





Consolidated Non-Financial Reporting drawn up pursuant to Italian Leg. Decree 254/2016

# CONSOLIDATED NON-FINANCIAL REPORTING DRAWN UP PURSUANT TO ITALIAN LEG. DECREE 254/2016



# **CONTENTS**

	LETTER TO THE STAKEHOLDERS	4
	ERG AND SUSTAINABILITY	
	Our history: 1938-2018	6
	ERG: evolving energies	8
	The governance of sustainability	13
	ERG Group's certifications	16
	Dialogue with our Stakeholders	19
	Methodological note	28
	Our sustainability commitments	32
1	GOVERNANCE	
	The Group's Corporate Governance	38
	Enterprise Risk Management	47
	ERG Group's Anti-Corruption System	52
	ECONOMIC RESPONSIBILITY	
· /	Economic value generated and distributed	58
	Key economic indicators	59
	ERG Group's plants	61
	One Company-One ICT	62
	Management of wind farms	64
	Analysis of blades with the telescope: technical ground controls	69
	Training our people: a resource for turbine management	70
	Warehouse project	72
	Management of hydroelectric plants	74
	Management of the thermoelectric plant	78
	Energy management	83
	ERG and open innovation	86
	Suppliers and the ERG Group	87

		TALE DE	
-M	/IRI INIMIE	·NIIAI PE'	SPONSIBILITY
	A HIZOLATI-I E	.	JI UITUIDILI I

The European and global approach to climate change	92
CO <sub>2</sub> avoided: 2017	102
The reduction of CO <sub>2</sub> emissions	104
Atmospheric emissions: a sustainable and reliable commitment	106
Improving infrastructure for communities	107
Environmentally-friendly construction and management	108
New mini hydro plants	110
Managing Minimum Vital flows	113
Waste management at ERG Hydro: recovery the absolute priority	114
The Oasis of Alviano	117

# **SOCIAL RESPONSIBILITY**

Our safety management system	124
ERG Hydro: the large dams	127
Detention of river overflows	129
What Talent means for ERG	134
Sourcing, recruiting, onboarding: welcome to ERG	135
Human Capital Coverage: what happened in 2017?	140
Experience and Training to increase the coverage of the roles	142
The training approach within ERG	143
New Leadership Model	146
Human capital and rewarding policies	148
Pay for performance	151
One company, One contract	153
Communication within ERG	155
The main community initiatives	160
ERG for young people	164
The Edoardo Garrone foundation	166

DATA AND INDICATORS	174
AUDIT REPORT	186
GRI G4 CONTENT INDEX	190
GLOSSARY	197

# LETTER TO STAKEHOLDERS

2017 marks the end of ERG's change of business process.

After almost ten years, the sale of TotalErg and the company's entry into the photovoltaic sector have brought an end to our industrial transformation process from oil to renewable energies.

Today, just like yesterday, we are leading operators in the energy sector; the difference is that we now have a new guise, that of GreenEnERGyMaker, an Independent Power Producer focused on renewable energy in Europe, where we continued to grow also in 2017.

Growth that was marked by the gradual insourcing of the Operation & Maintenance activities of our wind farms both in Italy and abroad with the aim of capitalising on the legacy of industrial expertise with which we have always been associated.

Our goal is to do business in a sustainable way, in line with the decarbonisation policies that the international community continues to adopt in order to combat the phenomenon of climate change.

In fact, in recent years there have been numerous sustainable development initiatives that have not only involved countries, such as the Paris Agreement signed by 195 countries during the UN COP 21 in 2015, but also businesses, who are called to help meet the United Nations' 2030 sustainable development goals, the UN SDGs.

ERG's entry into the photovoltaic sector and the further growth of its installed wind energy capacity are evidence of its concrete commitment to supporting these policies.

In March 2018 the Group presented its new business plan: a 5-year project that involves important developments in the renewable energy production sector, enabling us to further reduce the carbon intensity of our energy production, an index we have already managed to reduce by 89% in the last ten years.

With the aim of implementing this plan as successfully as possible, we have defined a new leadership model which reviews managerial competences and strengthens the values we hold dear and which form the basis of our relations with our stakeholders. It is our people and our values that have enabled us to meet important challenges in the past and which will guide us towards our ambitious future objectives.

Our One Company organisational model also underwent important developments in 2017 such as the gradual unification of the Environment, Health and Safety Management Systems and, following thorough consultation with the social partners, the adoption of a single collective labour contract, that of the electric sector. ERG therefore consolidates its standing as a single, compact business that works with the common goal of growing, producing and developing in a sustainable way.

As of this year sustainability is also a compliance issue, subject to the regulation of Italian Leg. Decree no. 254/2016. This development is formal recognition of the importance that the reporting of non-financial information plays in enabling us to fully understand the complexities of the modern business and its role in society.

A commitment to information and transparency which, also in the absence of legal obligations, we have undertaken voluntarily for over ten years through the publication of our Sustainability Report. And to accompany the new challenges that await ERG there will also be a new logo, unveiled at the presentation of the business plan: a stylised letter E in dark blue, light blue and green, recalling the colours of the natural world and our close connection with the forces of nature. These shape the new logo, clearly expressing the origins of our energy. Just like sources of energy, which change and evolve over time, ERG has also transformed over the years and the motto "evolving energies", which accompanies the new logo, summarises both our history and our future, the product of our ceaseless dynamism.

Hope you enjoy it!

Edoardo Garrone

Chairman

Luca Bettonte

Chief Executive Officer

# **OUR HISTORY: 1938-2018**

Production begins at the Genoa San Quirico refinery.





ERG is listed on the Italian Stock Exchange.



ERG enters the renewable energy sector by acquiring EnerTAD.

1947

1997 1975 <u> 2006</u>

Edoardo Garrone founds ERG

1938

in Genoa.





Production begins at the ISAB refinery in Priolo.

ERG - through ISAB Energy begins to produce and market electricity from the gasification of heavy refinery residues.

2000



ERG sells 49% of the ISAB refinery to LUKOIL.



2008

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



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

FRG sells its ISAB Energy plant and its ERG Oil Sicilia



fuel networks.



ERG enters the UK wind power market with a 47.5 MW project.

Installed wind power at the end of 2016 totals 1.721 MW.

FRG enters the solar sector (30 photovoltaic plants acquired. 89 MW in operation).



Definitive exit from the Oil sector with the sale of TotalErg.

2010

2014

2016

2018

2013

ERG becomes the first wind operator in Italy with 1.087 MW of installed capacity, and among the top ten in Europe (overall 1.340 MW) and acquires a company for the operation and maintenance of its wind farms.



ERG sells the ISAB refinery and completes its exit from refining.

2015

ERG enters the hydroelectric business, with plants in Umbria, Marche and Lazio (527 MW).



ERG acquires 6 wind farms in France (64 MW) and builds 3 wind farms in Poland totalling 82 MW.

Installed wind power at the end of 2015 totals 1.506 MW.

2017



**ERG** continues to grow in the wind sector: 48 MW in Germany: 16 MW in France.

Installed wind power at the end of 2017 totals 1,814 MW.

# **ERG: EVOLVING ENERGIES**

In 2017 we concluded an important industrial transformation process, launched 10 years ago, based on sustainability and renewable energy.

On one hand, the sale of our shareholding in TotalErg represented our definitive exit from the oil business. On the other, with the acquisition of 30 solar arrays in Italy shortly afterwards we entered the solar energy market and added an important new component to our portfolio, which already featured three different technologies (wind, hydroelectric and high-yield thermoelectric).

In 2017 we further developed our presence on the German wind power market, reaching 216 MW of installed capacity thanks to the acquisition of 6 farms of a total capacity of 48.6 MW. We also strengthened our presence in France with the acquisition of two new farms totalling 16 MW, taking our capacity to 252 MW. Still in France, we also purchased a pipeline of around 300 MW of wind energy projects located in highly windy areas.

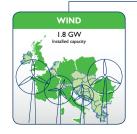
Today ERG is a leading European producer of electricity from renewable energy sources with an overall installed capacity of almost 3,000 MW and a production structure based on four different technologies, both non-programmable (around 1,800 MW of wind power and 89 MW of solar energy) and programmable (527 MW hydroelectric and 480 MW of high-yield cogenerative thermoelectric power).

Our assets comprise a generation mix of the highest quality in terms of:

- balance, thanks to the presence of programmable and non-programmable sources;
- the integration and complementary nature of the four generation technologies;
- geographical diversification with wide coverage of Italy and a significant presence in the wind energy sector of six other European countries.

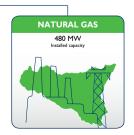
ERG managed to meet the goals of the 2015-2018 plan by the end of 2017 and presented the new 2018-2022 business plan a year in advance.











SOCIAL

**RESPONSABILITY** 

FRG AND

SUSTAINABILITY

A commitment that has enabled us to plan our development path in the renewable energy sector in Italy and abroad, leveraging on our industrial expertise, the quality of our assets, our operating efficiency and - through Energy Management - the integrated management of our portfolio.

