “used” and developed to generate value and innovation.

ERG’s “Human Capital” is therefore based on our talents, on our skills, and on our relationships. It is no coincidence that, for almost 80 years, **respect** and **appreciation** of people have been part of ERG’s culture.

At this stage of our history we are committed to extending our boundaries, enlarging our scope of action with resourcefulness and courage to turn our vision of the future into reality.

For all these reasons we know that whenever we decide to have someone come on board – as happened in 2015 – we are making **an investment** that goes far beyond the cost of the hiring and remuneration of the new employees.

To get in touch with people who can provide a valuable contribution both in handling ERG’s existing business and in the businesses it will develop in the future, we have implemented many changes in the way we “recruit”.

Our process to “Acquire” new people is divided into 3 phases:

- sourcing;
- recruiting;
- onboarding.

## Sourcing

Get in touch and create interest in people who can develop the company

- New candidates database (ATS – Application Tracking System)
- Update of the “Working at ERG” area on our website

## Recruiting

Identifying the people most in line with the expectations of the current role and who are capable of growing with the company.

- New partnerships with head hunters of our new countries
- Thomson International’s PPA Questionnaire
- Publication of job openings
- Web based tool to manage the entire process (ATS) in the [www.erg.eu](http://www.erg.eu) website

## Onboarding

Join the team better and faster.

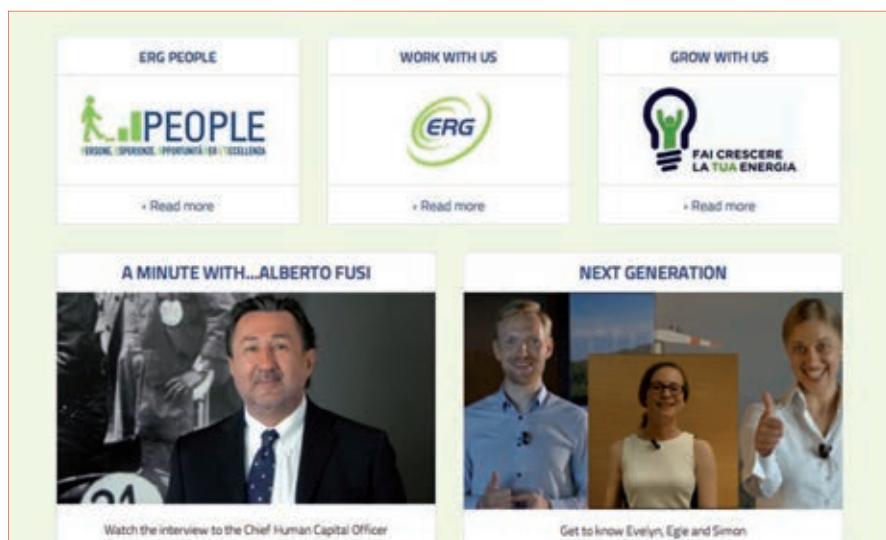
- Definition of how to integrate new colleagues

A fundamental channel to **receive nominations** and **express the identity** of ERG is our institutional site [www.erg.eu](http://www.erg.eu), the new release of which includes:

- more information about ERG's approach to people, also thanks to the many colleagues who have told their own experiences;
- posting of **open positions** with job descriptions, requirements, descriptions

from the people currently in that position to explain what it means to "do that particular job" at ERG;

- a **direct link** to our database, to be automatically updated as soon a new vacancy surfaces (Job Alert);
- the description of our selection process and tips on how to best prepare for an interview with us.



## ERG AND THE UNIVERSAL DECLARATION OF HUMAN RIGHTS

The recognition of Human Rights is considered by the Group to be one of the fundamental bases for conducting business to the point that reference is made to the principles of the 1948 Universal Human Rights Declaration in the Normative References the new edition of the Code of Ethics approved in May 2014.

The Company has analysed the issue in its business and economic influence environment: we believe that the issue of human rights is not currently a concern.

We have also set up a new **Application Tracking System**, a tool to manage the entire recruiting process.

From the **applicant's** point of view, this is a database accessed on the website which can be used to **apply for open positions**, send spontaneous applications, and update CVs. The applicant's profile can be **automatically populated** using the information already on LinkedIn, using a special button. In addition, the applicant can report referrers within the company that can support the validity of their applications and confirm certain skills and compatibility with ERG's values and behaviours.

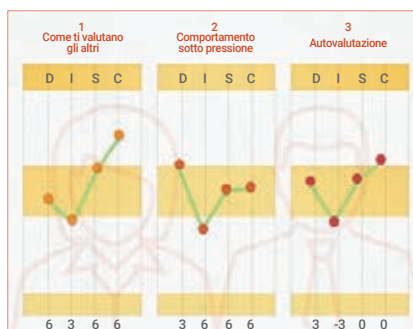
From the point of view of **"Human Capital"**, it is not just a database, but also a tool that can **compare applications** and cultivate relationships with particularly interesting profiles.

We want to have reliable elements on which to base our choices and, depending on the characteristics of the open position, we use a number of tools (aptitude test, test of language skills, solutions of cases, group dynamics...) to identify the applications that best match from the point of view of technical and managerial skills. We are looking for people who can fit in well with our values and our culture, to help us grow.

The behavioural questionnaires cast light on an applicant's behavioural style in work situations. They can be filled out online or on paper.

The PPA by Thomas International, for example, is a common behavioural

questionnaire, which can be administered in 42 languages and managed remotely. In particular, it can predict workplace behaviour and identify its main reasons. We started using it in 2015, commenting it with candidates during interviews.



**Pre-employment testing:** these are tests that assess logical and verbal skills, and numerical and spatial reasoning. They consist of a set of multiple response questions that must be answered in a limited time span.

The score is calculated by comparing the number of items that the candidate has answered correctly with the average given by a sample of people (to which the test was administered) with the same characteristics as to age, sex and educational level. The score can be therefore lower than, equal to, or better than average.

**Group dynamics:** to assess the ability to work as a team and some skills such as:

- leadership;
- independence;
- flexibility;
- creativity;
- result orientation.



They are used by recruiters to observe how candidates interact, collaborate or compete, and solve problems to achieve a specific goal. The findings complement the results obtained in aptitude tests, behavioural questionnaires and in the individual interviews.

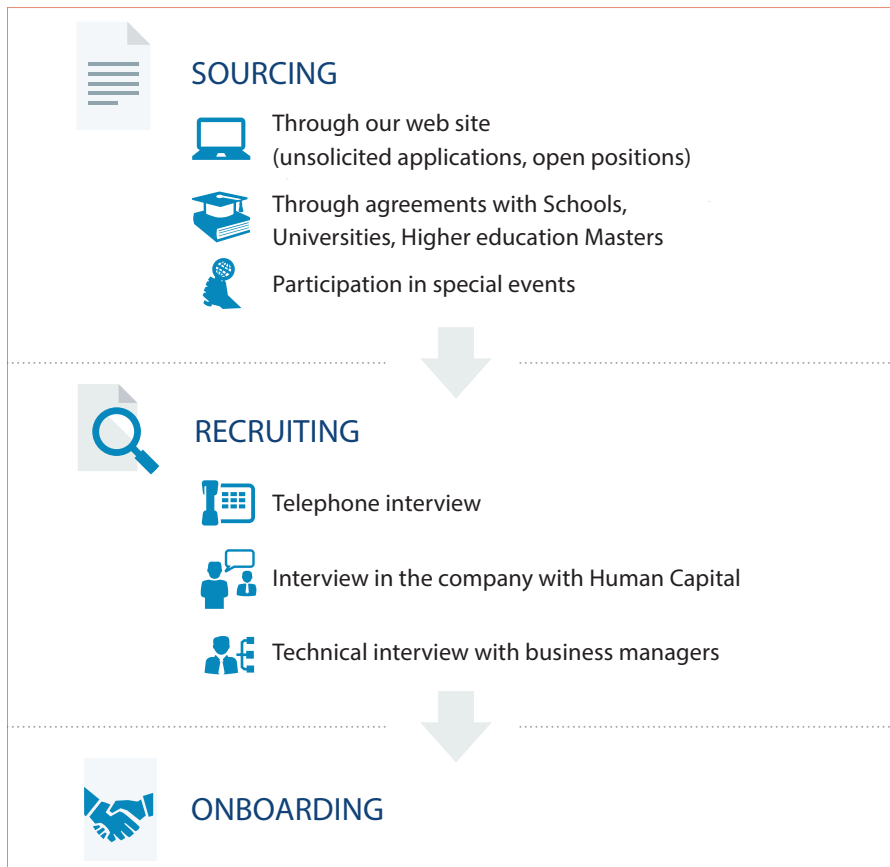
**Solutions of cases:** tests specifically used to assess technical expertise.

### Onboarding

We have planned initiatives that reduce the time a new employee takes to fit into the company and to help the individual

and team to achieve the expected performance better and faster: it includes **professional induction plans**, tests and specific coaching with the new employee's manager, i.e. a technical tutor.

Each "individual" new hire is helped by a custom induction plan to explain the Group's educational and personal development systems. To handle new employees coming from **acquisitions**, we set up **detailed plans** to integrate new colleagues in the best possible way, focusing not only on mutual knowledge and on the redefinition of the processes, but also on **ERG's common values**.



## YOU LEARN: “BOOST YOUR ENERGY”

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ERG considers self-awareness and awareness of one's skills, motivations and talents and of values that characterize each, the first step to start a personal-professional development project.

Over time we have built a **set of processes and tools** aimed at **achieving strategic objectives** and, at the same time, managing and encouraging **optimal growth for our people**:

- Performance Management;
- Evaluation of potential;
- Managerial Feedback;
- “Grow your energy” – Executive training programs.

These processes, together with our People portal, help everyone to raise their awareness and share information with his or her supervisor and with Human Capital.

Our approach to **Talent Management** implies that every year all of our people are invited to design their own training. Managerial behaviour is required of all employees: employees must know how to manage themselves and their personal resources for their results to create value.

ERG has therefore defined **27 training paths** that besides seminars, also include reading, activities on-the-job, watching movies and other experiences that can

### THE YOU LEARN MODEL

- The person at the centre, aware of the role he/she wants to have in the company
- The people manager also has a **coach** role
- Recognize and develop one's **talent**
- HRBP is the guarantor and **sponsor** of training
- Management training as an **integration** tool



**BOOST YOUR ENERGY**

help the person make the quantum leap written in the plan made at the beginning of the year.

Our paths act on 4 areas:

- self-efficacy;
- leadership;
- Innovation;
- team.

In our opinion the training is effective when "something changes" after attending a seminar, therefore every training path ends with an action plan that includes planning changes to be implemented in everyday life.

To **measure our effectiveness** on the topic, we don't just hand out the classical satisfaction questionnaires, but also organize initiatives to follow up on actions taken. People were able to take advantage of the support of the teacher, of a tutor

and/or of colleagues to make their own action plans, strengthening their personal growth and often contributing to improving their operational performance.

**Training** is also **one of the levers** the Group has **to prepare for the challenges of tomorrow**. In 2015, for this purpose, we set up a training program focused on using remote collaboration technologies. It's not just a matter of cultural differences due to belonging to different companies. Working for multiple locations, even in different countries, is becoming the norm for a growing number of people. New technologies, in particular, require not only the ability to choose which one to use among the various possibilities the company has access to, but also the adoption of new behaviours and attitudes, which are becoming part of the corporate culture through specific training sessions.

#### TRAINING AT ERG GROUP FOR 2015

3,448	5.7	342
WORKING DAYS OF TRAINING PROVIDED	MAN DAYS INDEX OF AVERAGE TRAINING	MANAGEMENT TRAINING PROGRAM PARTICIPANTS
4.61*	4.54*	4.51*
ASSESSMENT OF THE TEACHER	ASSESSMENT OF THE QUALITY OF THE SEMINARS	ASSESSMENT OF THE USEFULNESS OF THE SEMINARS

\*Assessment scale from 1 to 5

# INTERNAL COMMUNICATIONS IN THE NAME OF INTEGRATION

127

In 2015, we concluded the transformation process which led ERG to reach a leading position among players in the field of renewables.

This change is a significant **cultural leap** not only for people with a relevant **"corporate seniority"** – which are called to reinterpret their role within the company – but also for those who have joined the Group more recently and that have had to set up relationships with new people and cultures.

Internal communication has fostered understanding, process sharing and integration by implementing multiple activities, while fully respecting ERG's identity and fundamental values.

## PEOPLE SATISFACTION SURVEY

The transformation process did not concern only the business model, but it also led to consequences within the organization that affected the content of activities, our structure, our culture and also our reference values.

Also, in recent years, the Group's demographic component has profoundly changed, due to the arrival of **people from different companies and countries**.

These are factors that should make us stop and think: how do these changes affect ERG's people, today? What level of satisfaction was felt with respect to the transformation that was implemented?

How much of it was actually understood and how much do we feel involved and responsible for going ahead with it? What is the level of trust in the new business and in the ERG brand?

To obtain their answers to these questions, between October and November 2015, we conducted a "People Satisfaction Survey" involving all Group companies.

## The survey

People's satisfaction was measured in 9 macro areas:

1. the company/person relationship;
2. professional growth;
3. the commitment to social responsibility;
4. the operation of the organization;
5. the sense of belonging;
6. the working environment;
7. change;
8. the workgroup;
9. the relationship with the boss.

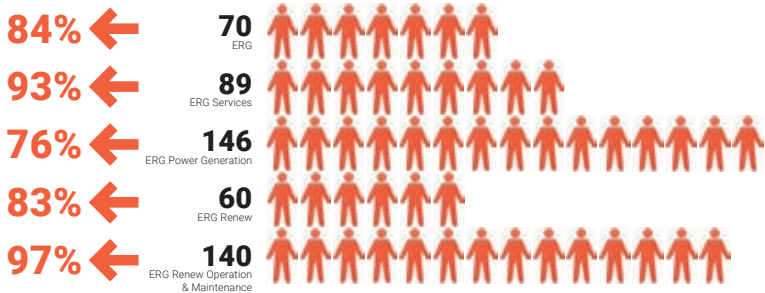
The survey, that was carried out by means of an **anonymous questionnaire** made available to all employees by means an external link sent by email, was welcomed positively:

9 of our people out of 10 turned in the questionnaire.