In order to support the new strategic plan, we have defined a new leadership model which reviews and redefines the key managerial competences, strengthening the values we hold dear and which form the basis not only of our business approach but also our relations with our stakeholders

## WIND

In the wind power sector, we have reached an overall installed capacity of 1,814 MW, consolidating our position as leader in Italy (1,093 MW) and one of Europe's top ten operators.

Our presence abroad continued to grow in 2017, exceeding 700 MW in total across France (252 MW), Germany (216 MW), Poland (82 MW), Romania (70 MW), Bulgaria (54 MW) and Northern Ireland

(47.5 MW), where the Brockaghboy<sup>1</sup> wind farm1 became operational at the end of 2017.

In 2017 we continued with the strategy of insourcing Operation & Maintenance activities, generating benefits in terms of improved plant productivity and cost-effectiveness. At present we directly manage 1,249 MW, the equivalent of around 70% of our total portfolio.

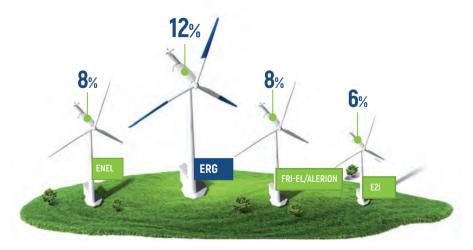
#### **SOLAR**

In November 2017 we signed an agreement for the acquisition of 89 MW in the photovoltaic sector consisting of high-quality plants evenly distributed across Italy, also in the North Italy market.

#### HYDROELECTRIC

Through the Terni Complex we produce hydroelectric energy thanks to an integrated portfolio of assets currently made up of 19 power stations, 7 dams, 3 reservoirs and a pumping

## **ERG: ITALIAN MARKET SHARE**



<sup>1</sup> Brockaghboy wind farm sold on 7 March 2018.

station, located in the regions of Umbria, Marche and Lazio, with an overall capacity of 527 MW.

In 2017 we developed, authorised and opened 3 new mini-hydro plants in Visso in the Province of Macerata (41 kW), at the dam of Lake Turano in Rocca Sinibalda, Lazio (97 kW), and at the barrier of S.M. Magale near Terni (234 kW).

## NATURAL GAS

We are present in Sicily with a natural gas-fuelled thermoelectric power plant (480 MW) located in the industrial site of Priolo Gargallo (SR). This high-yield cogeneration power plant is based

on next-generation combined cycle technology: a source of low environmental impact, programmable, flexible and efficient energy which, like hydroelectric, guarantees continuous and flexible production.

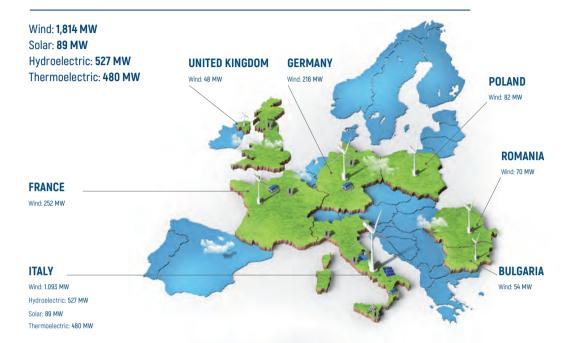
#### **ENERGY MANAGEMENT**

Through Energy Management, combined for all of the generation technologies with which we operate, we manage and sell a total volume of approx. 12 TWh of electricity a year, around 7 TWh of which is produced directly by our plants, optimising production according to the demand of the electricity market.



# **ERG LOCATIONS**

ERG AND SUSTAINABILITY





12

# **ERG'S SUSTAINABILITY IN NUMBERS**



1,056 million EUR Total revenues from ordinary operations



746 million EUR



**2,821** MW Total installed capacity



from renewable sources



Electric power generation





**2,901** kt

CO2 avoided by production of electricity from renewable sources



thousand

Equivalent Rome - New York roundtrip flights



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



**714** employees



6.6 days/year

# THE GOVERNANCE OF SUSTAINABILITY

**FCONOMIC** 

The founding principles of the Group's Code of Ethics are set out in our sustainability policy and our body of procedures. The Code of Ethics does not simply address the compliance with rules and regulations, but is aimed at the sustainable management and development of our business.

GOVERNANCE

A concrete example of the attention we give to sustainability is our decision to entrust the CEO with sustainability management.

Furthermore, to coordinate the operations and monitor all sustainability activities, we established a Sustainability Committee within the ERG Group to:

- · define the 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 actions related to CSR:
- approve the materiality analysis, timing and media for the Sustainability Report and for CSR initiatives.

# **CSR IN THE GROUP'S** ORGANISATION CHART

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

BoD Resolution of 12 May 2016.

The Sustainability Committee includes:

- Chairman:
- CEO:
- Executive Deputy Chairman;
- CFO;
- Managing Director of the company in charge of power generation and distribution;
- Chief Human Capital Officer;
- Chief Public Affairs and Communication Officer.

During 2017, the Sustainability Committee led the transition process from the Sustainability Report to Non-Financial Reporting (NFR) according to legal requirements.

Our approach aimed at full transparency towards stakeholders and the resulting breadth of our existing reporting allowed the contents of the document to remain essentially the same. We updated the structure and messages on the basis of the new materiality analysis and we focused on formalising our reporting procedures as required by the new approach to compliance.

The Committee receives support from the Sustainability department, which, in line with the operational functions defined by the CSR Working Groups, is tasked with:

- · collecting all the inputs coming from the lines, representing them in the Sustainability Report set up according to international benchmark standards;
- supporting the Committee in carrying out its tasks, in particular in monitoring, reporting and operations (via the CSR Working Groups);
- operationally implementing the CSR-related identified by the Sustainability actions Committee within the Group.

13 I

## SUSTAINABILITY GOVERNANCE



## **BOARD OF DIRECTORS**

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



## **SUSTAINABILITY COMMITTEE**

Comprises the Chairman, the Deputy Chairman, the CEO and the CFO of ERG S.p.A., the Chief Operating Officer of ERG Power Generation, the Chief Human Capital Officer and the Chief Public Affairs and Communication Officer. Defines the Group's directions on sustainability; approves, monitors and assesses the sustainability-related objectives and the priority areas for action related 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 Leg. 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 results 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

A working group that crosses the organisational units and is tasked with:

- identifying the areas to report on and collecting 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 Group staffs awareness.



# CSR INITIATIVES EVALUATION COMMITTEE

Working group composed of personnel of the operating companies, of the Communication department and of the Sustainability department. Analyses all the initiatives coming from the community and then selects them based on the values they express and the positive impact they have in that area.

The CSR Working Groups are transversal to the organisation units and are tasked with:

GOVERNANCE

FRG AND

SUSTAINABILITY

- · identifying the areas to report on in the Sustainability Report;
- · defining the KPIs deemed of significance for representing the Group's activities, and identifying new ones, if necessary;
- identifying initiatives and collecting requests from the main stakeholders, so that they are

given the right value, also in the Sustainability Report;

The Sustainability management system also includes the Supervisory Committee, established pursuant to 231 Model. This Committee is set up in all of the Group's Italian companies and has Ethic Committee duties.

## THE SUSTAINABILITY POLICY

The Sustainability Policy, in line with the principles set out in the Code of Ethics, directs the Group's activities, combining the objective of creating sustainable value over time with environmental responsibility and attention to internal and external stakeholders. It was approved in 2015, and in 2016 we worked to make it one of the key elements of the Group's corporate culture: we shot an easy and engaging video to be published on our website and Intranet and we organised induction courses for newly-hired employees, so that they are "in sync" with the same principles.

The Sustainability Policy aims at defining values, commitments, goals and organisation in the field of sustainability and must be applied together with law provisions and regulations of the Countries where ERG is present or that have been adopted by the Group.

Among the Sustainability Goals for the 2016-2018 period, the Sustainability Committee has added its commitment to a wider dissemination of the principles contained in the Policy, both internally and externally.



# **ERG GROUP'S CERTIFICATIONS**

Until the start of 2017, the ERG Group had an organisational structure divided according to business area.

This resulted in the creation and overlapping of different management systems that, while building on the same general principles of the Group, were structured according to each specific organisation.

The One Company project focused on the centralisation of our operational activities within ERG Power Generation. From an organisational point of view, this generated a concentration of risks in the company itself, making it essential to oversight health issues, workers' safety and the environment, with a view to protecting the persons in charge (foremost the Employer).

The clear goal of ERG group's management has been to rationalise and harmonise the company's safety and environmental management systems.

A project for the integration and unification of the existing systems was therefore set up in order to implement a single integrated environmental-safety system which could be managed centrally, but still in keeping with the operational and technological differences of the various areas.

100%

ITALIAN SITES CERTIFIED ACCORDING
TO THEIR ACTIVITIES

The final aim of the project, which will be developed in 2018 and completed in 2019, is to provide ERG Power Generation with an integrated environmental-safety system that covers the various areas of operation (Hydro, Wind, Thermo and Solar).

The specific aim is to "transform" the existing situation that consists of seven environmental-safety certificates and two participations into the EMAS Regulation (Thermo and Hydro) into one with two integrated environmental and safety certifications that cover the operational activities of ERG Power Generation, and with the current participation in the EMAS regulation.