## The values

Notwithstanding the change that has characterized our past few years, there are still some solid points of reference, as shown by the answers to questions about the

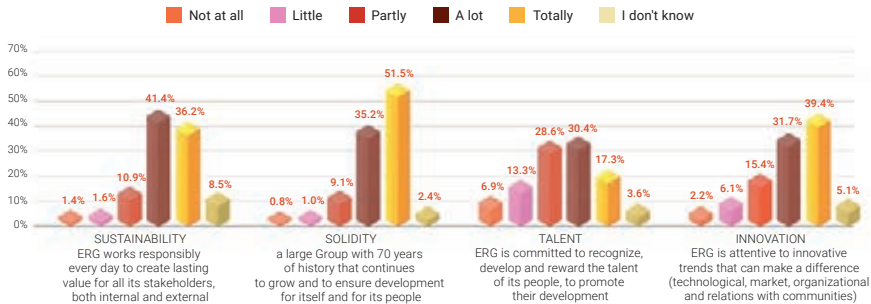
PARTICIPANTS BY COMPANY



values that distinguish ERG and its people. Two in particular: one on the perception of values at ERG and the other on how people

recognize these values. For at least three of the proposed values on these issues there was a substantial overlap.

THE PERCEIVED VALUES

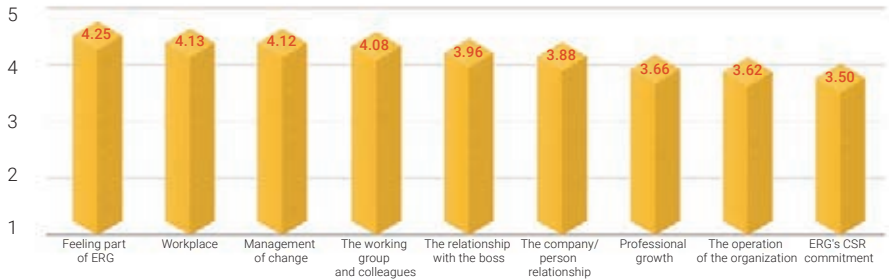


The macro-factors: satisfaction

The satisfaction of ERG's people, overall, rates at **medium-high values - over 4** (on a scale between 1 and 5) for most macro-factors: **sense of belonging, working**

**environment, change management** and the **working group** appear to be the elements that give the greatest satisfaction.

MACRO-FACTORS VALUES



### Action areas

The issues which defined areas for improvement were, in particular, four:

- **relationship with the boss:** relationships with bosses are generally good, but we note a need for more feedback;
- **professional growth:** in a company undergoing great change, access to career paths appears essential;
- the **operation of the organization:** the great organizational change has been metabolised by people in an optimal way, but processes are still affected by of a certain lack of fluidity; the trend towards "bureaucracy" is still a factor that requires attention;
- the **internal sharing of CSR activities:**

the initiatives carried out must be promoted and disseminated better within the Group.

### Conclusions

ERG's people have **lived the change in a participatory and proactive manner**; to overcome the "discomfort" arising from being constantly called to act out of their "comfort zone", they are asking the company to implement different organizational behaviours that support them accepting challenges, innovating, taking responsibility and getting involved. These are important considerations, which will be the topic of "targeted returns" in the upcoming business meetings during 2016.

## NEXT GENERATION

In 2014 we activated a new training and development path to anticipate the needs that the development of our business beyond the Italian borders was expected to bring with it: the Next Generation project.

We decided to bring into ERG three young graduates with international life and study experience, with very broad minds, very capable of integrating people and information, and a strong desire to become "ambassadors of ERG's culture in the world".

For them, we decided to set up a two-year training course initially made up of bimonthly projects in several of the Group's key areas: Operation of Power Generation, Construction, Asset Management Italy and Abroad of ERG Renew, Maintenance of EROM and Energy Management.

This will be followed by a second phase that will shift the focus from Assets - and from the Economics associated with them - to a phase of "orientation" focused on the Group's new challenges: Energy Management, Institutional Affairs and the integration of CSO France. The goal is to not to "build" area specialists as is normally the case for most junior profiles, but rather leaders across the board, capable of integrating processes and people according to the ERG-style.

## COMMUNICATION WITHIN ERG

Sharing information is a key aspect in the way business is managed today, and it will be in the future.

That is why our approach to communication is based on benchmarks such as transparency, quality and timeliness in order to:

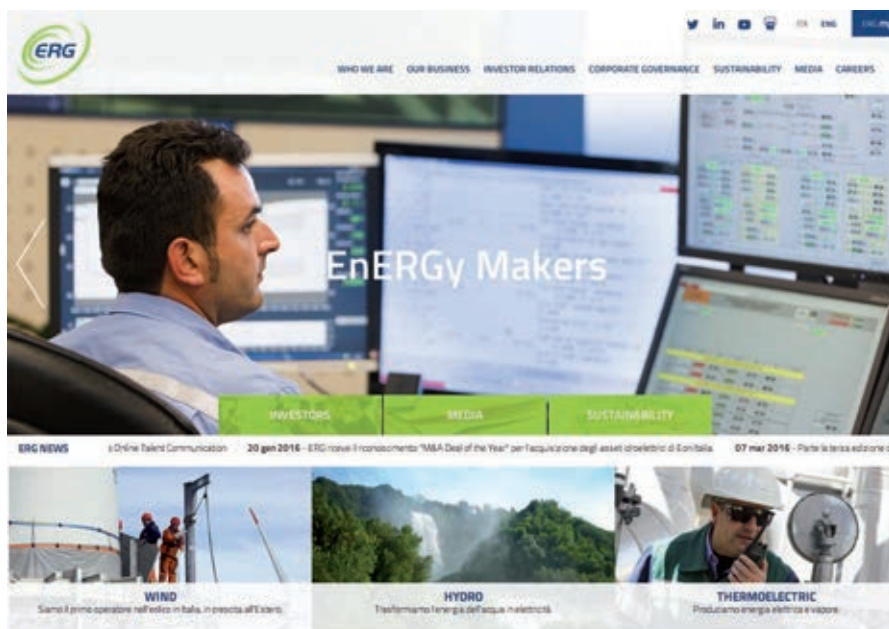
- build reliable and long-lasting **relationships** with our internal and external stakeholders;
- **keep discussion with them** alive, proactive and two-way;
- **strengthen** the Group's **reputation and identity**.

There are three main channels through which we tell the "story" of everything that is going on in the ERG world:

- the **corporate website**, addressed primarily to the public, the media, investors and potential prospect colleagues;
- **social media**;
- the **intranet site** that – on multiple levels – informs employees about the Group's news, involves them with internal events and sports/recreational initiatives and updates them on the use of knowledge sharing and collaboration tools that are available.

### THE CORPORATE WEBSITE

In 2014 we started the complete renovation of our institutional website, with an emphasis on the visual aspect of providing information: a constantly changing work in progress that aims to provide timely





information in a dynamic and engaging manner, keeping an eye on the trends and best practices at European level.

During 2015 – referring to one of the strategic pillars of our communication, “People at the centre” – we focused on the content of the “Working at ERG” section.

This is a subject area that, by its very nature, lends itself well to customized communication: in addition to being enriched with infographics, videos and pictures, it now also includes **many eyewitness accounts** of people who work at ERG every day.

A small “revolution” which saw a tightly-knit and fruitful collaboration between

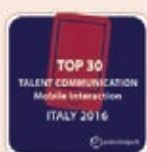
the Human Capital and Communication department.

The section has been restructured into three areas.

1. **ERG People** – Focused on the people of ERG, on corporate life and interviews with our managers engaged in conferences and events, it highlights the point of view of its protagonists, through their personal and professional stories.
2. **Careers** – the most important novelty is the integration within the site of the new platform for sending CVs. This **feature** not only allows the visitor to activate an alert service when a new job opening is posted, but, above all, it allows

## ONLINE TALENT COMMUNICATION

Potentialpark, a Swedish company specialized in Employer Branding oriented to young talent, published the results of its annual ranking: ERG is among the top 20 Italian companies. Our online communication (our Careers website, the mobile interaction with applicants, our application tracking system and social media presence) were examined under 347 criteria by 5,023 young Italian talents. In the ranking, in which Accenture took the top step of the podium, ERG ranked in 14th place (+65 compared to 2014). It is an achievement which we are very proud of. And we are proud that it is a collaborative effort between Human Capital, Communication and many colleagues who have told the story of their training experiences, their job rotation and growth setting ERG apart, among the companies in the ranking. In addition to the 14th place in overall standings, ERG was 11th in “Mobile Talent Interaction” and 18th in the “Career Website” rankings.



users to **automatically populate** their profile using the information already on LinkedIn, simplifying and speeding up the completion of the form. Open positions include the job description and an interview with a person who occupies a role similar to that sought, so as to explain the experience and describe the skills needed to live their work adventure in ERG with the right spirit and in accordance with the Group's values.

Another important section of the "Careers" area is the part dedicated to the **recruitment process and tools**, together with useful tips to write a good CV and to prepare for the interview. The page on opportunities for students and recent graduates also has video interviews that tell about the "Next Generation" project, a year after its launch, through the words of its protagonists.

3. **Grow with us** – In this area we delved into the issues of training, telling about our "People" project, with infographics that illustrate its numbers and topics. The experiences of our Education Ambassadors are particularly interesting. Regardless of their role and position in the company, they offer their excitement and their time to help colleagues prepare their individual growth plan, creating a "communication bridge" between Human Capital and ERG's people.

Another page of the site that is especially interesting is the one on **job mobility**: the Group offers the possibility of identifying the most motivating organizational

positions, in line with the **desire for growth** and accepting new challenges.

In an interview on this page, two colleagues describe their new working adventure, which they dealt with passion.

We're growing **beyond the borders of Italy** and ERG promotes international mobility to support new businesses with people who have grown inside the company, to enable them to live important personal and professional experiences: soon we will interview colleagues who have taken this exciting journey in Europe.

ERG Group's evolution always involves new challenges and content to tell about, in communication as well.

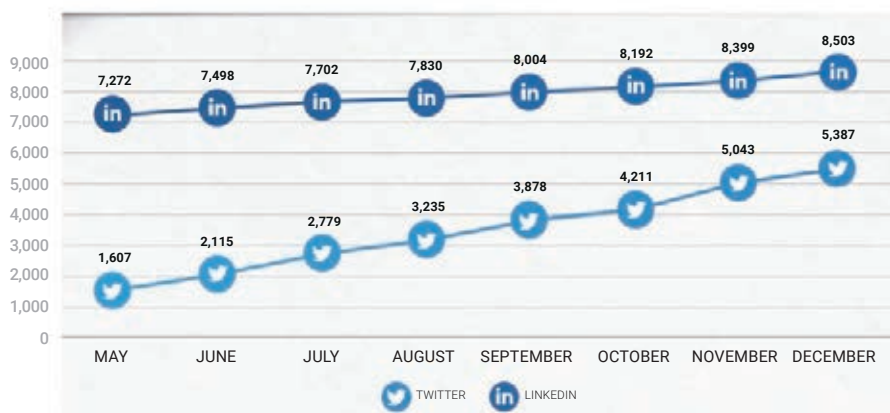
## SOCIAL MEDIA

For companies, social media is a channel to the outside world, and is essential to implement an effective communication strategy. Day after day it increases in importance and is a fundamental **magnifying glass** to gain visibility on our stakeholders. Its main function is to communicate and its power lies in being capable of doing so reaching any target **at any time and without** intermediation, thanks to its increasingly broad, global and widespread penetration in all levels of the population.

We had in this scenario clear in mind when we decided it was time for us to get into this world. We opened our official social media channels, in May 2015, on **Twitter** and **YouTube** (and soon after on **LinkedIn**) because we wanted to share timely and dynamic aspects of corporate life through direct interaction with our users.

## TWITTER LINKEDIN

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The numbers we have, after these first few months of activity, are very positive.

On Twitter, our **@ERGnow** account has reached over 5,000 followers and has been growing steadily since May. More than 347 tweets have been published and over 1,400 retweets that resulted in 604 likes in the past six months.

We have over 8,000 LinkedIn followers. Our posts have generated an average of 4,177 impressions (how many times a single message is viewed by unique users) per individual post.

On YouTube, since starting the channel, we have published 20 videos that have generated 27 shares and 1,220 views on the net.

The content covers the many aspects of corporate life, ranging from **business operations** to **financial results**, and to **sponsorships**, and includes **sustainability**. The activity of our management at conferences and events is also highlighted. The focus on Human Capital is also an

important part of ERG's communication strategy which, through the hashtag **#weareERG**, offers corporate videos in order to strengthen its social identity.

Our journey in the world of social media has just begun, but undoubtedly, from the first results, we understand that the road taken will **enhance and strengthen our communication content** and our positioning, aiming at growing the brand and gaining authority on the Internet to share "our and your enERGy."

### INTERNAL COMMUNICATION EVENTS Hydro Welcome Event

On 1 December the Terni Hydroelectric Complex (now ERG Hydro) became a part of ERG.

Our top management's welcome address for our new colleagues, held in the Conference Room of the Galleto plant, was a very important moment in the history of our Group. Great emotion and pride of both parties for the successful conclusion of such a complex deal and for having

brought back to an Italian company a pole of excellence for type of business, history and professionalism.

The **Welcome Event** was also the first of a series of activities in our internal Communication Plan (most of which will be held in 2016), designed to promote the integration of people joining the company.

### Group Meeting

Designed under a situation of strong discontinuity with respect to previous editions, the annual meeting between our top management and the Group's Key Leaders, this year met its goal of **actively involving** people thanks to the interesting contribution of the guest speaker (Oscar di Montigny) and the useful ideas that surfaced at the round tables.

The speeches and the video material of the Group Meeting were **posted on the intranet portal** to share with all our people – although on a delayed basis – one of the most significant meetings of the year.



### Family Day

Family Day is reserved for employees' children aged between 3 and 12 years old. The purpose of the event is to introduce them to the different aspects of the

company where their parents work. A positive outcome for the **90 children** who attended the events organized at the Genoa and Siracusa sites.



### Christmas Events

230 in Genoa, 100 in Siracusa, 104 in Terni and 110 in the operational centres of ERG Renew Operations & Maintenance: these are the numbers of people who attended our **Christmas events**.

At the event, we also allocated a significant portion of the budget to support the initiatives of the **Gaslini hospital** in Genoa, to the **Community of Sant'Egidio** and to the **Mus-e Association**, in line with our social commitment.

### OTHER INITIATIVES

#### Sports events

New businesses, new people: in 2015, five new colleagues joined our already large "historical" group of runners who ran the Lisbon half marathon. Sports is as always an activity that brings people together, a means to raise awareness among people that are geographically distant from each other and to promote the "team" concept.

## OUR NEW CORPORATE CREATIVITY

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At the presentation of our Business Plan which was held on 16 December in Milan, we presented our new Corporate creativity.

We chose to use a strong and evocative image, associated with nature and its elements, to underscore the Group's new positioning and all the values linked to it.

**Energy from nature.** Sustainable future: this, in a nutshell, is the message linked to our new image.

The concept is explicitly represented by the two key elements from which ERG obtains its energy: wind and water. Graphically we have chosen a clean and natural image and a clear and transparent tone of voice.

Our "symbol of identity," the ripple logo, comes from nature and in particular from

the elements from which the Group now produces energy.

The new creative element replaces the one introduced in 2012, called "Simply Energy".

We therefore passed from minimal and iconographic language - which aimed at representing the philosophy that was to inspire ERG in its repositioning - to a direct and immediate language, represented by photography.

The "Simply energy" **concept** remains embedded in the new image but change size and repositions itself under the brand, to further enhance the brand identity.

A key message, which can effectively present and strengthen our new positioning.



# THE MAIN COMMUNITY INITIATIVES

## CULTURE AND KNOWLEDGE



### Go with the wind!

This initiative is dedicated to students that completed middle school in the Municipalities in which our wind farms are present. It is a two-part event: a classroom lecture, during which renewable energy, the environment and energy efficiency are discussed; and a guided tour to the "neighbouring" wind farm. The project was sponsored by the Ministry of the Environment and involved about 1,500 students.



Festival della Scienza

### Science Festival

As part of the 13th edition of the Science Festival, whose main theme this year was "Balance", we supported the "Near Future" project dedicated to outstanding students from all over Italy which sought to facilitate the transition from the world of Education to that of Employment. 25 young men and students from the area in which we have deployed our wind farms participated in an event the objective of which was to help to provide guidance to the students in choosing their field of study or profession by organizing meetings with experts and managers from many different fields the industry.



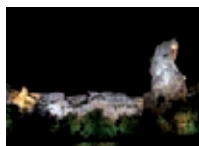
### Communications Festival

We were sponsors of the second Communications Festival held on 10-13 September in Camogli, in the province of Genoa. The Festival consisted in meetings, workshops, round tables, online discussions, chats, guided tours, shows, exhibits, movies, and models. The subject of the second edition of the Festival was Language, through its various nuances and uses, particularly focusing on the importance of social networks.



### Watch out for the wind!

We are promoting and supporting the new exhibition "Watch out for the wind!" at Explora, the Museum for Children. The exhibit is dedicated to wind power, and draws young children to discover one of the most important renewable resources used in Italy. The initiative helps visitors to understand wind energy by playing. The idea comes from the desire to promote and disseminate the subjects related to sustainable use of our planet's resources.



### Stone quarries light shows

We supported the initiative of the Directorate of Cultural Goods of Siracusa "A Paradise to be rediscovered", which opened the Archaeological Park of Siracusa's Neapolis to night visits, installing a light show system. It is one of the most inspiring locations of the city's cultural and natural heritage.

## CULTURE AND KNOWLEDGE



### Boot Camp

We supported the fourth edition of the "Boot Camp", an education event provided to the members of the Young Entrepreneurs Group of the Genoa Federation of Italian Industries. Theory and practice merge to create useful skills to tackle the difficult scenario that Italian companies are currently operating in.



### Preservation events

In 2015 we contributed to the restoration works to the dome of the San Lorenzo Cathedral in Genoa, built in 1554 and designed by the architect Galeazzo Alessi. Furthermore, we supported the project to restore the frescoes of Valerio Castello (1624-1659) preserved inside the Sant'Agostino Museum.



### INDA Foundation

We support the Fondazione Istituto Nazionale del Dramma Antico (National Institute of Ancient Drama) (INDA), which has organized and staged festivals of classical works at the Teatro Greco in Siracusa since 1914, and which promotes the classical culture both in Italy and throughout the world.



### The Civita Foundation

ERG supports Civita, an association that promotes and manages Italy's cultural heritage and which protects, promotes and uses its artistic assets through shows, cinema and European projects.



### Disseminating Sustainability

Following the publication of the 2014 Sustainability Report of the ERG Group within the scope of the event carried out on 29 May at the "Waterstone" stand at the Milan Expo, academics, CSR Managers and experts in the field participated in a round table discussion on the issues and trends in disseminating Sustainability.



### CSR IS

Within the scope of the CSR IS event - Salone dell'innovazione e della Sostenibilità (Innovation and Sustainability Fair), which was held at the Bocconi University in Milan, we organized the "360 Degrees Sustainable Wind Power" event, during which we presented the development of ERG Renew as an industrial operator in the wind sector who is attuned to the needs of the area and its constituents.



## ENVIRONMENT, HEALTH, COMMUNITY WORK



### Gaslini Foundation and Flying Angels Foundation

We continue to support:

- the Gaslini Institute with a donation designated for purchasing and updating the electromyography equipment;
- the Flying Angels association that provides aid to children in medical emergencies who need to be cared for urgently, giving them the possibility of flying to any destination where there is an institution or physicians willing to act to save their life.

### "Dolci Libertà" workshop

This Christmas we collaborated with the "Dolci Libertà" workshop at the Busto Arsizio (VA) district prison.

"Dolci Libertà" is a chocolate-making and patisserie workshop that employs specially trained inmates in their production, to assist their reintegration into the social fabric.

The quality of their products has achieved national and international recognition, and is guaranteed by the utilisation of carefully selected ingredients and state of the art production techniques.



### The EnERGia Project

The EnERGia Project was organized by ERG in association with the Office of Social Policies of the Municipality of Melilli. Started in 2012, it was repeated in 2015 and involved more than 1,000 seniors from the Community Centres managed by the Municipality in a physical fitness program held at Melilli, Città Giardino and Villasmundo, and led by expert trainers.

## YOUNG PEOPLE AND SPORTS



### Electricity Day

Electricity Day 2015 was an event for students of technical institutes in the province of Siracusa. We have been repeating it every year since 2006 and this year it involved over 150 final year students of five technical institutes. On the same day the young adults visited ERG Power's CCGT plant and the ERG Renew control centre at Carlentini.

By doing so, the young people were able to see the two sides of energy production at ERG on the same day, and were able to discuss energy efficiency and the sustainability of electricity production.

## YOUNG PEOPLE AND SPORTS



Progetto  
Scuola

**Progetto Scuola** (School Project), stands out among our social responsibility activities in Sicily. It is a set of initiatives for students of all school levels whose common denominators are their goals of high social value, agreed with local authorities and carried out with their support.

**"Un Casco vale una Vita"** (Helmets save Lives) is a road safety programme organized together with the Carabinieri in which ERG supports officers in activities that promote respect for the law and road safety in the secondary schools of the province of Siracusa. The series of lessons was linked to a road safety competition in which 250 third-year secondary school pupils, preparing to take their motorcycle driving test, participated.

**"Icarus 2015"** is a road safety project for secondary school pupils run by the Traffic Police. The initiative involved around 2,000 students from across the province of Siracusa in a series of conferences at school and public events.

**"Archimedes, Electra and Riccardo Garrone Trophies"**: organized by ASD ERG in association with local schools and the Italian Football Federation, they have become classic school sports events in Sicily. The 2015 edition involved over 800 young male and female footballers from 16 junior and secondary schools in the province of Siracusa, who took part in both 5-a-side and 7-a-side tournaments.



ERG Sports  
Centre  
Siracusa

Renovation work at the "Riccardo Garrone" ERG Sport Centre at Siracusa started in 2007. It has now become an important sports centre supporting the community in the region, with a strong emphasis on young people.



Torneo  
Ravano

In 2015 we also sponsored the "Ravano Tournament - the 22th Paolo Mantovani Cup", the greatest school youth competition in Europe; now at its 31st edition it included football, rugby, volleyball and basketball tournaments for boys and girls.

The 2015 edition set yet a new record in terms of participants, with 559 teams, 600 matches played and over 5,600 children attending.

The joy and involvement that comes from playing together, while respecting rules and fair play, represent the spirit of the tournament and these same values have been continuously encouraged for the last 30 years, making this event a key part of ERG Group's efforts to promote and support sports among young people.

## GO WITH THE WIND! 2015

After the success of the 2013-2014 edition, we decided to repeat our "Go with the wind!" format for the 2014-2015 school year: an important project, most of all in terms of its relationship with the community.

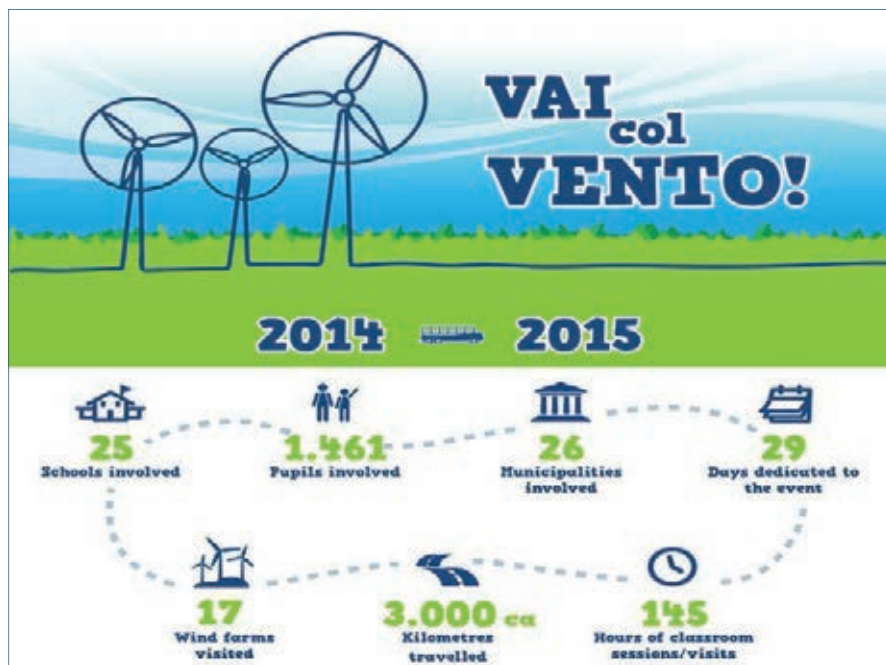
The initiative is promoted by ERG Renew and is dedicated to the students that completed middle school in the Municipalities where our power plants are present. It received the sponsorship of the Ministry of the Environment and involved about 1,500 students, affecting all the Regions where we are active (Basilicata, Calabria, Campania, Molise, Puglia, Sardinia and Sicily).

"Go with the Wind!" includes two parts: the first one is a classroom session that

discusses renewable energy, the benefits to the environment and energy efficiency. Young people are always very interested and "sensitive" to the issue, and contribute to the debate with their questions and interest.

The second part is the one that – naturally – the participants enjoy most: the guided tours to the wind farm. Once directly in the field, the young people get a chance to get to learn how the plant works. Our engineers explain the various steps, from the design and construction of the wind farm to the production and distribution of electricity.

Again this year the young people involved in "Go with the Wind!" competed in the contest, using their creativity to depict wind power.



# THE EDOARDO GARRONE FOUNDATION

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In 2015 the Foundation confirmed its commitment to high quality projects to engage and train the younger generations and promote the social and cultural resources of communities.

Its mission – to create bottom-up initiatives, with unique character, capable of contributing innovative elements and creating sustainable value over time – has supported the creation of new projects, in addition to improving and consolidating what had been created previously.

In particular, the **ReStartApp®** project expanded its network adding a high profile partner such as the Cariplo Foundation, which contributed to giving three young adults from Lombardy the opportunity to participate in the campus.

Furthermore, the collaboration between the two Foundations made it possible to extend its support to young firms and green jobs of the highlands starting right from 2016, with the objective of creating and strengthening the new “economy of the Italian mountains”.

In the artistic-cultural setting, thanks to a fruitful partnership between public and private organizations, we started the selection for participants to the **Master in Management of Museum Assets and subsequent experimental management of the Museum of Contemporary Art of Villa Croce in Genoa**. The training program has been set up to create young professionals with specific skills in the field and to provide a new management model for Liguria’s cultural assets.

## PROGETTO APPENNINO®

### “ReStartApp®”

Our experience in the first edition helped us fully understand the potential and value of the ReStartApp® concept and hence to plan the best course for its future development.

Its **second edition** organized two campuses in two different locations in the Apennines, to provide two different educational proposals that were even more effective than before and better aligned with the project’s objectives.

By doing so we were able to double the number of young people involved – from 15 to 30 – and offer them highly specialised education in the fields of application that better suit the current requirements of potential entrepreneurs from the region: the food farming industry and the cultural and tourism industry. The locations where this dual edition was carried out were Grondona, in the Ligurian Apennines, and Portico di Romagna, in the Tosco-Romagnolo Apennines. The first location was a confirmation of last year’s edition, the right balance between the level of local development and adequate opportunities for the young participants; on the other hand, the second location represented the desired evolution of this project. This was the location where the students of the first Campus went to study the Albergo Diffuso concept, where during the meetings with



**ReStartApp®**  
IDEE CHE MUOVONO MONTAGNE

local authorities, bound by the common goal of redeveloping the Apennines, we found the opportunity for collaboration.

**ReStartApp®** 2015 has, moreover, confirmed the support of its network of high profile partners and the new prestigious support of the Cariplo Foundation, the first partner to financially support three young adults from the Lombardy region, allowing them to participate in ReStartApp. The “Call for Ideas” to apply for attending the campuses remained open from 19 January to 10 April. Among the more than 70 candidates and following 50 motivational and psychometric interviews, 15 young men and 15 young women between 23 and 34 years old were selected. They are from Liguria, Emilia-Romagna, Piedmont, Tuscany, Lombardy, Lazio, Abruzzo and Marche.