The general structure of the procedures will be simplified and streamlined following the issue of cross-cutting documents that will be valid for the entire organisation and will ensure the harmonisation of principles and guidelines at Group level.

Operational activities, which are specific to every area, will not be changed. This phase will also include the transition from standard OHSAS 18001 to standard ISO 45001 with regard to safety aspects.

The project will also include the legal entities recently established in France and Germany which manage the wind farms belonging to the company's portfolio. This will allow us to extend a management system to all our companies in line with their activities.

The benefits of this project may be summarised as follows:

· Coherence with the "One Company" project,

FCONOMIC

RESPONSABILITY

ensuring greater coordination among the various business areas

GOVERNANCE

- Creation of a team within the organisation made up of the current Management System managers of the single Units and coordinated by the HSE department, specifically in charge of the activities set out in the Management System
- Structuring and simplification of the document management system based on two levels:
  - "Group" management procedures to ensure uniform management processes;
- Operational procedures drawn up by the Units which reflect the specific features of the 3 business areas





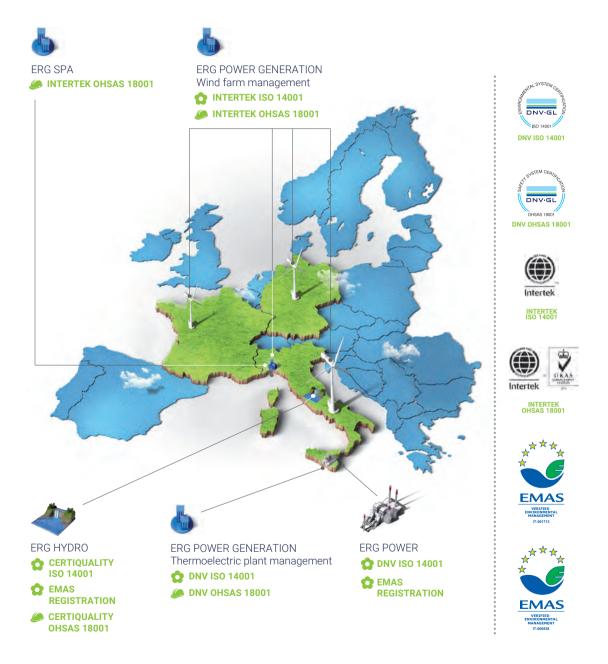
## **ERG GROUP'S EMAS REGISTRATIONS**

The thermoelectric power plant of ERG Power and the Terni Hydroelectric Complex, in addition to holding ISO 14001 (environmental) and OHSAS 18001 (safety) certifications, obtained EMAS registration (Eco-Management and Audit Scheme) pursuant to European Regulation EC 1221/2009. These registrations entail updating our Environmental Statements every year and, therefore, maintaining constant dialogue with the local community.

We truly believe that active dialogue and a sustainable development model are essential for our growth while respecting the environment and bringing added value to our community.

18

## ERG GROUP'S ENVIRONMENTAL AND SAFETY CERTIFICATIONS



# DIALOGUE WITH OUR STAKEHOLDERS

**FCONOMIC** 

RESPONSABILITY

The significant geographical coverage we have achieved (10 regions in Italy and 6 countries in Europe) leads us to interact with a wide range of stakeholders and to modulate our policies of engagement and communication to better respond to stakeholders' needs and to the change of our business. Lawfulness, honesty, fairness, equality, privacy, equity, integrity, transparency, responsibility and sustainability: these values are at the basis of our way of doing business and of our relationship with all stakeholders, from central authorities to local bodies, from customers to suppliers, from shareholders to employees.

We are now one of the most important electricity producers (mainly from renewable sources) and we operate in a regulated market. We carefully manage our relations with the institutions and with local communities to share our strategies and CSR initiatives in the area where we work.

The change of our business model provided the opportunity to improve our communication with the financial community and with the media to share our development plans. Furthermore, following the recent entry into force of Italian Leg. Decree 254/2016 governing the preparation of Non-Financial Reporting for Public Interest



20

Groups, we are further driven to improve communication towards our stakeholders, especially our financial stakeholders (main addressees of the law).

Here below is an overview of the main stakeholder engagement activities that we implemented in 2017.

#### ERG AND ITS INSTITUTIONAL STAKEHOLDERS

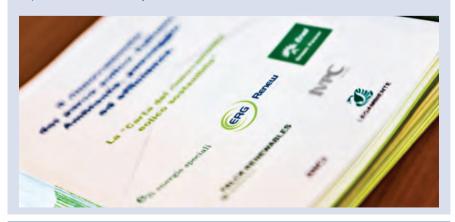
The industrial sector where ERG operates is regulated by European and national regulations which require ongoing supervision of the current regulatory framework, as well as changes in measures that have been approved or are in process, based on the principles of sharing,

## WIND POWER RENEWAL CHARTER

Relaunching the country's wind assets was one of the priority actions of the new National Energy Strategy (SEN 2017) and was considered essential to achieve the 2030 target of electricity production from renewable sources.

The "Charter for Sustainable Wind Power Renewal" was created in 2015 by the main wind energy operators (including E2i, Enel Green Power, Falck Renewables, IVPC), by the representatives of environmentalist associations (Legambiente) and institutions (ANCI). It was drawn up to respond to the country's need to relaunch the wind sector in Italy. The Charter lays down the rules and application criteria, standards, procedures and best practices to make the renewal projects for existing Italian wind farms more sustainable, in compliance with natural and social eco-systems, thus guaranteeing a greater "green" production capacity with lower environmental impact and enhancing the areas and municipalities where wind farms are located. Many of these areas boast a great vocation for tourism, culture and agriculture. In operational terms, implementing the "Charter" means defining a regulatory framework to:

- simplify the procedures for the authorisation of "renewal" interventions in the sites where the wind power vocation is higher, in line with the landscape protection criteria;
- integrate the projects with the initiatives to expand the electrical networks;
- increase the production of "green kilowatt hours" in a satisfactory and sustainable way, for both the operators and the community.



ECONOMIC RESPONSABILITY

ERG AND SUSTAINABILITY

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

Association	Purpose	ERG Participation
Elettricità Futura	The main Italian association of the electricity sector, comprising over 700 operators that employ over 40,000 people and holding more than 76,000 MW of installed electrical power (conventional and renewable) and around 1,150,000 km of lines. Over 70% of electricity consumed in Italy is supplied by member companies, bringing together around 120 companies operating in the free market and providing about 90% of the electricity generated in Italy.	Governance Bodies and Technical Groups
ANEV	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
AIGET	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
Assonime	Association of Italian Joint Stock Companies that works towards improving industrial, commercial, administrative and tax legislation in Italy.	Governance Bodies.
Confindustria	Together with the local associations, national trade associations, regional Confindustria federations and national trade federations, Confindustria is the main association representing manufacturing and service companies in Italy.	Governance Bodies (Chairmanship Genoa Confindustria) and Technical Groups
Confindustria Energia	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
WindEurope	Representing the interests of the wind industry and sector in Europe, it is a European branch of WWEA, the world wind energy association.	Governance bodies and Technical groups
IEFE	The Research Centre at Bocconi University, dedicated to the study of energy economics and policy, also focusing on technology issues.	Technical Groups.
Fondazione Civita	Organisation established by a group of public and private companies, public research institutions and universities which, with over 160 members, is engaged in the "promotion of culture" through research, conferences, events, publications and projects.	Governance Bodies.
WEC Italia	A multi-energy network of industrial, institutional and academic members in the 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.
Unione Petrolifera	Association of the major oil companies involved in petroleum refining and the distribution of petroleum products in Italy.	Governance Bodies.
RWEA - Asociatia Romana pentru Energie Eoliana	National Romanian association of wind energy operators.	Technical Groups.
PWEA - Polish Wind Energy Association	National Polish association of wind energy operators.	Technical Groups.
FEE - France Energie Eolienne	French association of wind energy operators. Established in 1996, it represents over 90% of wind turbines installed throughout France and over 85% of wind energy production.	Governance bodies and Technical groups.
BWE - Bundesverband WindEnergie	Association of German wind energy operators established in 1996. It has over 20,000 members and is one of the leading associations in the world. It is affiliated to the European Wind Energy Association (EWEA), the Global Wind Energy Council (GWEC) and the World Wind Energy Association (WWEA).	Technical Groups.
Renewable UK	Leading association in the UK renewable energy sector, specialised in on and off shore wind energy and in tidal power. Established in 1978, it counts on a large number of members ranging from small independent businesses to large companies and international producers.	Technical Groups.
CCE - Conseil de Cooperation Economique	Advisory committee established in 2002 under the patronage of the governments from Spain, France, Italy and Portugal. It deals with the support of economic issues within the scope of European Councils and bilateral economic Summits.	Governance Bodies.

22

inclusion and dialogue put in place by the institutions. In this context, maintaining and developing relations, through constant and transparent dialogue, with Institutions, Sector Associations and other operators, as well as

with the main players of this sector and with associations (Confindustria, Elettricità Futura, ANEV, AIGET, WindEurope, foreign associations of the wind energy sector) allows us to strengthen our position as an industrial operator of

## **OUR STAKEHOLDERS: EXPECTATIONS AND TERMS OF ENGAGEMENT**

Stakeholder	Stakeholder expectations
Institutions 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.
Shareholders	Creation of value. Corporate Governance and Risk Management. Representation of minorities. Transparency and timeliness with regard to economic and financial information.
Financial community	Creation of value. Corporate Governance and Risk Management. Transparency and timeliness with regard to economic and financial information.
People and trade union organisations 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.
Local communities 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.
<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.
Media	Complete, timely and transparent information.
Suppliers	Respect for all competition and antitrust laws in the countries of operation. Accessibility to the "vendor list". The safety of in-field activities.
Partner	Creation of value. Acceptance of common values in the development of the strategy and business management.
Customers	Maximising value for the customer. Quality and continuity in the supply of electricity and steam (site customers).

ECONOMIC

RESPONSABILITY

renewable energies and to play a leading role in developing green economy and implementing decarbonisation policies. Over recent years, we have been actively involved in working groups, with a great sense of responsibility and transparency,

and we have made our know-how and specific expertise available for all. The most important working groups we took part in regarded the following issues:

· the Clean Energy Package presented by the

Terms of engagement	2017 engagement activities
Dedicated meetings, round tables and conferences.	ERGLAB. WindEurope event held in Hamburg. Participation in events and round tables on the topics of energy and environment. Accreditation from central and local institutions.
Webcasts. Press releases. Roadshows. Events related to the presentation of the business plan.	Webcast to present quarterly results.  Press releases and sustainability news providing constant information about the Group's activities.
Webcasts. Press releases. Roadshows. Events related to the presentation of the business plan.	Webcast to present quarterly results.  Press releases. CEO and CFO roadshows in the main European financial centres.
Activities and tools for training, assessment and internal communication. Events during the year. Team building.	Training for 97% of ERG's people. Internal communication events for employees and their families. "Pilot" company volunteering projects. Collective bargaining for the transition to the new Group electricity collective labour agreement.
Relational activities with local communities in line with our businesses. CSR initiatives on the territory for "environment and health", "promotion of culture", "youth and sports". Events with local press.	Support to social, cultural and health activities in the areas served, by means of donations.  Call for ideas at a local and International level (XEI and ERG Re-Generation challenge).  Engagement activities with local communities for our development projects in England.
Training and information projects.  CSR initiatives on the territory for "promotion of culture" and "youth and sports".	Vai col vento, A tutta acqua, Progetto Scuola, Electricity Day.
Events with the financial press, press releases to disclose our financial statements, business plan and corporate transactions.	Relations with the press office for the dissemination of our periodical results and extraordinary transactions.
Web platform. Involvement and monitoring on "occupational safety" issues.	Implementation of a new supplier qualification platform. On-site HSE audits and activities for the control of suppliers' performance.
Specific mini relational events.	-
-	-

European Commission;

- · the proposal on the Emission Trading reform;
- national initiatives regarding the review of the National Energy Strategy, the reform of the Energy Market and the implementation of the Capacity Market;
- the incentive schemes for renewable sources and the re-launch of existing installations;
- the review of regulations governing hydroelectric concessions.

This active participation in the country's policies allows us to continually enhance the Group's reputational capital, which stems from the values of technical know-how, transparency, ethics and independence.

In order to guarantee utmost transparency in the management of our relations with institutional stakeholders, we adopted an internal control

system based on procedures integrated into the Organisational Model (formerly Italian Leg. Decree 231/01 as amended) and a specific disciplinary sanctions system. We also adopted a special policy, under which no direct or indirect contributions are paid, in any form, to political parties, movements, committees, political organisations or trade unions, nor to their representatives or candidates (with the exception of cases set by specific regulations).

#### ERG AND INTERNATIONAL RELATIONS

In order to strengthen our presence internationally, in addition to taking part in European institutional and association working groups, we continually monitor the main working groups held in Brussels, a privileged observatory of changes in legislation, in particular on energy and on the environment.

# **ERGLAB**

ERGLab is the ERG think-tank that encourages an open exchange of views with stakeholders from the energy sector and is designed to study in depth the energy and environmental challenges which Europe and Italy will have to face in the near future and to imagine and share the sector's potential development paths and evolution.

2017 marked ERGLab's fourth year of activity. In line with the previous editions, we organised three events focusing on current issues of the energy sector: the transition from the protected to the liberalised energy market, the outlook for wind farm repowering and the new tools enabling renewable electricity production required for SEN (Strategia Energetica Nazionale, national energy strategy) implementation.



A fourth event was organised to exchange ideas with utility companies and institutions on non-financial information reporting. Assuming therefore that companies belonging to the same sector share common problems and solutions in the implementation process, we had an interesting discussion about materiality analysis, risk analysis and policy implementation.

ERGLab confirmed its effectiveness in consolidating further the relationship of mutual trust with the most influential players of our sector's institutions and the business world.

At the same time, the follow-up of regulatory and legislative change in the Member States where we are present (France, Germany, Bulgaria, Poland, Romania and the UK) is ensured by monitoring business associations and through direct dialogue with the national institutions.

## ERG AND THE FINANCIAL COMMUNITY

GOVERNANCE

FRG AND

SUSTAINABILITY

We are constantly committed to reporting to the Financial Community all the information that can help to assess investment opportunities in our shares, in a transparent, strict and timely manner, in full compliance with the applicable provisions on the dissemination of price sensitive information. Ongoing information updates on the industrial developments undertaken and clear communication on development strategies are essential for maintaining the trust of the markets and for supporting the value of a Company like ours, especially during the complex industrial repositioning process recently addressed by ERG. 2017 we completed ERG's industrial transformation from an oil operator to an independent producer of electricity mainly from renewable sources: following its definite exit from the Oil sector with the sale of its interest in TotalERG, ERG enhanced its portfolio by taking its first step in the solar business and acquiring 89 MW in Italy.

Together with analysts and investors, we focused

our dialogue on explaining ERG's transformation process and on better defining the Group's strategic logic and objectives resulting from the business change. Moreover, thanks to our new industrial position, ERG is now fully part of the Utilities sector - Alternative Electricity industry of the FTSE Italia All-Share index. This classification has not only allowed ERG to increase potential access to ethical investors primarily focused on CSR issues, but has also favoured a better identification of its shares in the Utility sector. which benefited from a re-rating by the market in 2017.

Instead, 2018 will be the year in which ERG will unveil its new business plan: the first after the Group's transformation. A roadshow programme in the major financial centres will be crucial to explain our strategies, objectives and financial targets to investors.

#### Financial communication tools

The roadshow and one-to-one meetings are the main communication tools used with the Financial Community both in Italy and abroad. Also in 2017, the Investor Relations department and the Top Management held important roadshows in all major European financial centres (Milan, London, Paris, Geneva) and took part in conferences and events organised by banks - in some cases by Borsa Italiana. However, since the completion of

## **OUR SUSTAINABILITY RATINGS**

As leading operator in the field of renewable energy, we strive to strengthen dialogue and transparency with the companies and analysts that assess ERG according to ESG (Environmental, Social, Governance) parameters.

Specifically, in 2017 ETHIBEL included ERG in the Ethibel EXCELLENCE Investment Register for the first time. Furthermore, OEKOM updated its rating in the light of ERG Group's exit from the Oil sector and included us among the "PRIME" companies of the utilities sector with a rating well above the average and, along with other companies, the best score of our industry.

GOVERNANCE

the transformation process strongly involved the entire Group, in 2017 we did not carry out as many roadshows as the previous year. We decided that it was better to postpone part of them until after the presentation of the business plan, to better illustrate to investors the Group's new strategy as part of its growth process in renewable energy, also with a view to the altered regulatory and competitive framework.

As evidence of the constantly increased attention towards ERG by investors interested in CRS issues, we involved 10 ethical investors in our meetings. Furthermore, on 10 July 2017 we were invited for the first time to participate in the Sustainability Day organised by Borsa Italiana, where ERG's management explained the Group's transformation process and its ESG commitments in detail.

In addition to one-to-one meetings, financial analysts can also contact the Investor Relations department via conference call or follow live

# **CSR WORKING GROUPS**

The main working groups we actively take part in are the following:

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

Furthermore, given the Group's increasingly international role, we are considering membership with international bodies that represent the principles and the main global approaches towards sustainability.

via webcast the financial results presentations at www.erg.eu, where they can access whatever document they need to understand our business trends. This option is available also to retail investors. Finally, the Investor Relations department also uses popular social networks (Twitter, Linkedin, YouTube, Slideshare) and a dedicated email address for its external communication activities. These tools are provided to whoever needs information or clarifications about our company and/or its business.

#### **ERG AND THE COMMUNITY**

Our activities in the areas where we work aim at increasing the value we deliver to the local area and at supporting the development of local communities, with constant involvement and a transparent, open cooperation. All of our initiatives and investment projects are initially assessed for the positive results they can achieve over time and they are developed by involving local communities as much as possible: from the design phase to the construction work, for which we prefer to select local contractors. This is the approach we used for the fourth edition of "Vai col vento!" (Go with the Wind!), an environmental education project that involved students from the third year of middle school (stakeholders playing a double role as "future generation" and "local communities") from the areas where our wind farms are present.