The **campuses** – inaugurated on 29 and 30 June, respectively, – were carried out simultaneously from 29 June to 19 September. The lectures followed a rich and innovative education plan, based on 90 hours of formal lectures, 100 hours of a business creation and development workshop, one week of internship, case studies and success stories. A qualified team of teachers, experts and professionals guided the young adults through the entire education program and towards the implementation of their business ideas.

The **educational trip** planned for this edition took place on the first weekend of September at both campuses. During the trip, the 30 young adults got to visit the Cooperativa La Valle dei Cavalieri di Succiso (RE) and the Briganti di Cerreto Alpi (RE), two real-life examples of state-of-the-art redevelopment models that have been tested and developed in different locations

in the Apennines.

At the end of the education program, **22 business plans were presented**, while in December the Evaluation Commission set up for this purpose – formed by three representatives from the project’s partners (UniCredit, Symbola Foundation and the Montagna di Edolo University) – selected the winners of the 6 start-up awards provided by the Foundation:

#### **Portico di Romagna (FC) Campus**

1<sup>st</sup> prize | “Caratteri Fusi”, Antonio Fruci

2<sup>nd</sup> prize | “Azienda Agricola Le Cornelle”, Giuliano Gabrini

3<sup>rd</sup> prize | “Color Off”, Sandra Quarantini

#### **Grondona (AL) Campus**

1<sup>st</sup> prize | “Boschi Vivi”, Anselma Lovens

2<sup>nd</sup> prize | “La Cantina del Miele”, Mattia Camuffo

3<sup>rd</sup> prize | “Alternaturae”, Michela Bunino

The **objective** of the entire project is not only to tangibly **support the firms that are best prepared to enter the marketplace** but also to allow the **most interesting projects** proposed during the Campuses to **reach a greater level of maturity**. With this in mind, the Commission provided personalised feedback to each participant, with guidance and suggestions for continuing the work; for the same objective, the Foundation undertook to provide 12 months of consulting free of charge to the most promising participants, in some areas considered to be strategic in relation to the various business areas.

#### **“APPENNINOLAB”**

The commitment to involve and raise awareness among young adults of issues

concerning the Apennines has led to the creation of **AppenninoLAB**. This is an innovative educational format of the **Progetto Appennino®**, dedicated to adult students in high schools in Liguria and Piedmont, which provides a week of training and orientation for discovering the environmental, financial, social and cultural resources of the Apennines region.

The **first edition**, carried out in collaboration with the Regional Scholastic Offices of Liguria and Piedmont, involved **23 young adults** from 13 to 17 July 2015 in the beautiful scenery of the Parco delle Capanne di Marcarolo (AL), with the goal of further researching the **development of the Apennines in all its aspects** – geology and nature, tourism and economy, culture and history, marketing and sports and technology – alternating periods of lecture, meetings with experts, discussing business success stories, educational activities in the field and outdoor sports made available in collaboration with the CONI sports federations. Two very special guests enriched the programme: the meteorologist and climate expert Luca Mercalli, who held a lecture on 14 July on a very relevant subject

("Hydrological instability and protection of the land"), and Olympic archery champion Marco Galiazzo, who gave a demonstration of this sport discipline on 17 July.

### TRAINING THE NEXT GENERATIONS "Master in Management of Museum Assets and the subsequent experimental management of the Museum of Contemporary Art of Villa Croce"

This is an intensive and demanding study program, a result of the fertile private-public collaboration between the Edoardo Garrone Foundation, the Municipality of Genoa and the Palazzo Ducale Culture Foundation, with the objective of creating young professionals with **specific skills in the field**, of empowering the creation of a team to manage, promote and enhance the value of the Villa Croce Museum and provide a new management model for Liguria's cultural assets.

The course will be held starting from January 2016, for 10 weeks and a total of 280 hours of training, including formal lectures, case studies, study trips and a workshop to design and creating a management and development plan for the Museum. The



Science Coordinator selected for the Master is Ms. Paola Dubini, the Director of the Degree Program in Finance for the Arts, Culture and Communication (CLEACC) at the Bocconi University. During the course, the teams must create a **strategic plan to manage and relaunch** the Villa Croce Museum in Genoa. The team that presents the best business plan, as judged by a mixed Commission – including representatives of the Municipality of Genoa, of the Foundation, and of the Science Coordinator and Palazzo Ducale – shall be **awarded the management of the Museum of Contemporary Art** directly by the Municipality for 3 or 4 years.

The invitation, open from 1 October to 30 November, was presented at a press conference held at Palazzo Tursi (the headquarters of the Municipality of Genoa). The event was attended by the President of FEG Alessandro Garrone, the mayor Marco Doria, the Cultural and Tourism council member and the President of Palazzo Ducale. There were 230 applications from a total of over 540 young adults involved. The selection interviews were held in December and resulted in the selection of a class of 17 young adults, divided into 7 groups, all with excellent curricula.

#### **“Genova Scoprendo” (Discovering Genoa)**

The new concept of **Genova Scoprendo**, which targets sustainability and active and responsible citizenship, was greatly appreciated by teachers and students that for 2015 asked to keep the same format of previous editions. The visit to the Onlus Food Bank was particularly well received. It captured the attention of the students, confirming the relevance and the importance of the values conveyed by means of these activities.

#### **“Scuola Leggendo” (Reading at School)**

The 2014/2015 school year was the first on-line pilot version of the **Scuola Leggendo** project, an innovative teaching-playing-doing format devised to develop the reading skills of first grade children. The pilot program involved the Liguria, Emilia Romagna and Campania regions with very satisfactory results. In accordance with the Regional School Administration, an additional pilot year has been planned, including two more regions: Lazio and Piedmont.

#### **“Scuola di Alta Formazione al Management” (Management Training School)**

The MBA program of the **Scuola di Alta Formazione al Management** is an initiative of the Associazione per la Formazione d'Eccellenza, established and promoted by the Edoardo Garrone Foundation together with the Giovanni Agnelli Foundation, the Pirelli Foundation, and the *Association du Collège des Ingénieurs of Paris*. The training program, completely free-of-charge, is designed for **young adults with a degree in engineering and scientific or economic disciplines**, offering them a Master in Business Administration.

### **SOCIAL COMMITMENT**

#### **“Your event at FEG”**

In addition to our usual support to the **Mus-e Genova** project, which fights marginalisation and poverty in elementary schools by means of artistic experimentation, starting from this year the Foundation will make its premises available for cultural events, donating all the proceeds, not only to Mus-e, but also to four non-profit associations active in highly relevant community projects: Comunità di Sant'Egidio, Emozioni Giocate Onlus, A.B.E.O. Liguria and Flying Angels.



# *ERG Hydro*

# 4

7

DAMS IN THE  
OPERATING AREA

527 MW

INSTALLED  
CAPACITY

1.4 TWh

AVERAGE ANNUAL  
PRODUCTION (EST.)

16

HYDROELECTRIC  
POWER PLANTS



## ERG HYDRO: A NEW ADVENTURE

During 2015 we acquired the Terni hydroelectric facilities: an integrated system of ditches, channels and production stations, located in Umbria, Lazio and Marche, and which flow into river basins of the Tiber, Nera and Velino rivers.

It is a significant operation for the Group, not only on account of its financial value but also, and most of all, because it leads to the consolidation of our industrial position as a producer of electricity from renewable resources.

Hydroelectric production has an additional characteristic: it is a programmable source, and hence helps to optimize our production portfolio.

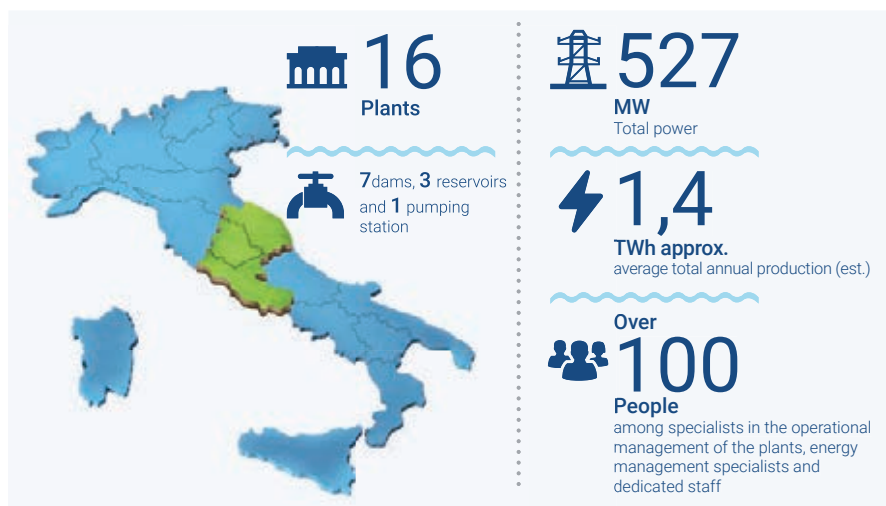
Precisely in relation to the relevance of this acquisition for ERG's strategic positioning, and on the basis of the principles of "relevance and materiality" required by the GRI G4, the Group's 2015

Sustainability Report should duly point out to its shareholders the interactions of its business with the environment and the community.

Nonetheless, since the hydroelectric stations became part of the ERG Group only on 1 December, a detailed analysis of all the issues surrounding ERG Hydro – together with the reports of the respective performance indicators – will become an integral part of our 2016 Sustainability Report.

In any event, we are including in this edition, an extract from Terni Hydroelectric Complex's 2014 EMAS Environmental Declaration, to provide an overview of our hydroelectric business and its main issues.

The same matters will be duly assessed as to their materiality, and will therefore be covered in the Group's Sustainability Reports in coming years.



## HISTORY

Construction of the facilities started in the 20's, and over the years they were technically updated a few times until the last revamping cycle which took place from 2008 to 2011.

After the latest refurbishing of its facilities, the Terni Hydroelectric Complex is now a state-of-the-art hydroelectric generation complex. The most recent work improved its energy efficiency by increasing the yield of its equipment and had positive effects on the environment.

## The hydroelectric production process

The hydroelectric process converts the potential energy of a large mass of water into electricity, by driving turbine-alternator units at the foot of the hydraulic "drop", with the flow of water.

When there are several plants in series, water is captured at the outlet from the

generating station and sent on to the next station in order to be utilized in the new drop. Proceeding downstream, the volume of water tends to increase with help of new tributary along the path of the series of plants, up to the final element.

Once the water is initially taken from the river basin, it is used several times by the plants to make the most of its energy content. At the end of the hydroelectric cycle, the water is finally returned to the river basin, and can flow back into the natural water cycle.

Water is captured by means of a barrier along the water flow, while the outflow is captured by constructing suitable water works. The extent of this type of operation depends on the size of the waterway and the need, or lack thereof, to create a water reservoir upstream of the water works. Hence for simplicity's sake



we can differentiate between:

- water catchment works, the function of which is to capture the water and direct it to the other stages in the cycle;
- dams, designed for the long term accumulation of water to adjust to the needs of the production plants and manage the hydro-geological risk by “detention” of potential overflows.

Maintenance activities of the water catchment works include cleaning the water intakes, while the maintenance of the reservoirs requires different actions according to the types of works. For large reservoirs, the operating conditions do not usually require any specific actions, since the dimensions guarantee a negligible presence of sediment.

The water is carried the regulation reservoirs, and from the reservoirs to the production stations, by means of water tunnels or open channels, that transfer of the water within the system by gravity or by pumping. Implemented between 1922 and 1994 with traditional excavation techniques, the works of the complex have variable sections with various types

of surfaces according to the rocks found in during the excavation and the operating conditions (open channel or under pressure).

For example, there are uncoated tunnel segments in which the rocks are quite stable and compact, concrete segments in order to better guarantee the water tightness, and segments that are reinforced with battens where specific stabilisation is required.

In general, the water is brought to the station by means of penstocks, large diameter pipes installed along the line of maximum inclination, where the flow from the regulation basin acquires the necessary speed to drive the turbine blades, as it drops down the height difference between the source and the water's outflow.

The conduits, called penstocks, are made of metal and are used both in the open, laid along the slope, and in water tunnels. The outflow is adjusted by moving special barriers (rotating, butterfly, or sluice valves) placed at the end of the penstocks. A hydraulic diversion device, comprising



a surge tank, located between the inlet tunnel and the penstock, prevents the creation of excess pressure inside the tunnels, which could potentially damage the structure.

Electricity is generated by driving the turbine-alternator group with the water from the penstock at the foot of the jump. The high hydraulic load flow turns the blades of the turbine, which are rigidly connected to the alternator, generating electricity at the nominal voltage of 10 kV and the standard grid frequency of 50 Hz. The stations are built at a varying depth underground, or outdoors, where the buildings are constructed at the foot of the slope.

After releasing its energy, the water is routed to the nearest water basin; in some closely-spaced plants, the water is routed

directly from the outlet of the upstream station to the water works feeding the downstream station. In any case, all of the water flows back to the river at the outlet of the last station of the sequence.

The electricity is transformed into medium and high voltage - so it can travel along the power transmission grid - by means step-up transformers cooled with water-oil or air-oil systems, which are usually located outdoors in the station's electrical substation, but may also be occasionally located indoors.

ENVIRONMENTAL ISSUES

Already starting from 2006, ERG Hydro (Terni Hydroelectric Complex) obtained the certification of its Environmental Management System in accordance with the ISO 14001 standard, while the first EMAS Record, as per CE 1221/2009 Regulations was obtained



in 2006. By updating our Environmental Declaration every year we can provide to our stakeholders the results of operating the facilities both in technical and administrative terms and from an environment and safety perspective.

The voluntary participation of ERG Hydro in a European Union eco-management and audit scheme is a further confirmation of the importance of environmental sustainability for our Group, and makes one of the objectives of our "Corporate Social Responsibility" even more effective: an open dialogue with the public.

For the most part, the main interactions of the hydroelectric production process with the environment relate to the use of the water; in particular with the water-surface environment.

We carried out an analysis of the various environmental issues. The results are shown below:

### Hydrological regime of the waterway

Hydroelectric generation necessarily implies some changes to the hydrological regime of the waterway where it is built. In particular, a barrier, whether a dam or locks, creates a discontinuity in the river's ecosystem, with obvious consequences on the riverbed downstream.

These effects can in any event be mitigated by releasing water downstream of each barrier to maintain the health of the riverbed, or to be used for irrigation, on the basis of the provisions in the "Concession Declaration" of each diversion.

Furthermore, for several diversions, the released amount of water has been increased over the years in line with the adoption of the criterion of Minimum Vital Outflow, devised in order to guarantee the minimum water flow needed to ensure the preservation of the river ecosystem of each water basin.





**Natural contributions to the riverbed**

By reducing the quantity of water that flows out into the downstream riverbed, the transport of natural matter is also reduced. This concerns both materials in suspension, and dissolved compounds rich in organic substances.

By interrupting the upstream to downstream continuity, the barriers limit the free movement of fish species along the river. Therefore we are contributing to repopulate the rivers by means of periodic “fish releases” (adding certain quantities of species into the bodies of water).

**Transport of solids along the riverbed**

The barriers may block some of the solid material transported by the water flow. Over the years this may cause a decrease in the service volume of the reservoir on

one hand, and on the other the lack of sediment in the downstream water flow as well as at the mouth of the river.

A “Management Project” was created for each reservoir, to define the framework of operations of silt removal, mud removal and clearing any blockages, (...) in order to ensure the maintenance and gradual restoration of the original service capacity of the reservoir (...), and to define the procedures to be enacted during the above mentioned operations to preserve and safeguard the water resources captured by the inlet and released downstream of the barrier, (...) in compliance with the quality objective of the affected water basins” (Legislative Decree 152/06).

All the Management Plans are being evaluated by the relevant authorities.



### Management of the reservoirs during overflows

In a water catchment area, a natural lake is the fundamental element for the detention of overflows, because it collects water during overflow periods, and supplements the flow during dry periods. This allows all the water basins to have a relatively regular water flow during the entire year.

The presence of an artificial barrier can cause a choke point in the natural water flow in the downstream riverbed, as well as a change in the water flow. Optimal water management suitably regulates the water flow.

The operation of the inlets, during periods of overflow, ensures that the water flow released downstream of the barriers is always less - or at most equal - to that arriving at the reservoirs themselves. In order to manage overflow events, specific procedures are applied, which take into account the provisions agreed with the water Authority and the Civil Defence agency in order to safeguard very important territories, such as the lower valley of the Tiber and Rome itself.

### Landscape impact

Most of the facilities and the respective water works date from the beginning of the previous century, and are by now historically integrated with the landscape. Some of them are of a certain interest as examples of the industrial architecture of the period when they were built.

There are many photographs preserved as documentation of their addition to the landscape. When designing and

implementing large operations on the water and civil works, in connection with new investments or simply unplanned maintenance, the natural context must be taken into consideration, minimizing as much as possible the impact that said operations may have on the landscape.

### SAFETY ISSUES

Together with the protection of the environment, preserving health and safety at the workplace continues to be a central point in the strategic decisions of the ERG Group.

Once again, and in line with our past commitments, we are pursuing the objective of "zero accidents" with full accountability, in order to protect all those who work with and for ERG Hydro, placing the essential and overriding value of respecting and safeguarding of people at the heart of its business.

The responsibility for safety is concentrated on three main objectives:

- promoting a Culture of Safety and Safety Leadership;
- improving the performance of third party firms;
- managing Risk.

An important tool to achieving the objectives is represented by the Health and Safety Management System, which has complied with the OHSAS 18001 international standard adopted by the Terni Complex since the end of 2011.

In this context, an annual Health and Safety improvement Program has been developed (called HSE Improvement Plan), enacting the initiatives and activities to be

implemented with the aim of continuously improving the levels of safety and protection of health. Obviously the key elements that comprise the improvement plan relate to the three objectives listed above.

The performance in terms of safety is mainly measured by indicators that show the incidence and seriousness of accidents; these indicators are called "Frequency Index (If)" and "Severity Index (Ig)", respectively. Notably, said indices are monitored while also taking into account the performance of sub-contractors, due to the high and systematic level of outsourcing in most of our maintenance activities.

The indices are defined as follows:

- If is the number of accidents per million work hours;
- Ig is the number of days of absence per thousand work hours;

The first one takes into account the number of reported accidents with respect to the amount of work carried out, while the second shows the severity of the accidents, monitoring the number of hours missed by the person involved in the work-related accident.

Substantially, it can be stated that over the medium-long term the number of accidents/year is zero, with the exception of a few years. Where accidents occurred, for the most part they were not severity. The severity index is very low with respect to the average values of the sector.

### LARGE DAMS

ERG Hydro is the concession holder of 7 "large dams" (Aja, Alviano, Corbara, La Morica, Marmore, Salto and Turano), as barriers taller than 15 metres or with a reservoir volume greater than 1 million m3 of water are called.

The structural monitoring of the dams is





entrusted to a team of expert technicians, who measure the behaviour of the works at predetermined periodic intervals in terms of the horizontal and vertical movements, rotations, deformations, water height levels, etc.

Since 1959 these dams have been manned, for the entire day, by the “dam guardian”, whose job is to perform the daily measurements related to the water, such as the temperature of the air and the water, rain, snow and the level of the reservoir; these latter data are also measured by automated instruments which send the data in real time to the telecommunications station of the Terni complex.

Furthermore, once a month, efficiency

and reliability tests are carried out on the monitoring system and on the operating mechanism of the locks (which are needed to regulate the water flow), and the communication system and the electric supply systems (external grid and generator group, which must always guarantee the operation of all the management equipment under all conditions).

Twice a year, the Authorities in charge perform inspections by means of “oversight visits”, during which they test the operation of all the equipment installed in the dam and carry out sampling measurements of the structural monitoring system of the works.



# DATA AND INDICATORS

# 5

**DATA AND INDICATORS**

**AUDIT REPORT**

**GRI CONTENT INDEX**

**GLOSSARY**

# PERFORMANCE DATA AND INDICATORS

## ECONOMIC AND FINANCIAL RESULTS

		2015	2014 proforma	2014	2013
Total revenues <sup>(2)</sup>	million EUR	944	1,021	1,999	7,076
EBITDA	million EUR	308	313	547	380
EBITDA at replacement cost <sup>(1)</sup>	million EUR	338	329	429	493
EBITDA at adjusted replacement cost <sup>(2)</sup>	million EUR	350	343	491	569
EBIT at replacement cost <sup>(1)</sup>	million EUR	175	169	240	283
EBIT at adjusted replacement cost <sup>(2)</sup>	million EUR	179	175	249	278
Net Profit	million EUR	24	(16)	73	85
of which Group Net Profit	million EUR	21	(19)	48	28
Group net profit (loss) at adjusted replacement cost <sup>(3)</sup>	million EUR	96	60	76	38
Cash flow from operations	million EUR	207.2	292.1	344.4	251.8
Adjusted net financial indebtedness <sup>(4)</sup>	million EUR	1,448	409	538	1,015
Net invested capital	million EUR	3,124	2,049	2,049	2,821
Investments <sup>(5)</sup>	million EUR	106	53	54	74
Financial leverage		46%	16%	16%	29%

For the definition and reconciliation of results at adjusted replacement cost, please refer to the chapter "Alternative performance indicators" of the 2015 financial statements.

(1) not including non characteristic items.

(2) also including the contribution, attributable to ERG, of the results of LUKERG Renew (joint venture with the LUKOIL Group).

(3) not including inventory gains (losses) of TotalErg, non-recurring items and related applicable theoretical taxes. The values also correspond to adjusted values;

(4) in 2014 it included, at adjusted level only, the contribution, to the extent attributable to ERG, of the net financial position of LukErg Renew's joint venture.

(5) in investments in tangible and intangible fixed assets. Not including M&A investments for EUR 1.1 million in 2015.

Total revenues in 2015 include EUR 146 thousand in grants from Public Administration or the European Community for employee training activities.

ERG Group's activities do not include loans to political parties.

## ERG SHARES

		2015	2014	2013
Year-end reference price	EUR	12.47	9.26	9.75
Maximum price	EUR	<sup>(1)</sup> 13.65	<sup>(1)</sup> 12.69	9.86
Minimum price	EUR	<sup>(1)</sup> 8.91	<sup>(1)</sup> 8.06	6.51
Average price	EUR	11.79	10.52	7.78
Average volume	no.	251,434	242,967	229,315

(1) Maximum price recorded on 18 August 2015, lowest price recorded on 12 January 2015.

## OPERATING DATA AND INDICATORS

		2015	2014 proforma	2014	2013
Total electricity production	GWh	5,330	5,202	7,245	9,208
from renewable energy sources	GWh	2,698	2,580	2,580	2,403
Market share of domestic power generation		2.0%	1.7%	2.7%	3.3%
Sale of electricity	GWh	10,113	8,823	9,354	10,631
Market share of domestic power sales		3.2%	2.8%	3.0%	3.4%

## PERSONNEL, ORGANIZATION OF WORK AND INDUSTRIAL RELATIONS

		2015	2014	2013
Employees at 31/12	no.	666	604	778
Managers at Genoa site	no.	39 74%	46 72%	53 62%
Middle managers	no.	155	145	161
Administrative staff	no.	308	270	365
Workers	no.	164	143	199
Other external collaborators	no.	<sup>(4)</sup> 21	11	26
Index of absenteeism due to illness		<sup>(2)</sup> 2.2%	2.0%	<sup>(1)</sup> 2.8%
Part time employees		3.9%	4.5%	<sup>(1)</sup> 4.0%
Percentage of overtime		<sup>(2)</sup> 5.0%	5.1%	<sup>(1)</sup> 8.0%
Unionisation rate		30.6%	23.2%	26.3%
Ongoing labour disputes	no.	2	6	2
Strike <sup>(3)</sup>	hours	<sup>(2)</sup> 48	70	82

(1) The 2013 figure does not include values for companies acquired during the year. (2) The figure does not include ERG Hydro. (3) Hours of nationwide strikes. (4) The 2015 figure includes 20 "Ongoing external contributors" in the Group (18 men and 2 women) and an internship.

## TRAINING

		2015	2014	2013
Total training	hours	27,584	26,456	26,917
Average training per employee	days/emp.	5.7	4.8	5.0

	Men hrs/emp.	Women hrs/emp.	Men hours	Women hours	Total 2015
Managers	28.5	25.3	1,025	76	1,101
Middle managers	39.4	44.2	4,603	1,679	6,282
Administrative staff	35.2	37.2	7,499	3,530	11,029
Workers	55.9	68.0	9,104	68	9,172
<b>Total</b>			<b>22,231</b>	<b>5,353</b>	<b>27,584</b>

## DETAILED ANALYSIS OF PERSONNEL - 2015 (no. of employees)

NATIONAL COLLECTIVE LABOUR AGREEMENTS APPLIED	2015	2014	2013
Energy and Oil	379	399	562
Metalworking and Mechanical Engineering	144	136	139
Tertiary	8	23	24
Electric	90	–	–
Foreign contracts	6	–	–
Industrial managers	39	43	49
Tertiary managers	–	3	4
<b>Total</b>	<b>666</b>	<b>604</b>	<b>778</b>

LOCATION OF PERSONNEL 2015	Men	Women	Total
Genoa	141	104	245
Siracusa	144	9	153
Rome	19	5	24
Terni	82	8	90
Abroad	5	4	9
Other locations	138	7	145

TYPE OF CONTRACT	Men	Women	Total
Fixed-term contract - Full time	2	3	5
Fixed-term contract - Part-time	–	1	1
Permanent contract - Full time	527	108	635
Permanent contract - Part-time	–	25	25
<b>Group Total</b>	<b>529</b>	<b>137</b>	<b>666</b>

JOB CLASSIFICATION	Dependent	Category protected	Total
Managers	39	–	39
Middle managers	153	2	155
Administrative staff	286	22	308
Workers	163	1	164
<b>Group Total</b>	<b>641</b>	<b>25</b>	<b>666</b>

PARENTAL LEAVE	Men	Women	Total
Employees that availed of parental leave	5	39	44
Persons returning from paternal leave	5	39	44
Personnel still at work after 12 months	5	34	39
Personnel resigning due to maternity	–	–	–

RETIREMENT	Dependent	% of total employees
Employees that will retire within 5 years <sup>(1)</sup>	–	0%
Employees that will retire within 10 years <sup>(1)</sup>	26	4%

(1) Employees (male or female) shall be deemed pensionable at age 70 regardless of the date of their first employment (a simplified application of the Fornero-pension insurance reform).

## SAFETY

INJURIES (NO.)	Men	Women	Total 2015	Total 2014	Total 2013
Genoa	–	–	–	–	1
Siracusa	–	–	–	1	4
Rome	–	–	–	–	–
Terni	–	–	–	–	–
Abroad	–	–	–	–	–
Other locations	3	–	3	3	–
<b>Total</b>	<b>3</b>	<b>–</b>	<b>3</b>	<b>4</b>	<b>5</b>

		2015	2014	2013
Frequency index no. of accidents per million hours worked		2.90	4.21	4.72
Severity index total days lost per thousand hours worked		0.12	0.04	0.06
Working days lost	no.	121	35	68
Work-related deaths	no.	–	–	–
Third-party company injuries <sup>(1)</sup>	no.	3	1	3
Frequency index – third party companies <sup>(1)</sup>		6.56	1.21	1.74
Severity index – third party companies <sup>(1)</sup>		0.3	0.11	0.01
Man days worked by third-party companies <sup>(1)</sup>	no.	57,168	103,558	215,810

1) The 2013 figure does not include ERG and ERG Oil Sicilia.

## SUPPLIERS

		2015	2014	2013
Active suppliers (at least one order)	no.	1,454	1,683	1,569
with registered offices or a billing address in Italy		89%	90%	92%
with registered offices or a billing address in the regions of presence of our plants		32%	34%	29%
Qualified suppliers	no.	1,813	1,672	1,458
of which: number of qualified suppliers based on HSE parameters	no.	308	555	–
Average qualification time	days	114	58	87
% of tenders (of total value of purchases)		45%	42%	65%
% of tenders (of total number of purchases)		24%	39%	29%

## CUSTOMERS

		2015	2014	2013
ERG Power - Industrial site customers	no.	16	15	15

## WIND – HSE ECONOMIC AND ADMINISTRATIVE RESOURCES

		2015	2014	2013
Total HSE expenditure	thousands of Euro	1,222	838	575
Level of ISO 14001 and OHSAS 18001 certification		100%	100%	100%
Safety checks and HSE audits in the field	no.	366	230	187

## WIND – ENVIRONMENT AND COMMUNITY

		2015	2014	2013
Production	GWh	2,614	2,580	2,403
Indirect energy consumption <sup>(1)</sup>	GWh	10.0	9.3	8.3
CO <sub>2</sub> avoided <sup>(2)</sup>	kt	979	1,021	959
Indirect CO <sub>2</sub> emissions <sup>(1)</sup>	kt	4.1	3.8	3.4
SF <sub>6</sub> contained in switchboards	kg	896	893	893
Waste produced	t	89	97	–
of which hazardous waste	t	37	27	–
of which non-hazardous	t	21	–	–
of which sent for recycling	t	31	64	–

(1) The increase in 2015 is related to the increase in the number of wind farms in operation.