This successful format led to the creation in 2017 of a similar project "A tutta acqual" [Water at full speed!] for secondary schools in the areas where our hydroelectric plants are located. Furthermore, with a view to fostering activities able to generate value for the area, we launched the "ERG Re-Generation Challenge", a "call for ideas" in cooperation with local institutions and the Universities of Perugia and

27 I

ΠΑΤΑ ΑΝΠ

INDICATORS

Macerata. The competition ended in 2017 and aimed at finding projects to be implemented in the area, specifically related to renewable energy and innovation in the field of energy production. Lastly, in Sicily, where our natural gas thermoelectric plant is located, we developed the "Progetto Scuola", a set of training activities on the respect of the environment, on road safety and sports initiatives.

GOVERNANCE

For detailed information about these initiatives, see paragraph "The main community initiatives".

## **ERG AND THE MEDIA**

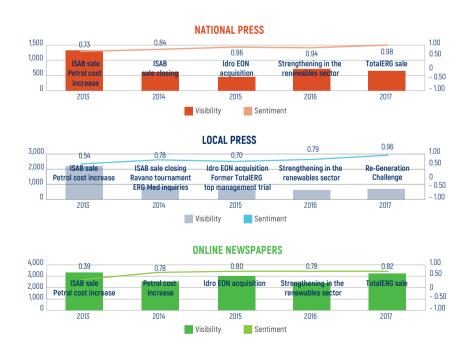
FRG AND

SUSTAINARII ITV

ERG's official communications are spread by the Media Relations department, which correctly represent the Group's position and strategic guidelines, providing full, transparent and timely information.

From news to press releases, from events to reports, from photo galleries to social networks, we tell the story of ERG using different languages that meet the information needs of our main stakeholders (the national and international medial and of a broader and more diversified audience. This communication method which focuses on quality and the reliability of information, as well as on compliance with existing legislation on the communication of listed companies, has enabled us to increase gradually but constantly - both the visibility and the positive perception towards our activities, our way of doing business and our values (see graphs below).

Furthermore. the main documents information about our Group, the operating and financial results achieved, the press releases, the press kits, the biographies and photos of our management, and our institutional videos are easily available in the MEDIA area of our official website (www.erg.eu). The resources can also be downloaded and viewed via the mobile version of the website.



FRG AND

SUSTAINABILITY

# METHODOLOGICAL NOTE

The 2017 edition is the eleventh edition of ERG Group's Sustainability Report: these first ten years have confirmed that the Group is willing to communicate with its stakeholders transparently, in the fields of economic, environmental and social responsibility.

From this year, ERG S.p.A. is subject to the application of Italian Leg. Decree no. 254 of 30 December 2016 (hereinafter "Leg. Decree 254/16" or "Decree 254"): the formal acknowledgement of how important this information is must be taken as a confirmation of what we have done for our stakeholders until now

This document therefore is our first consolidated Non-Financial Reporting (hereinafter, "Non-Financial Reporting", "NFR" or "Sustainability Report") of the Group comprising ERG S.p.A. and its subsidiaries (hereinafter also "ERG Group" or "Group"), drawn up pursuant to Decree 254 referring to the year ended 31 December 2017 (reporting period from 1 January to 31 December 2017).

In these years we have explained how we transitioned from being an Oil sector operator into an independent energy producer specialised in the generation of electricity from renewable sources; how we implemented an industrial approach in a sector featuring financial investors; how we diversified our geographical presence by investing on other European countries; and how we diversified our technology by entering into complementary sectors.

Although NFR is subject to legislation, our

approach hasn't changed: this is why our report must be read together with our previous Sustainability Reports as a continuum which outlines the evolution of our business and its continuous technical, methodological and organisational change. Whenever possible, we try to add figures and indicators in our texts, so as to make them easier to understand and compare and to assess the actions taken.

In this report we focus on the CSR-related aspects of our Group; economic and governance issues, of which we provide an overview herein, are covered in depth in other official documents, published and available on the Group's website www.erg. eu (Group Consolidated Financial Statements as at 31 December 2017, Corporate Governance and Ownership Report and other public documents).

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

The NFR was submitted to the Control and Risk Committee on 1 March 2018 for examination and assessment, and was then approved by ERG S.p.A.'s Board of Directors on 7 March 2018.

This document was subject to an opinion of conformity ("limited assurance engagement" in accordance with the criteria of principle ISAE 3000 Revised) by Deloitte & Touche S.p.A. The audit was conducted according to the procedures indicated in the "Independent Auditors' Report", included in this document.

## MATERIALITY ANALYSIS

FRG AND

SUSTAINABILITY

The need to respond to legal requirements and the awareness that the document would receive greater attention by financial analysts, required a new assessment of the materiality matrix used until the 2016 Sustainability Report: we focused on issues of greater importance for "Shareholders" and "Financial Community" stakeholders and we integrated the "relevant topics" with the minimum requirements referred to in Decree 254.

This assessment allowed us to develop a new materiality matrix containing the relevant topics reported in this document, and to assess them according to the principles set out in the "G4 Sustainability Reporting Guidelines": stakeholder involvement, context of operations, materiality and completeness of data.

In this respect, the NFR was drawn up to the extent necessary to ensure the understanding of the Group's business, its performance, its results and of the impact it generates, covering the relevant topics referred to in art. 3 of Decree 254 (concerning the fight against active and passive corruption, the environment, personnel management, social aspects and the respect for human rights).

The process was followed by the Corporate Social Responsibility department which, during an initial documentation analysis phase, mapped the important aspects for the Group's sustainable development based on Corporate Top Management's judgement, the indications provided by the "G4 Sustainability Reporting Guidelines" (both in its general principles and specific sector documents), the queries collected during annual ESG (Environmental, Social, Governance) assessments, benchmarking with other sector companies and, in general, the

regulatory context of reference including Decree 254. The results of the materiality analysis (presented in this document) were submitted for assessment and approval by the Sustainability Committee.

#### METHODOLOGICAL PRINCIPLES

This Non-Financial Reporting was drawn up in compliance with the "G4 Sustainability Reporting Guidelines" published in by the GRI (Global Reporting Initiative) in 2013 according to the «Core» option, and includes the information required by the GRI-G4 "Electric Utilities Sector Disclosures", specifically for companies in the utilities sector. The list of GRI-G4 indicators is available in the paragraph "GRI G4 content index" of this document.

In drawing up the NFR, reference was also made to the European Commission's "Guidelines for the communication of non-financial information".

The scope of the economic data is the same as ERG Group's Consolidated Financial Statements as at 31 December 2017, whereas the scope of the data and of the social and environmental information refers to all of the companies belonging to the ERG Group on 31 December 2017 consolidated on a line-by-line basis. In general, "operational significance" mainly refers to activities in Italy.

If quantitative data are expressed in a manner that differs from the above, this will be expressly indicated in specific notes.

There were no significant changes in the scope and company structure during the reporting period. In any case, for details regarding these two aspects reference may be made to Group ERG's Consolidated Financial Statements as at 31

30

# MATERIAL ASPECTS: SCOPE

GROUP PROFILE AND GOVERNANCE	Internal	External*
Group Profile and business growth prospects	Group	Shareholders, Financial Community, Local communities
Governance System and "diversity" in the composition of Administration Bodies	Group	Shareholders
Business ethics and responsibility	Group	Institutions
Relations with stakeholders	Group	All
Risk analysis and management	Group	Shareholders
ECONOMIC RESPONSIBILITY		
Business operational management and economic performance of the Group	Group	All
Sustainability of the supply chain	Group	Suppliers
ENVIRONMENTAL RESPONSIBILITY		
The Group's approach to climate change issues	Group	All
Management of energy supply and emissions	Power, Thermo, Hydro	All
Water resource management	Group	All
Protecting the environment and biodiversity	Group	All
SOCIAL RESPONSIBILITY		
Health and safety		
Health and safety of employees	Group	People and Trade Unions
Health and safety of third-party companies	Group	Suppliers
Safety of infrastructures	Group	All
Human Capital		
Diversity, equal opportunities and protection of human rights	Group	People and Trade Unions, Future Generations
Development and evaluation of employees	Group	People and Trade Unions
Training and development of employees	Group	People and Trade Unions
Wellbeing of employees	Group	People and Trade Unions
Relations with social partners	Group	People and Trade Unions
Area		
Development of local communities	Group	Local Community

 $<sup>^{\</sup>star}$  "External scope" means the stakeholders that are affected by the topic being reported.

December 2017 and to the Report on Corporate Governance and Shareholdings.

GOVERNANCE

FRG AND

SUSTAINABILITY

Data on the personnel and work organisation refer to the workforce as at 31 December 2017. Any exceptions are reported below in the tables.