(2) includes 31 kt of CO<sub>2</sub> avoided, determined on the basis of the production of hydroelectric plants.

## POWER – HSE ECONOMIC AND ADMINISTRATIVE RESOURCES

		2015	2014	2013 rest
Total HSE expenditure	million EUR	11	13	19
of which investments	million EUR	3	3	7
of which current expenses	million EUR	8	10	12
Level of ISO 14001 and OHSAS 18001 certification of organizations operating on industrial sites		100%	100%	100%
Safety checks and HSE audits in the field	no.	127	481	722
Safety walks	no.	15	6	n.d.



## POWER – ENVIRONMENT AND COMMUNITY

		2015	2014	2013 rest
Energy consumption (primary sources)	TJ	21,567	22,072	23,875
of which natural gas	TJ	20,689	21,271	21,533
of which other primary sources	TJ	810	801	2,342
Indirect energy consumption	TJ	68	82	50
of which electricity	TJ	59	68	34
ERG Power performance index <sup>(1)</sup>		61.8%	60.3%	64.7%
Direct CO <sub>2</sub> emissions	kt	1,230	1,259	1,382
Indirect CO <sub>2</sub> emissions (imported energy)	kt	6.0	9.8	6.0
NO <sub>x</sub> emissions <sup>(2)</sup>	t	386	399	461
SO <sub>2</sub> emissions <sup>(2)</sup>	t	46	42	164
Particulate emissions	t	5	4	8
SF <sub>6</sub> contained in switchboards	t	13.1	12.9	12.9
Thermoelectric CO <sub>2</sub> index	kt/GWheq	0.39	0.39	0.44
Thermoelectric NO <sub>x</sub> index	t/GWheq	0.11	0.12	0.15
Thermoelectric SO <sub>2</sub> index	t/GWheq	0.01	0.01	0.05
Thermoelectric particulate index	t/GWheq	0.002	0.001	0.003
Seawater withdrawals for plant cooling systems	million m <sup>3</sup>	226	238	257
Well water withdrawals	million m <sup>3</sup>	8	9	9
Water returned to the natural cycle	% of withdrawals	96.8%	96.7%	96.8%
Waste produced	kt	1.8	4.0	8.3
of which hazardous waste	kt	0.1	0.5	0.5
of which non-hazardous	kt	1.7	3.5	7.7
of which sent for recycling		39%	22%	14%

(1) Index of "1st principle overall performance" calculated in accordance with the procedures laid down by Ministerial Decree 5 September 2011 (CAR).

(2) The atmospheric emissions of NO<sub>x</sub> and SO<sub>2</sub> at the thermal power plants are consistent with the annual data reported to the E-PRTR. Only fully operational plants are considered, therefore the SA1N/1 group was not included in the report as it was in a transitional start-up phase for part of 2014 as the result of its adaptation according to Best Available Techniques.

## INDEPENDENT AUDITORS' REPORT ON THE SUSTAINABILITY REPORT

**To the Board of Directors of  
ERG S.p.A.**

We have performed a limited assurance engagement on the Sustainability Report of the ERG Group (the "Group") as of December 31, 2015.

### **Directors' responsibility on the Sustainability Report**

The Directors are responsible for the preparation of the Sustainability Report in accordance with the "G4 Sustainability Reporting Guidelines" and the "Electric Utilities Sector Disclosures", both issued in 2013 by GRI - *Global Reporting Initiative*, as stated in the paragraph "Methodological note" of the Sustainability Report, and for such internal control as they determine is necessary to enable the preparation of a Sustainability Report that is free from material misstatement, whether due to frauds or unintentional behaviours or events. The Directors are also responsible for defining the ERG Group's objectives regarding the sustainability performance and the reporting of the achieved results, for the identification of the stakeholders and the significant aspects to report.

### **Auditors' responsibility**

Our responsibility is to issue this report based on the procedures performed. We conducted our work in accordance with the criteria established in the "International Standard on Assurance Engagements 3000 – 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 the compliance with ethical principles, including independence requirements, and that we plan and perform the engagement to obtain limited assurance whether the Sustainability Report is free from material misstatement. These procedures included inquiries, primary with the Company personnel responsible for the preparation of the Sustainability Report, analysis of documents, recalculations and other evidence gathering procedures as appropriate.

The procedures performed on the Sustainability Report consisted in verifying its compliance with the principles for defining report content and quality set out in the "G4 Sustainability Reporting Guidelines", and are summarized as follows:

- comparing the economic and financial data reported in the paragraph "Economic responsibility" included in the Sustainability Report with those reported in the ERG Group Annual Report as of December 31, 2015, on which Deloitte & Touche S.p.A. issued the auditors' report (pursuant to articles 14 and 16 of Legislative Decree no. 39 of 27 January, 2010), dated April 7, 2016;
- analysing, through interviews, the governance system and the management process of the matters related to sustainable development regarding the strategy and operations of the Company;

- analysing the process relating to the definition of material aspects disclosed in the Sustainability Report, with reference to the methods used for the identification and prioritization of material aspects for stakeholders and to the internal validation of the process results;
- analysing how the processes underlying the generation, collection and management of quantitative data of the Sustainability Report operate. In particular, we have performed:
  - interviews and discussions with the management of ERG S.p.A. to gather information about the accounting and reporting systems used in preparing the Sustainability Report, as well as on the internal control procedures supporting the gathering, aggregation, processing and transmittal of data and information to the department responsible for the preparation of the Sustainability Report;
  - analysis, on a sample basis, of the documentation supporting the preparation of the Sustainability Report, in order to gather the evidence of processes in place, their adequacy, and that the internal control system correctly manages data and information in connection with the objectives described in the Sustainability Report;
- analysing the compliance and the internal consistency of the qualitative information disclosed in the Sustainability Report in relation to the guidelines identified in the paragraph “Directors’ responsibility on the Sustainability Report” of this report;
- analysing the stakeholders engagement process, in terms of methods applied, through the analysis of the minutes of the meetings or any other available documentation about the main topics arisen in the discussion with them;
- obtaining the representation letter signed by the Chief Executive Officer of ERG S.p.A., on the compliance of the Sustainability Report with the guidelines identified in the paragraph “Directors’ responsibility on the Sustainability Report”, as well as the reliability and completeness of the data and information disclosed.

The procedures performed in a limited assurance engagement are less than those performed in a reasonable assurance engagement in accordance with ISAE 3000, and, therefore, do not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified in a reasonable assurance engagement.

#### **Conclusion**

Based on the work performed, nothing has come to our attention that causes us to believe that the Sustainability Report of the ERG Group as of December 31, 2015 is not prepared, in all material respects, in accordance with the “G4 Sustainability Reporting Guidelines” and the “Electric Utilities Sector Disclosures”, both issued in 2013 by GRI - *Global Reporting Initiative*, as stated in the paragraph “Methodological note” of the Sustainability Report.

Milan, April 11, 2016

DELOITTE & TOUCHE S.p.A.

Franco Amelio  
Partner

*This report has been translated into the English language solely for the convenience of international readers.*

## GRI G4 CONTENT INDEX

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	Indicator	References	Notes	Omission
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G4 - EU - DMA	Generic disclosure on management approach	14-15, 31-34, 39-41, 49-50, 60-69		
<b>Availability and reliability</b>				
G4 - EU10	Planned capacity	8-12, 14-15, 41, 56-59	The information required refers to the corporate strategy available on the company website <a href="http://www.erg.eu">www.erg.eu</a>	
<b>System efficiency</b>				
G4 - EU11	Average generation efficiency of thermal plants	11, 55, 161		
G4 - EU12	Transmission and distribution losses as a percentage of total energy		ERG does not manage electricity transmission and distribution activities	
<b>ENVIRONMENTAL INDICATORS</b>				
<b>Materials</b>				
G4+EU - EN1	Materials used	161		
G4 - EN2	Percentage of materials used that are recycled input materials		ERG's activities do not involve the use of recycled materials	



	Indicator	References	Notes	Omission
<b>Material aspect: energy</b>				
G4 - DMA	Generic disclosure on management approach	50, 82, 86-91, 95-98, 160-161		
G4 - EN3	Energy consumption within the organization	161		
G4 - EN6	Reduction of energy consumption	82, 86-91, 95-98, 160-161		
G4 - EN7	Reductions in energy requirements of products and services	82, 86-91, 95-98, 160-161		
<b>Water</b>				
G4+EU - EN8	Withdrawal of water	161		
G4 - EN9	Water sources significantly affected by withdrawal of water	96-97, 146, 154		
G4 - EN10	Water recycled and reused	161	Water withdrawals mainly consist of sea water used to cool the thermoelectric plants. Once the drawdown cycle is terminated, the water is returned to the water source after its quality has been suitably monitored.	
<b>Material aspect: biodiversity</b>				
G4 - DMA	Generic disclosure on management approach	90, 94, 151		
G4 - EN11	Location and size of operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	90, 94, 151		
G4+EU - EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	90, 94, 151		
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<b>Material aspect: emissions</b>				
G4 - DMA	Generic disclosure on management approach	50, 91, 98, 160-161		
G4+EU - EN15	Direct greenhouse gas emissions (Scope 1)	91, 98, 161		
G4+EU - EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	91, 98, 160-161		
G4 - EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	91, 98, 160-161		
G4 - EN18	Greenhouse gas (GHG) emissions intensity ratio	98, 160-161		
G4 - EN19	Reduction of greenhouse gas emissions	98, 160-161		
G4 - EN20	Emissions of ozone-depleting substances (ODS) by weight		ERG does not emit substances that are harmful to the ozone layer as part of its industrial activities	

	Indicator	References	Notes	Omission
G4+EU - EN21	NOx, SOx, and other significant air emissions	160-161		
<b>Discharges and waste</b>				
G4+EU - EN22	Water discharge	160-161		
G4 - EN23	Waste disposal	160-161		
G4 - EN24	Significant spills		No spills occurred during the year	
G4 - EN25	Hazardous waste	160-161		
G4 - EN26	Biodiversity and habitats affected by the organization's discharges	90, 96-97, 150-151, 154		
<b>Material aspect: products and services</b>				
G4 - DMA	Generic disclosure on management approach	50, 82, 86-98, 150-154		
G4 - EN27	Mitigation of environmental impacts of products and services	50, 82, 86-98, 150-154		
G4 - EN28	Percentage of products sold and their packaging materials that are reclaimed.			
<b>Material aspect: compliance</b>				
G4 - DMA	Generic disclosure on management approach	50, 18-20, 22, 24		
G4 - EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations		There were no fines or non-monetary sanctions for failure to comply with environmental regulations and laws	
<b>Material aspect: overall</b>				
G4 - DMA	Generic disclosure on management approach	50, 60-68, 73-79, 82, 92-97, 160-161		
G4 - EN31	Total environmental protection expenditures and investments by type	60-68, 73-79, 82, 92-97, 160-161		
<b>Material: environmental assessment of suppliers</b>				
G4 - DMA	Generic disclosure on management approach	50		
G4 - EN32	Percentage of new suppliers that were screened using environmental criteria	105-106, 159		
G4 - EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	81-82, 104-106		
<b>Material: environmental grievance management mechanisms</b>				
G4 - DMA	Generic disclosure on management approach	86-91		
G4 - EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms		No claims were recorded in 2015	

	Indicator	References	Notes	Omission
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## SOCIAL INDICATORS

### SUB-CATEGORY: LABOUR PRACTICES AND WORKING CONDITIONS

#### Material aspect: employment

G4 - DMA	Generic disclosure on management approach	109-129, 111		
G4+EU - LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	111	The breakdown by age of the incoming and outgoing turnover will be available starting from 2016 reporting	
G4 - LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by main business area		All employees enjoy the same benefits in relation to their professional position	
G4 - LA3	Return to work and retention rates after parental leave	158		
G4 - EU15	Percentage of employees eligible to leave the organization in the next five years	158		
G4 - EU17	Days worked by contractor and subcontractor employees involved in construction & maintenance	159		
G4 - EU18	Contractor and subcontractor employees that have undergone health and safety training	104-105		

#### Material: industrial relations

G4 - DMA	Generic disclosure on management approach	107-108		
G4 - LA4	Minimum notice periods regarding operational changes (organizational changes), including whether these are specified in collective agreements		Regulatory issues and salary considerations refer to individual national collective labour agreements applied within the Group	

#### Material aspect: health and occupational safety

G4 - DMA	Generic disclosure on management approach	100-106, 152-153, 159-160		
G4+EU - LA6	Types of accident, rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region and by gender	159		
G4 - LA7	Workers with high incidence or high risk of diseases related to their occupation	100-103		
G4 - LA8	Health and safety topics covered in formal agreements with trade unions	101	In accordance with provisions in the various national collective labour agreements applied within the Group	

#### Material aspect: training and education

G4 - DMA	Generic disclosure on management approach	13, 28, 115-120, 125-126, 157		
G4 - LA9	Average hours of training per year per employee by gender, and by employee category	13, 28, 125-126, 157		

	Indicator	References	Notes	Omission
G4 - LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	115-117		
G4 - LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	118-120		
<b>Material aspect: diversity and equal opportunity</b>				
G4 - DMA	Generic disclosure on management approach	16-17, 109-110, 157-158		
G4 - LA12	Composition of governance bodies and breakdown of employees by age and other indicators of diversity.	16-17, 109-110, 157-158		
<b>Material aspect: equal pay for men and women</b>				
G4 - DMA	Generic disclosure on management approach	112-113		
G4 - LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	113		
<b>SUB-CATEGORY: HUMAN RIGHTS</b>				
<b>Investments</b>				
G4 - HR1	Agreements and contracts that include human rights clauses or that underwent human rights screening	16, 23-25, 81, 108, 122	ERG carries out its activities at national/ European level where such aspects are protected by the law	
G4 - HR2	Employee training on human rights relevant to operations	28		
<b>Material aspect: non-discrimination</b>				
G4 - DMA	Generic disclosure on management approach	108		
G4 - HR3	Total number of incidents of discrimination and corrective actions taken		No incidents were recorded in 2015	
<b>Material aspect: Freedom of association and collective bargaining</b>				
G4 - DMA	Generic disclosure on management approach	81, 108		
G4 - HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and measures taken to support these rights	81, 108	ERG carries out its activities at national/ European level where such aspects are protected by the law	
<b>Child labour</b>				
G4 - HR5	Operations having significant risk for incidents of child labour	16, 23-25, 81, 108, 122	ERG carries out its activities at national/ European level where such aspects are protected by the law	
<b>Forced labour</b>				
G4 - HR6	Operations having significant risk for incidents of forced labour	16, 23-25, 81, 108, 122	ERG carries out its activities at national/ European level where such aspects are protected by the law	

	Indicator	References	Notes	Omission
<b>Security practices</b>				
G4 - HR7	Security personnel trained in the organization's human rights policies	16, 23-25, 81, 108, 122		
<b>Indigenous rights</b>				
G4 - HR8	Violations involving rights of indigenous peoples		No violations were recorded in 2015	
<b>Assessment</b>				
G4 - HR9	Operations that have been subject to human rights impact assessments	16, 23-25, 81, 108, 122	ERG carries out its activities at national/ European level where such aspects are protected by the law	
<b>Human rights grievance mechanisms</b>				
G4 - HR12	Grievances about human rights impacts filed, addressed, and resolved		No claims were recorded in 2015	
<b>SUB-CATEGORY: COMPANY</b>				
<b>Material aspect: local communities</b>				
G4 - DMA	Generic disclosure on management approach	25-28, 141-144		
G4 - S01	Operations with implemented local community engagement, impact assessments, and development programs		The new constructions and the substantial changes to the plants are subject to Environmental Impact Assessment (EIA) procedures which require the involvement of the interested parties (the local communities) for the analysis of connected environmental, landscape and territorial issues.	
G4 - S02	Operations with significant actual or potential negative impacts on local communities		The new constructions and the substantial changes to the plants are subject to Environmental Impact Assessment (EIA) procedures which require the involvement of the interested parties (the local communities) for the analysis of connected environmental, landscape and territorial issues.	
<b>Material: anti-corruption</b>				
G4 - DMA	Generic disclosure on management approach	25-28		
G4 - S03	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified.	25-28		
G4 - S04	Percentage of employees trained in the organization's anticorruption policies and procedures	25-28		
G4 - S05	Actions undertaken in response to incidents of corruption	25-28	No incidents of corruption were recorded in 2015	
<b>Material aspect: political contributions</b>				
G4 - DMA	Generic disclosure on management approach	36-40		
G4 - S06	Value of political contributions	156	The activities of the ERG Group do not include loans to political parties	

	Indicator	References	Notes	Omission
<b>Material: anti-competitive behaviour</b>				
G4 - DMA	Generic disclosure on management approach	25-28		
G4 - S07	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes		No cases were recorded in 2015	
<b>Material aspect: compliance</b>				
G4 - DMA	Generic disclosure on management approach	25-28		
G4 - S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws or regulations		No cases were recorded in 2015	
<b>SUB-CATEGORY: PRODUCT RESPONSIBILITY</b>				
<b>Health and safety of consumers</b>				
G4 - PR2	Incidents of non-compliance with regulations concerning the health and safety impacts of products and services during their life cycle		No cases were recorded in 2015	
<b>Labelling of products and services</b>				
G4 - PR3	Product and service information		ERG produces and sells electricity: product not subject to labelling	
G4 - PR4	Incidents of non-compliance with regulations concerning product and service information and labelling		ERG produces and sells electricity: product not subject to labelling	
G4 - PR5	Results of surveys measuring customer satisfaction		The Group's clients are industrial customers	
<b>Marketing activities</b>				
G4 - PR6	Sale of banned or disputed products		The company does not adhere to voluntary codes with regard to marketing activities	
G4 - PR7	Incidents of non-compliance with regulations concerning marketing communications		No cases of non-compliance were recorded in 2015	
G4 - PR8	Substantiated complaints regarding breaches of customer privacy and losses of customer data		No complaints were recorded in 2015	
<b>Compliance</b>				
G4 - PR9	Fines for non-compliance with laws and regulations concerning the use of products and services		No sanctions were recorded in 2015	

## GLOSSARY

### ACCOUNTABILITY

An organization practices accountability when it periodically reports and discloses the results of its activities in a transparent manner.

### ALTERNATOR

Electric machine that converts mechanical energy into electrical energy. The alternator is protected against malfunctions by a special switch that connects it to the electrical grid.

### ALTITUDE DIFFERENCE

Height difference between the surface of the water upstream and that of the downstream turbine, also called drop, measured in meters.

### AM

Adjustment Market – enables operators to introduce changes to the programmes defined in the Day-Ahead Market (DAM) by way of additional purchase or sale offers.

### ANEMOMETER

Instrument for measuring wind speed. Is installed on measurement masts and measures wind speed in real time. It is also present in the top of the cabin of the wind turbine so as to monitor the production of energy in relation to the amount of wind present on site.

### ARCH DAM

Barrage made of reinforced concrete, in which the forces for to hold the water bear almost totally on the slopes of the valley, because of the curvature of the structure and the forces applied on the sides of the mountains where the dam is supported.

### BLADE

Blades are the components that interact with the wind and are designed with an aerofoil that maximizes aerodynamic efficiency. Most turbines use blades made of composite materials such as fiberglass.

### CCGT - (Combined Cycle Gas Turbine)

A system to maximize the efficiency of power plants by combining gas and steam turbines. The steam is obtained as a by-product of the process to generate electricity using gas turbines.

### CIP 6 FEED-IN TARIFF

The rate paid by the GSE (Gestore dei Servizi Elettrici - National Grid Operator) to producers of electricity from renewable sources that qualify under the provisions of CIP 6/92.

### CODE OF ETHICS

The "Constitution of the organization." The Code of Ethics is an official document representing the company's highest commitment and approval, which describes the values and principles that inspire and guide the decisions and activities of the company. It is the primary source of corporate behaviour.

### CORPORATE GOVERNANCE

The set of rules and organizational structures which allow for the proper and efficient management of the company by governing the relationship between directors, management, shareholders and stakeholders.

**DAM**

Day-Ahead Market - trading session on the IPEX (Italian Power Exchange) during which blocks of hours of electricity for the following day are traded.

**DERIVATION**

Flow diverted from a water flow to be used by the hydroelectric plant.

**DISCHARGE**

Water works to return water to the receptor, after passing through a turbine.

**DSM**

Dispatching Services Market – the instrument used by Terna S.p.A. to procure the resources required to manage and monitor the system (resolution of inter-zone congestion, creation of power reserve, real-time balancing).

**ECONOMIC VALUE GENERATED AND DISTRIBUTED**

The measure of the increase in value generated by the production and distribution of final goods and services through the intervention of the productive factors of a company (capital and labour). It shows how the value generated is distributed among the main stakeholders.

**EIA - (Environmental Impact Assessment)**

Preliminary procedure by means of which the impact of a project on the surrounding environment is assessed.

**EMAS**

An Eco-Management and Audit Scheme is a voluntary instrument created by the European

Community for voluntary participation by organizations (companies, public institutions, etc.) to assess and improve their environmental performance and provide information to the public and other interested parties on their environmental management.

**ENVIRONMENTAL IMPACT**

Any positive or negative, total or partial change to the environment as the result of the activities, products or services of an organization.

**ESS**

Electrical substation.

**ETHICAL RATING**

An ethical rating, or sustainability rating, is a qualitative measure attributed to an issuer and refers to topics other than financial measures: it examines matters relating to governance, transparency, environmental impact, and other aspects of corporate social responsibility.

**EUROSTAT**

The statistical office of the European Union, it is a Directorate General of the European Commission. It provides accurate official statistics for Member States and their regions, other countries of the European Economic Area and Switzerland and, in certain sectors, statistics for the United States and Japan. EUROSTAT is not directly involved in the collection of statistical data, but receives them from the Member States. The statistical information is distributed through printed publications and electronic media.



**FEED-IN TARIFF**

Incentive mechanism that pays for electricity produced under a comprehensive rate (which includes the incentive component and the component of development of electricity fed into the grid).

**FINANCIAL LEVERAGE**

Net financial debt/Net invested capital.

**FLOW RATE**

Amount of water, normally expressed in m<sup>3</sup>/sec (1,000 litres per second) used by a hydroelectric plant or by an individual turbine to generate power.

**FRANCIS TURBINE**

A reaction turbine, which uses not only the speed but also the pressure of the water flow: this, when it reaches the impeller, is even higher than atmospheric pressure. This turbine is used in streams with differences in altitude from 10 to 3/400 meters and medium flow rates.

**FREQUENCY INDEX**

Together with the severity index, it is one of the typical performance indicators of health and occupational safety: with reference to a given timespan, it expresses the ratio between the number of injuries that have occurred and the number of hours worked.

**GEARBOX**

Mechanical device made up of multiple interlinked toothed slewing bearings attached to a shaft. Its purpose is to increase the rotation speed from the rotor to adapt it to the speeds required by the generators.

**GRAVITY DAM**

Masonry barrage of stones and mortar or

concrete, in which the forces to hold the water bear only against the structure of the dam, the article supports the thrust of the water with its weight and with its specific trapezoid-shaped section.

**GREEN CERTIFICATES**

Certificates attributed on a yearly basis to energy produced from renewable sources by installations put into operation after 1 April 1999. Each certificate is issued by the National Grid Operator, Gestore dei Servizi Elettrici S.p.A. (GSE) relative to production from renewable sources for the year (estimate based on expected or final production) and can be used to comply with the obligation to release renewable energy in relation to the year to which it relates.

**GRI - (Global Reporting Initiative)**

A network/organization that has defined the world's most widely used standards for sustainability reporting. » For more information, see the GRI website.

**GRIT SEPARATION TANKS OR GRAVEL TRAPS**

Small basins in which the speed of derived water is lowered and the suspended and transported material settles, cleaning up the water before it releases its energy to the turbine.

**HSE - (Health, Safety, Environment)**

An internationally recognised acronym for Health, Safety and Environment.

**HSE AUDIT**

The set of activities conducted in order to carry out a systematic and objective assessment of performance in terms of Health, Safety and Environment.

## HSE POLICY

The statement of a company's intentions and principles in relation to its overall performance in terms of Health, Safety and Environment. It provides a framework for action and the setting of goals and targets in this field.

## HUB

In a wind turbine a hub is the component that connects the blades to the main shaft, transmitting the power taken from the wind. It is usually made of steel and is protected by the nose cone.

## HUMAN CAPITAL

The entire body of knowledge/skills and characteristics of the worker.

## IAS/IFRS

International Accounting Standards – International Financial Reporting Standards.

## IDM

Intra-Day Market - Place for trading offers for the purchase and sale of electricity for every hour of the day in order to modify the electricity input and output programmes defined on the DAM.

## IMPELLER

The rotating part of the turbine, that receives the water energy and converts it into mechanical rotation energy. An impeller is a component of a turbine and is the active part that inside its housing receives the water from the intake and is held in place by its brackets.

## INTAKE STRUCTURE

The location in which water is drawn upstream of a dam, from which the tunnel or derivation channel departs.

## ISO 14001 CERTIFICATION

### ENVIRONMENTAL MANAGEMENT

The certificate of conformity which an organization obtains from an accredited certification body called upon to assess the compliance of its environmental management system with the ISO 14001 standard. Certification is voluntary.

## ITALIAN CONSOLIDATED

### FINANCE ACT

The Italian Consolidated Finance Act.

## KAPLAN TURBINE

A water turbine which exploits small heads, up to a few tens of meters, but with large flow (from 200/300 m<sup>3</sup>/s up). Constructively it is a blade propeller immersed in the water flow, in which the blades can be oriented to optimize the machine's performance.

## KEY PERFORMANCE INDICATORS (KPI)

Commonly known as KPIs, these are specific indicators to identify and measure the achievement of the company's key objectives.

## KILOWATT-HOUR (kWh) - MWh, GWh and TWh

A unit of measurement of electrical energy equivalent to 1,000 watts delivered or absorbed in one hour. This unit of measure is also expressed in: Megawatt-hours (MWh) equivalent to 1,000 kWh, Gigawatt-hours (GWh) equivalent to one million kWh, and Terawatt-hours (TWh) equal to one billion kWh.

## LIFT

Aerodynamic force generated in a direction perpendicular to the direction in which a fluid flows. Due to the specific profile of their

blades, wind flows at different speeds on either side of the blades of wind turbines. This creates a pressure difference between the two areas and a force perpendicular to the "back of the blade" that thus begins to rotate about the axis of the hub.

### LOAD FACTOR

The measurement used to assess a plant's level of use; it is derived from the ratio between the actual production in a given time period and the plant's maximum theoretical output in the same period.

### LOAD TANK

A small basin at the end of the tunnel or channel, from which the penstock starts; the water incoming to the load tank that is not used by the turbine is returned to the water flow through a dedicated spillway channel.

### MANAGEMENT SYSTEM

The organization, planning, responsibilities, procedures, operating practices, processes and resources to develop, implement, achieve, review and maintain control of all internal and external variables.

### NACELLE

The main part of the machine, located on the top of a wind tower. It contains the generator, the gearbox, brakes, the pitch control and yaw control actuators.

### NON-RECOURSE PROJECT FINANCING

The financing of a project where no guarantees are required from the shareholders of the company being financed.

### OHSAS 18001 CERTIFICATION HEALTH AND SAFETY

The certificate of conformity which an

organization obtains from an accredited certification body called upon to assess the compliance of its occupational health and safety management system with the OHSAS 18001 standard (Occupational Health & Safety Assessment Series). Certification is voluntary.

### OTC

Over the counter contracts. Contracts to buy/sell electricity agreed between parties outside the trading sessions.