With regard to the qualitative information illustrated in this document, the following is pointed out:

- · data on personnel training refer to managerial, technical-specialist and HSE training (Health, Safety and Environment) organised, managed and provided during the year by the "talent management" department of the holding company or by the respective Business Units:
- · the main atmospheric emissions are determined by continuous measurements at emission points and, where necessary, by spot measurements combined with estimates that take into account both the combustion systems and the types of fuel used.
- CO, emissions are certified by an independent third party, as required by law;
- "CO, avoided" an indicator used to show positive contribution of production from renewable sources to environmental improvement - was defined using a conversion factor aligned with common practice: the emission factor of the specific thermoelectric plants in the country of reference and published by Terna in the "electricity/statistics/ international comparisons" section of their website, with reference to 2017;
- the operating parameters of plants are taken from their management and reporting systems.

The figures reported in this NFR which cannot be related to the indicators in the "GRI G4 content index" (contained in the sections: "Human Capital Coverage: what happened in 2017", "One contract, one Company" and "Edoardo Garrone

Foundation") were not examined by the auditing company Deloitte & Touche S.p.A.. These figures are presented on a voluntary basis in addition to the information required for the purposes of compliance of this document with Decree 254 and the reporting standard adopted by the Group.

NFR information was provided by comparing it with financial year 2016: the figures are presented in a 3-year context to make it easy to compare them over time and to assess the performance of the Group's activities.

Furthermore, for the purposes of correctly representing the Group's performance and of quaranteeing reliable data, estimates were used as little as possible. Any estimates are based on the best available methods and are appropriately pointed out.

Non-Financial Reporting is published annually. For information regarding Non-Financial Reporting, please write to xx@xx.com. This document is also available on the Group's website under the Sustainability section (www.erg.eu).

In terms of sustainability, the ERG Group has begun an ongoing improvement process and defined its Sustainability commitments for 2016-2018, which were approved by the Sustainability Committee at the start of 2016. These commitments define the Group's strategic vision with regard to sustainability and represent an operational tool guiding its actions in accordance with the business plan. In this respect, in the "Sustainability Commitments" section of this document, a summary is provided of the main areas involving the Group's commitment to sustainability and their status as at 31 December 2017.

ERG AND

SUSTAINABILITY

# **OUR SUSTAINABILITY COMMITMENTS**

FCONOMIC

RESPONSABILITY

In early 2016, the Sustainability Committee Group's new sustainability the commitments for the 2016-2018 period. These commitments stem from the 2015-2018 Business Plan, from the continuous improvement goals contained in the certifications, the new issues raised after entering the hydroelectric sector, so as to ensure that the development strategy is in line with sustainability principles.

Our new commitments were also analysed in the

Health, Safety, Environment and Sustainability.

light of the SDGs (Sustainable Development Goals), which represent the sustainable development goals defined by the United Nations in 2015. This is a way to show that the development of our Group can concretely contribute to achieving objectives to improve the world we live in.

In 2018, following the presentation of the New Business Plan for 2018-2022, we will update our sustainability goals which will be reported starting from the next edition.

UN SDGs	Areas of commitment - 2016-2018	Status as at 31/12/2017			
5 GENDER 8 DECENDED	GOVERNANCE AND SUSTAINABILITY APP	GOVERNANCE AND SUSTAINABILITY APPROACH			
10 PEDUCED 11 SUCRIA	the Group's principles expressed in the Code of	Training on sustainability issues continued at schools in the areas where the company operates.			
	(ERM) system.	The Group's ERM methodology was implemented, risk assessment was performed, the Group's new risk management policy was defined; reporting system for the Control and Risk Committee and the Board of Directors was implemented.			
	Continuously update the 231 Models and Anti-	The 231 Model was updated for the Italian companies.			
	Corruption Guidelines of the Group's companies and organise training sessions for personnel.	ERG Group's Anti-Corruption System and Policy was approved.			
	Expand and integrate the existing certifications in the field of environment, health, safety and sustainability.	The scope and opportunity analysis was carried out; the integration procedure for the existing certifications following the One Company project was defined.			
4 QUALITY 7 AFFOR	BUSINESS STRATEGY	BUSINESS STRATEGY			
	Consolidate the Group's business leadership in the production of electricity from renewable sources.	The increase in installed power continued thanks to new acquisitions and to the commissioning of the plant in Ireland.			
9 MOSTRY MOVINER AND REASTRUCTURE	Support the Group's strategies through scouting activities, while identifying and assessing innovative technologies/new business opportunities.	Two pilot projects generated from the 2016 scouting activities are being implemented.  The second cycle of scouting activities was started in 2017 with CDI labs.			
	Enhance the partnerships with Universities, Foundations, think-tanks and Research Institutes.	Cooperation with Universities and associations to organise post- degree master courses (Master SAFE, Master Mager) continued.			
6 CLEAN WATER 7 AFFOR CLEAN	OPTIMISATION AND ENERGY EFFICIENC	Υ			
Å	Meet the Group's needs with Green energy.	90% of the Group's electricity demands was served by electrical energy from renewable sources.			
12 RESPONSEUE CONSUMPTION AND PROJECTION	Implement energy efficiency projects in the Group's plants and offices.	The micro-hydro plants downstream of the dams started operations.			
		Low-consumption lighting systems were installed at plants.			
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	SUPPLIERS				
CO	Consolidate a supplier qualification and	The new supplier qualification platform was implemented.			
	assessment system, with particular attention to	50% of new suppliers qualified according to HSE parameters.			

ERG AND SUSTAINABILITY



JN SDGs	Areas of commitment - 2016-2018	Status as at 31/12/2017			
DECENT WORK AND ECONOMIC GROWTH	SAFETY				
<b>M</b>	Consolidate the safety culture inside and outside the company, pursuing the goal for zero accidents	Following the injuries in 2017, corrective actions were implemented to prevent the recurrence of similar events.			
	caused by safety deficits in plants and offices.	A near-miss reporting system was promoted to increase prevention levels.			
	Consolidate the system to check suppliers' performance.	Monitoring continued to be implemented: around 650 field safety checks			
QUALITY EDUCATION 8 ECONOMIC	PEOPLE PEOPLE				
	Facilitate the dissemination of ERG's culture and values through inclusion and awareness initiatives.	The onboarding and inclusion process for new colleagues was implemented.			
10 REDUCED MEDIANTES	Spread a self-empowerment culture to build and maintain professional and managerial skills.	In 2017, around 38,000 hours of training provided at an average of approximately 6.6 days per employee.			
		97% of company staff took part in training courses.			
	Favour the growth of a sustainability and green culture within the Group.	The first company volunteering day was organised for our Genoa employees.			
	Consider the inclusion of CSR elements into the MBO/IQ system.	The MBO/IQ system included safety targets.			
RESPONSIBLE CONSUMPTION AND PRODUCTION	COMMUNICATION	COMMUNICATION			
$\infty$	Make contact with and inform the Group's	Implementation of Non-Financial Information reporting.			
16 PLACE MISTERS NOSTRONIUS SESTRONIUS	stakeholders in a complete, transparent and timely manner.	ERG received A- rating from CDP (improving the B rating achieved in 2016).			
		Improvement in its Webranking and "CSR on line awards" position.			
	Support the ESG rating companies which are interested in the ERG Group.	Ongoing support to ESG rating companies or Group investors or non-financial issues.			
DECENT WORK AND ECONOMIC GROWTH 13 ACTION	COMMUNITY				
	Contribute to the development of local communities through social responsibility initiatives at a local level.	Activities were developed in local communities in keeping with Sustainability Policy principles.			
		"A tutta Acqual" and "Vai col Vento!" were our leading projects for students living in the communities where our plants are located			

# GOVERNANCE

The values and ethical principles that guide our Group and our business approach are rooted in a legacy that has been consolidated over time.

Robust corporate governance thanks to the work of the board and internal committees.

A structured system of procedures and an integrated risk management system for better business practices and the protection of the rights of minority shareholders.



50
RESOLUTIONS
ADOPTED IN 2017

6
INTERNAL COMMITTEES
SUPPORTING THE CEO

25%

WOMEN PARTICIPATING
IN THE BOARD OF DIRECTORS

# OUR PRINCIPLES THE GROUP'S CODE OF ETHICS

We truly believe that the presence of different expertise, values and points of view within the Board of Directors and the Board of Statutory Auditors is essential for open and constructive dialogue and is a fundamental requirement for collective, well-thought-out, informed and well-balanced decisions. Since the Company's administrative, management and control bodies are appointed on the basis of lists of candidates submitted by the shareholders, their composition depends on the decisions that will be taken each time by the latter during the Shareholders' Meeting.

Without prejudice to the above, the Board of Directors believes that the Company's diversity policy on the composition of its administrative, management and control bodies, consistently with the provisions of the Corporate Governance Code, may find expression through specific recommendations made on a case-by-case basis by the Board of Directors to the shareholders, before the appointment of the Board of Directors and the Board of Statutory Auditors, and reported in the agenda items.

Specifically, prior to the appointment of a new Board, all Board members must express their views regarding the diversity of managerial and professional figures, whose presence on the Board is considered appropriate, also taking into account aspects such as training and professional features, experience (including managerial experience), gender and age.