### PELTON WHEEL

An optimized turbine to generate power by harnessing big (over 300 m) and small (less than 50 m<sup>3</sup>/s) heads. It is typically used for power stations fed by Alpine hydroelectric reservoirs.

### PENSTOCK

Metal conduit that connects the load tank or the surge tank with the hydroelectric turbine of the hydroelectric plant, which converts the water's elevation-based energy potential into pressure energy. The penstock is protected by an automatic damper that deviates the water flow in the event of a malfunction.

### PEOPLE TIME EQUIVALENTS - FTE (Full Time Equivalent)

The estimated number of people working on a specific activity, obtained by the ratio between the total number of hours worked on those activities and the annual working hours of a single person.

### PITCH ANGLE

The angle between the blade and the nacelle of the wind turbine (which should be parallel to the wind). As a result, it describes the angle of the blade relative to the wind, thus identifying the opposite resistance and

therefore the ability to exploit the wind to generate mechanical energy.

### REMOTE OPERATION

Remote management and control system of a hydroelectric plant; a company's control room normally manages and controls all the company's plants.

### REVAMPING

Significant work to modernise a facility in order to improve or change the technology used.

### SEVERITY INDEX

With reference to a given time period, it expresses the ratio between the number of days of temporary incapacity as a result of an accident and the number of hours worked.

### SHAREHOLDER

The owner of shares in a company.

### SM<sup>3</sup>

Standard cubic metres.

### STAKEHOLDER

Each clearly identifiable subject who may influence or be influenced by an organization.

### STAKEHOLDER ENGAGEMENT

The systematic involvement of stakeholders. The goal is to share the organization's mission with the various stakeholders in order to align the company's goals with expectations.

### SUSTAINABILITY

The ability of an organization to generate long-term value.

### SUSTAINABILITY REPORT

A voluntary document that combines the

financial reporting of an organization with environmental and social aspects.

### SUSTAINABLE DEVELOPMENT

Un Brundtland Report: "to meet the needs of the present without compromising the ability of future generations to meet their own needs."

### TRANSFORMER

A device used to transform electricity to different voltages (high voltage 220,000 V or 132,000 V, medium voltage 15,000 V or 10,000 V, low voltage 220 V or 380 V).

### TRIPLE BOTTOM LINE

An approach that integrates financial performance with environmental and social performance, in order to measure the sustainable value produced by an organization.

### TUNNEL OR BY-PASS

Open or closed conduit; a closed conduit can be under pressure, or open-surface such as open channels. Tunnels and by-passes have a minimum slope and significant size to carry water from the dam, basin or locks through the intake structure, to the surge tank or to the load tank. Tunnels and intake channels are protected by valves or bulkheads which intercept the water flow in the event of malfunctions.

### UNDERGROUND CABLE

Power cable, with specific technical and constructive characteristics, used to transport electricity.

### UNDERGROUND CABLE JOINT

The place where different sections of an underground cable are merged (reels hold between 300 and 500 meters of cable).

## VISION

Highlights what and where an organization wants to be in the future. The vision determines the criteria that inspire the entire strategic planning process of the company.

## WATER TURBINE

A hydraulic machine that transforms the kinetic energy of water into mechanical energy of rotation. A water turbine can be connected directly with machine tools, with pumps or with an alternator to produce electricity.

## WIND TOWER

The structure that supports the mechanical parts of the wind turbine. Its purpose is purely static. Can be a trellis or be tubular.

## WIND TURBINE - WTG

### (Wind Turbine Generator)

Plant capable of transforming the kinetic energy of wind into mechanical energy, which is used in turn to generate electricity.

## YAW

Yaw angle: the angle between the wind direction and the position of the nacelle of the wind turbine. Zero corresponds to perfect alignment.

## YAW CONTROL SYSTEM

Control and movement system that rotates the nacelle relative to the tower. It ensures that the nacelle itself and therefore also the blades are always perpendicular to the wind.

**TOTALERG**

**6**

## AN ONGOING COMMITMENT TO IMPROVE PERFORMANCE IN CONNECTION WITH HEALTH, SAFETY, THE ENVIRONMENT AND QUALITY

When the company was established, TotalErg defined its **ethical principles** and rules of conduct and incorporated them into its **Code of Conduct**, a tool to ensure reliability and protect the assets and reputation of the company. The Code of Conduct is applicable to corporate bodies, employees at all levels, and third parties involved for any reason (affiliates, agents, attorneys, brokers, consultants, dealers and suppliers).

The **"Health, Safety, Environment and Quality Policy"**, the fundamental basis that expresses TotalErg's approach to these issues, is an integral part of the Code, demonstrating the high level of commitment in this area.

Furthermore, the firm created a specific position, called "Sustainability and Operating Risks", the mission of which is to ensure, in accordance with the corporate strategy, the **sustainability of the activities of the Group and managing the operating risks** (identifying, evaluating and acting): in particular, this is implemented by addressing, coordinating and overseeing the health and safety of the workers and third parties, the protection of the environment, protecting the assets, the quality of the products and the compliance activities in connection with

Legislative Decree 196/2003 (Personal Data Protection Code).

### HEALTH AND SAFETY

#### Performance safety and related actions

During 2015, there were **four accidents** at the workplace which occurred to employees of the TotalErg Group: three of these under circumstances **not directly related to work activities** such as going down stairs, getting out of a vehicle, being attacked by an unknown party at the point of sale; on the other hand the fourth instance occurred while making measurements at a point of sale.

The subsequent analysis enabled us to identify the preventive measures necessary to avoid that these kinds of events occur again, and as a result the entire personnel of the TotalErg Group received adequate training. No employees were involved in an injury or accident in the areas of major risk: plant activities and transport.

In 2015 the companies in the TotalErg Group updated their DVR (Risk Evaluation Documents) with the evaluation of the weather and hydro-geologic risks and those resulting from criminal activity.

#### Education, information and awareness

2015 saw the continuation of the planned

training program in the subjects of Health and Safety, which included, in addition to basic **training** and the **risks for new hires**, also updated training for specific risks.

The management of TotalErg periodically participates in the Health, Safety, and Environment Committees which constitute an important opportunity for evaluating the results obtained, as well as organizing the activities.

The Group organizes regular **meetings** with HSE representatives of the Group's

various business areas and of subsidiaries to discuss and agree on the main issues on the matter.

We continued the usual activities to inform employees and raise their awareness on Safety, Health and Environment related matters through our internal communication channels: intranet, signs (Safety Point – Safety campaigns), internal magazines (TotalErg-News), and by organizing company events (**world safety day**).

In 2015 we completed the campaign "Play

## "PLAY THE SAFETY GAME" CAMPAIGN

In 2015 the "Play the Safety Game" Campaign was completed. It was aimed at preventing accidents and incidents by raising employee awareness regarding the identification and reporting of hazardous conditions and 'near accidents', both in the workplace and outside working hours. The initiative took place during the year and involves reporting dangerous conditions and "near accidents" which are shown in different periods in three virtual settings: in service stations, at the depots and non-working situations, specially created on the corporate intranet.

At the end of the reporting period for each setting, a raffle prize was drawn for the participants in the initiative.





the Safety Game”, open to all the Group’s personnel since 2014.

We moreover published and promoted the initiatives “Let’s give ourselves a safe year” and “Golden Recommendations”.

### Installations

We continued the internal checks of the plant and the warehouses during the year, in compliance with the building standards and the inspections set forth in the safety management system.

## ENVIRONMENT

### Evaluation of Weather and Hydro-Geologic Risks

In 2015 we completed a specific evaluation of the weather and hydro-geologic risks at the operating sites of the Group, with particular attention to the risk of flooding. As a result of the measured data, we identified and planned specific actions to mitigate the risk, by providing instructions for the employees on what to do if those situations occur.

## LET’S GIVE OURSELVES A SAFE YEAR AND GOLDEN RECOMMENDATIONS

In 2015 two booklets with the objective of reducing accidents in the workplace were published and distributed to our personnel.

### Let’s give ourselves a safe year

Written on the basis of the statistics of the most common workplace accidents, with particular attention to office activities and those outside of work, it groups together the preventive measures, comprising rules and good habits, that must be known and applied in order to prevent accidents or limit their consequences, in the workplace and in ordinary life. In addition to distributing printed and interactive brochures, videos have been designed and posted on the corporate intranet.



### Golden recommendations

Written starting from the experiences in the workplace, it contains the preventive measures for reducing the risks present most frequently in work activities, with particular attention in relation to the operating sites. It includes simple and fundamental recommendations – mostly behaviours – which, if enacted, would prevent most of the accidents. Its dissemination will constitute the basis of the communication campaign of 2016.



## Waste

Some internal checks were carried out in all the companies of the Group to verify compliance of waste management with both the applicable regulations and the Group's standards, including checks at the destination sites: no lack of compliance was found.

During all of 2015 the SISTRI system (Waste traceability control system, created by the Ministry of the Environment) was operational for the producers of special hazardous waste: as required by the regulations, we continued to use the so-called "dual track", that is to say utilising both the computer system and the customary paper based system.

## Management systems and certifications

During 2015 we perfected an internal control system of the implementation of the Company's Fire Suppression Safety Management System (MoSSA).

As of December 31 2015, the most important plants covered by the provisions of the regulations in connection with the relevant companies at risk of significant accidents – the Rome Refinery, the Common Depot (De.Co.) and the depots at Trecale and Savona – are certified according to international management standards ISO 14001 (environmental management) and OHSAS 18001 (Management System for Health and Safety in the workplace), while the GPL depots controlled by Totalgaz are certified by an ISSRS level 3 accredited third party body, and are on track to obtain OHSAS 18001 certification.

Almost all of the activities and operating

sites in TotalErg's scope also benefit from ISO 9001 certified Quality Management Systems.

## SERVICE AND PRODUCT QUALITY

The programme to monitor the quality of products and services continued, to minimize anomalies and cases of non-compliance with the operating procedures of the various phases of the distribution chain.

In 2015, a total of 845 checks were carried out, of which: 207 were related to housekeeping and the quality of products at the Retail Outlets and Depots; the other 638 were carried out to verify the correct performance of the distribution activities, with particular attention to transport on tankers (goods handling and maintaining their integrity).

Minimizing the losses of product, whatever it is due to, is one of TotalErg's objectives: with respect to the issues related to the process of measuring the quantities, we reinforced the procedures and the standards employed in the measurement activities of the physical quantities associated with the products and the frequency of the verifications and the calibration of the measurement instruments.

TotalErg maintained its certification according to the ISCC (International Sustainability & Carbon Certification) standard for the management of sustainability criteria and traceability of biofuels marketed by the Savona Depot. During 2015 no "lack of compliance" was found during the recertification visit.

## TOTALERG GROUP DATA AND INDICATORS

## OPERATING RESULTS

		2015	2014	2013
Total revenues	million EUR	8,373	9,466	10,399
EBITDA	million EUR	82.3	(42.5)	66
EBIT	million EUR	(12.7)	(129.2)	(26)

## PROCESSING

		2015	2014	2013
Refinery processing	kt	1,609	1,275	1,385
Refinery processing	thousands of barrels/day	33	26	28

## OUTLETS

		2015	2014	2013
Retail outlets	no.	2,608	2,701	3,017
Market share (gasoline + diesel)		10.6%	10.6%	11.3%
Average retail throughput	m <sup>3</sup> /outlet at period end	1,151	1,100	1,054
Wholly-owned outlets	no.	1,675	1,676	1,746
Outlets offering LPG and/or natural gas*	no.	42	52	52
Car wash facilities*	no.	82	91	98
of which equipped with water recycling systems	no.	65	72	39

\* Data only referring to proprietary and directly managed plants.

## PERSONNEL AS AT 31 DECEMBER 2015

	Men	Women	Total
Executives	53	2	55
Middle Managers	182	40	222
Administrative staff	334	265	599
Workers	143	–	143
<b>Group Total</b>	<b>712</b>	<b>307</b>	<b>1,019</b>

	Total
Permanent contract - Full time	999
Fixed-term contract - Full time	7
Permanent contract - Part time	13
Fixed-term contract - Part time	–
<b>Group Total</b>	<b>1,019</b>

## PHOTOVOLTAIC ENERGY

		2015	2014	2013
Outlets with photovoltaic installations	no.	2	3	4
Installed capacity	MWp	0.019	0.028	0.031
Electricity produced	MWh	30	33.7	36
Other photovoltaic plants	no.	5	5	5
Installed capacity	MWp	0.45	0.45	0.450
Electricity produced	MWh	508	435	503

## ENVIRONMENT AND COMMUNITY\*

		2015	2014	2013
Waste produced from site reclamation and new constructions sent for recycling non-hazardous	kt	45.8 93% 89% 94%	38.0 91% 78% 85%	16.3 88% 91% 97%
Petroleum product losses	no. of events	1	4	1
Petroleum product losses	m <sup>3</sup>	9.6	0.4	0.02

\* Data refers to wholly-owned, directly managed plants only, excluding the Rome refinery.

## SAFETY\*

		2015	2014	2013
Employee accidents	no.	4	2	3
Frequency index no. of accidents per million hours worked		2.33	1.05	1.28
Severity index total days lost per thousand hours worked		0.107	0.018	0.031
HSE Training	hours	6,506	7,821	11,614

\* Data refers to wholly-owned, directly managed plants only, excluding the Rome refinery.

# TOTALERG S.P.A. PERFORMANCE DATA AND INDICATORS

## ECONOMIC RESULTS\*

		2015	2014	2013
Total revenues	million EUR	8,096	9,155	10,065
EBITDA	million EUR	50	(77)	30
EBIT	million EUR	(25)	(144)	(44)

\* Values calculated according to Italian accounting principles.

## SALES

		2015	2014	2013
Total sales	kt	5,846	6,747	7,005
of which domestic retail market	kt	2,390	2,369	2,534

## PERSONNEL

	2015	2014	2013
Employees	493	492	644

## DETAILED ANALYSIS OF PERSONNEL - 2014

	Men	Women	Total
Executives	49	2	51
Middle Managers	132	36	168
Administrative staff	154	102	256
Workers	18	–	18
<b>Total</b>	<b>353</b>	<b>140</b>	<b>493</b>

	Total
Permanent contract - Full time	480
Fixed-term contract - Full time	2
Permanent contract - Part time	11
<b>Total</b>	<b>493</b>

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