The outcome of this evaluation process will be an integral and substantial element of the shareholders' recommendations.

These evaluations will also be requested with regard to the members of the Board of Statutory Auditors, prior to appointment of the new Board which will expire on the date of the Shareholders' Meeting called to approve the Financial Statements as at 31 December 2018. Participation by the departing members of the Board of Statutory Auditors will also be required, as part of this evaluation process.

The results of the evaluation process are presented below.

#### TRAINING AND PROFESSIONAL PROGRAMME

Regarding the expertise of the Board of Directors, the 2017 self-assessment process showed a balanced distribution of expertise, gained mainly through business and professional experience.

With regard to expertise the presence of which in the Board of Directors is considered appropriate, following the 2017 self-assessment process, the Board of Directors recommends that the expertise already represented in the current Board of Directors be confirmed, possibly increasing the importance of international experience in the energy sector and introducing specific skills in administrative and regulatory law, in line with the current and future evolution of the Group's portfolio of activities.

#### **GENDER COMPOSITION**

With regard to gender balance, following the 2017 self-assessment process, the Board of Directors does not consider it necessary to recommend more restrictive provisions than those required for by the law. The self-assessment, however, pointed out that it would be convenient for the expertise and experience required for the composition of the new Board of Directors to cut across genders.

#### AGE

With reference to age, no specific recommendations were needed following the results of the 2017 self-assessment process.

The current composition of the Board of Directors, divided by age groups, was considered balanced.

#### **RESULTS**

The results of this Policy may be assessed following the appointment of the new Board of Directors by the Shareholders' Meeting called, inter alia, for approval of the Financial Statements as at 31 December 2018.

#### THE GROUP'S CORPORATE GOVERNANCE

#### **ERG'S VALUES**

GOVERNANCE

The values and principles that guide the Group in performing its business activities have strengthened over time and are fully expressed in the Code of Ethics.

The members of the governing bodies of the Group's companies, our employees and the people who work together with us in different

ways are called to comply with the principles set out in the Code of Ethics and – each within their respective roles and responsibilities – with our governance rules.

#### Our values

Lawfulness, Honesty, Fairness, Equality, Confidentiality, Equity, Integrity, Transparency, Responsibility and Sustainability.

#### THE STRUCTURE OF ERG'S BOARD OF DIRECTORS AND THE BOARD COMMITTEES AS AT 31 DECEMBER 2017

Office	Members	List (M/m) *	Executive/ non- executive	Independent from Code and Italian Consolidated	% partici- pation **	No. other positions	Date of first appointment	Risk and Nominati control and committee Remunera Committ		nd eration	
				Finance Act				****	**	****	**
Chairman	Edoardo Garrone	М	Executive		100%	3	16/10/1997				
Vice Chairman	Alessandro Garrone	М	Executive		89%	1	16/10/1997				
Vice Chairman	Giovanni Mondini	М	Non Executive		100%	1	16/10/1997				
Chief Executive Officer	Luca Bettonte	М	Executive		100%	-	15/12/2009				
Lead Independent Director	Massimo Belcredi	М	Non Executive	Italian Consolidated Finance Act	100%	1	29/04/2003	Sì	100%		
Director	Alessandro Careri	М	Non Executive	Italian Consolidated Finance Act	100%	-	11/05/2017				
Director	Mara Anna Rita Caverni	М	Non Executive	Code Italian Consolidated Finance Act	89%	2	24/04/2015	Sì	90%	Sì	100%
Director	Alessandro Chieffi	m	Non Executive	Code Italian Consolidated Finance Act	100%	3	24/04/2015				
Director	Barbara Cominelli	М	Non Executive	Code Italian Consolidated Finance Act	89%	-	24/04/2015	Sì	100%		
Director	Marco Costaguta	М	Non Executive		100%	8	20/04/2012				
Director	P. Francesco Lanzoni	М	Non Executive	Italian Consolidated Finance Act	100%	1	29/04/2003			Sì	100%
Director	Silvia Merlo	М	Non Executive	Code Italian Consolidated Finance Act	100%	3	24/04/2015			Sì	83%

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

<sup>\*\*</sup> This column indicates 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 nosition)

<sup>\*\*\*</sup> This column indicates 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.

<sup>\*\*\*</sup> This column indicates participation by a member of the BoD in the Committee.

<sup>\*\*\*\*</sup> This column indicates the date of the first appointment of the Directors as of 16 October 1997, the date the company was listed on the stock exchange.

GOVERNANCE

#### THE GROUP'S GOVERNANCE

Corporate Governance involves a set of rules and activities. The elements comprising corporate governance are the statutory bodies, the board committees and the corporate governance documents that regulate their operation.

Our Corporate Governance is structured according to a traditional model, based on which:

- the Board of Directors, appointed by the Shareholders' Meeting, is responsible for determining and achieving the strategic objectives of both the Company and the entire Group;
- the Statutory Board of Auditors, again appointed by the Shareholders' Meeting, has supervisory duties.

The statutory audit is entrusted to Independent Auditors and is appointed by the Shareholders' Meeting on the basis of a reasoned proposal by the Board of Statutory Auditors.

#### THE BOARD OF DIRECTORS

The current Board of Directors is composed of twelve members. It was appointed by the Shareholders' Meeting on 24 April 2015 and will remain in office until approval of the Financial Statements as at 31 December 2017. A further Director was appointed on 11 May 2017 following

#### SIGNIFICANT SHAREHOLDERS AS AT 31/12/2017

Direct shareholder	% share of ordinary capital and voting			
San Quirico S.p.A.	55.628			
Polcevera S.r.l.	6.905			
UniCredit S.p.A.	4.001			
Finecobank Banca Fineco S.p.A.	0.045			
UniCredit Bank AG	0.032			

<sup>-</sup> there are no securities conferring special control rights;

resignation submitted on 20 April 2017.

#### Protection of minorities

A Director was appointed from the minority list submitted by a number of institutional investors, in compliance with the principles of protecting minorities laid down in the Consolidated Finance Act (T.U.F.).

#### Respect for gender balance

25% of Directors in office are the less represented gender. This percentage complies with the gender balance criteria established by current legislative and regulatory provisions, which requires that at least one third of the elected Directors must be reserved for the less represented gender.

The average age of the members of the Board of Directors is around 56: 2 members (17%) are less than 50 years of age.

For further information about the appointment procedure, see the section "Report on Corporate Governance" at the www.erg.eu website.

The Board of Directors has set up three internal committees:

- the Control and Risk Committee supports the assessments and decisions taken by the Board of Directors with regard to the Internal Control and Risk System, as well as those related to approval of the periodical financial reports;
- the Nominations and Remuneration Committee performs the role and responsibilities provided by the Corporate Governance Code for the Nominations and Remuneration Committee;
- the Strategic Committee has consultative and proposal-making functions towards the CEO and the Board of Directors in the definition of strategic business guidelines, portfolio guidelines, strategic finance guidelines and policies, and single extraordinary finance transactions.

<sup>-</sup> there are no employee stock option plans.

#### CORPORATE BODIES AND BOARD COMMITTEES OF ERG S.P.A.



#### SHAREHOLDERS' MEETING

Approves the Financial Statements, appoints the Board of Directors, the Board of Statutory 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 organisational structure, and the corporate governance system, decides on significant transactions, assesses the company's performance.

Composed of 12 members, 7 of which are independent\*, held 9 meetings during 2017 which lasted on average approximately 2:45 hours.











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

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

Composed of a Chairman, 2 standing auditors and 3 alternate auditors, held 13 meetings during 2017 which lasted on average approximately 3 hours.











#### 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 ICRM System\*\*, to the obligations pursuant to Italian Leg. Decree no. 231/01 and to the Finance Area.\*\*\*

Composed of a Chairman and 2 members chosen among the Independent Directors, held 10 meetings during 2017 which lasted on average approximately 2:25 hours.









#### **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 6 meetings during 2017 which lasted on average approximately 50 minutes.









#### **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.

Composed of a Chairman and 3 members, held 9 meetings during 2017 which lasted on average approximately 3:30 hours.







- 4 independent pursuant to Corporate Governance Code and 3 independent pursuant only to Italian Consolidated Finance Act.
- Internal Control and Risk Management System.
- \*\*\* May issue opinions for the purposes of the procedure for transactions with related parties

ΠΑΤΑ ΑΝΠ

INDICATORS

#### THE BOARD OF STATUTORY AUDITORS

The current Board of Statutory Auditors is composed of 3 standing auditors and 3 alternated auditors. It was appointed by the Shareholders' Meeting on 3 May 2016, consequently the mandate conferred upon the Board of Statutory Auditors will expire on the date the Shareholders' Meeting is called to approve the Financial Statements as at 31 December 2018.

#### Protection of minorities

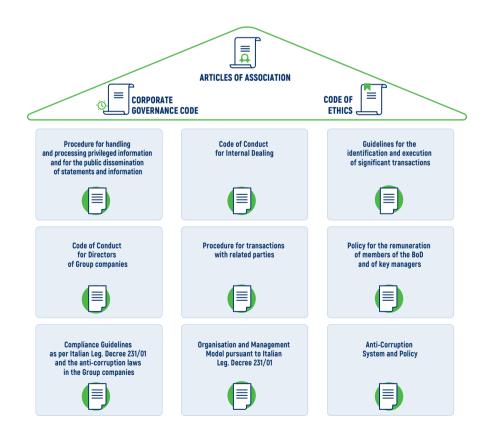
The Chairman of the Board of Statutory Auditors and an alternate auditor were appointed from the minority list submitted by a number of institutional investors.

#### Respect for gender balance

33% of the Standing and Alternate Auditors are the less represented gender.

#### INDEPENDENT AUDITORS

The Independent Auditors were appointed by the Shareholders' Meeting on 23 April 2009, for years 2009 - 2017. Consequently, the appointment for the statutory auditing will expire on the date of the Shareholders' Meeting called for the approval of the Financial Statements as at 31 December 2017. For further information on the role played by each body, see the "Report on Corporate Governance" section on the www.erg.eu website.



#### INTERNAL COMMITTEES

ERG Group's governance includes some Internal Committee (composed by manager not

belonging to the Board) that advise and issue recomendation to the CEO.

#### LEADERS MEETING

Shares the activities and the performances of the Group, 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.

#### MANAGEMENT COMMITTEE

Monitors the Group's economic, financial and industrial results, follows the changes in the institutional and regulatory framework, analyses the development opportunities and monitors the relevant projects within the scope of the strategic plan, ensuring that all Organisation Units are aligned to the priorities.



#### 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, the monitoring of the implementation of major operations and the checking of their relative effects.

#### INVESTMENT COMMITTEE

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

ΠΑΤΑ ΑΝΠ

INDICATORS

#### PROCEDURES TO PROTECT MINORITY SHAREHOLDERS

The Group's main procedures for the protection of minority shareholders are summarised below.

#### Code of Conduct for Internal Dealing

The Code aims to ensure transparent financial transactions carried out by Relevant Persons, namely those persons who have significant decision-making powers or considerable knowledge of corporate strategies, given their roles within the Group.

#### Guidelines for the identification and execution of significant transactions

The Guidelines set out the criteria to be used to identify the most significant transactions, consisting of quantitative and qualitative criteria and criteria deriving from the specific requirements of the parties involved (related-party transactions and intra-group transactions).

The document also sets out the behavioural principles that need to be followed to carry out the above-mentioned operations.

### Procedure for handling and processing privileged information and for the public dissemination of statements and information

The procedure for handling and processing privileged information and for public dissemination of statements and information aims at ensuring that all statements and information intended for the market are the outcome of an accretion process that ensures that it is both timely and accurate.

It defines the tasks and responsibilities of the functions involved, identifies the criteria, methods and timing of the various procedural stages, and establishes the appropriate decisionmaking levels for disseminating the statements and information

#### THE INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM

ERG Group's Internal Control and Risk Management System (hereinafter also the "ICRM" System) consists of a set of corporate tools, organisational structures, standards and rules designed to ensure sound and correct management of the company, in keeping with corporate goals defined by the Board of Directors. This is achieved through a suitable process for identifying, measuring, managing and monitoring the main risks, as well as by setting up appropriate information flows designed to ensure the circulation of information.

The ICRM System involves the entire organisational structure of the Group, from the Board of Directors of ERG and its subsidiaries to all company staff.

Specifically, the main parties involved and their respective duties are the following:

- Board of Directors, which orients and assesses the adequacy of the Internal Control and Risk Management System;
- Executive Vice President, in charge of the Internal Control and Risk Management System, responsible for verifying the correct functionality and the overall adequacy of the ICRM System;
- Chief Executive Officer, who identifies the main corporate risks;
- Control and Risk Committee, tasked with supporting, through an adequate preliminary analysis, the assessments and decisions of the Board of Directors pertaining to the ICRM System, as well as those pertaining to the approval of periodic financial reports;
- Board of Statutory Auditors, which monitors
  the observance of the law and of the Articles of
  Association, the compliance with the principles
  of sound administration, the adequacy of the
  organisational structure of the ICRM System (for
  aspects within its competence);

- Supervisory Committee, which oversees compliance with the Code of Ethics and verifies the effectiveness and adequacy of the Organisation and Management Model pursuant to Italian Leg. Decree 231/01;
- Chief Audit Officer, in charge of verifying the viability and suitability of the ICRM System.

Other relevant players with specific duties include Group Management, primarily responsible for internal control and risk management activities, and second-level control functions, including the Manager responsible for preparing the company's financial reports, the Group Risk Management & Corporate Finance department and the Compliance functions dealing especially with overseeing legal risk and non-compliance.

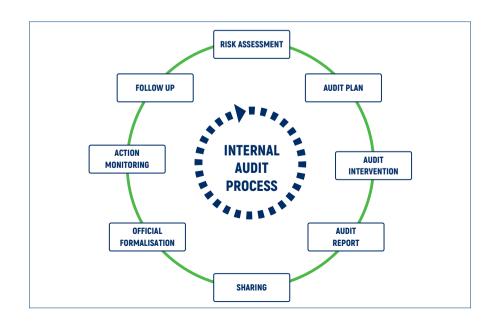
For further information, see the "Internal Control and Risk Management System Guidelines" and "Report on Corporate Governance and Shareholdings" available on the Group's website www.erg.eu.

#### INTERNAL AUDIT

Within ERG's Corporate Governance, the Internal Audit department assesses the adequacy of the Internal Control and Risk Management System (ICRM System), of which it is an integral part, with respect to the context of reference the Group operates in.

In particular, the department's main activities focus on:

- ensuring to the top management of the Holding and the of Group's Companies, objective and independent activities of "assurance" and "consultancy" aimed at improving the effectiveness and efficiency of the internal control and risk management processes;
- helping the organisation achieve its goals and generate added value by assessing and improving the internal control, risk management and Corporate Governance processes;
- verifying ICRM System functioning and suitability when performing the role and duties established by the Corporate Governance Code (see relevant



45 I

ΠΑΤΑ ΑΝΠ

INDICATORS

paragraph), and specifically that management has identified and consistently assessed the main risks and that mitigation actions have been defined and implemented; furthermore, verifying that the risks identified have been handled in keeping with the resolutions of the Board of Directors, with external regulations and with the Group's internal rules.

GOVERNANCE

Risk Assessment is the first activity of the Internal Audit process. It identifies the areas of greater relevance where further study must be carried out (included in the three-year audit plan), in accordance with the size of the Internal Audit Division.

The Audit Plan is defined by considering the main results obtained from the Risk Assessment activities. The definition process consists of the following methodological steps:

- Performance of Risk Assessment: a Risk-Based approach is used to define a hierarchy of processes (potentially subject to auditing) on the basis of the Group's Risk Catalogue. Specifically, the Risk Assessment is made up of the following phases:
  - acquisition of most recent version of the Risk Catalogue, developed by Group Risk Management & Corporate Finance as part of the IRM (Integrated Risk Management) process;
  - analysis of the Risk Catalogue's risk sheets and of the correlations with the Group's processes (Process Map);
  - definition of parameters (or weights) for assessing the processes related to the Risk Catalogue risk assessments and preparation of process ranking (prioritisation of risk-based processes).
- Definition of processes subject to auditing by Internal Audit. Generally, managerial processes related to strategic risks (and therefore monitored by the BoD and Top

Management) are not taken into account, as also activities overseeing specific regulatory events, which are not directly connected with a company process that can be typically verified using Audit instruments and techniques.

- Integration with Audit activity areas to cover the risk of fraud or non-compliance with the Code of Ethics
- Modifications and/or supplements resulting from the planning and from the results of the audits carried out during previous years.
- Assessment and possible receipt of any requests and/or suggestions from the Executive Vice President in charge of the Internal Control and Risk Management System, the Control Bodies and the Group's Top Management.
- Submission of the draft three-year Plan to the Control and Risk Committee and receipt of any observations.
- 7. Submission of the final draft three-year Plan to the Board of Directors for formal approval.

Planning must be structured so as to achieve the following objectives:

- performance of auditing covering all business areas and foreign subsidiaries, envisaging at least one Audit/year for each area;
- performance of one ICT Audit/year;
- follow-up of corrective actions to be taken, based on the results of completed Audits and agreed upon with the corporate management of reference:
- "saturation of production capacity" of Internal Audit resources.

With a view to integrating the control activities and in order to maximise effectiveness and efficiency, while minimising overlapping areas, interventions are planned by coordinating the Audit activities with other control activities, with special reference to compliance checks pursuant Italian Leg. Decree 231/01 and Italian Law 262/05. The Internal Audit Division carries out different types of activities:

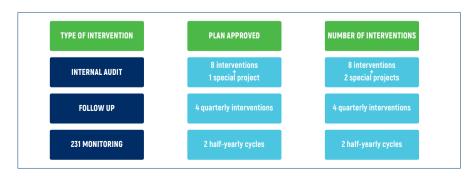
- audits: actions aimed at analysing a process, understanding risks and at identifying and checking the functioning of the controls determined. Audits may be carried out in two ways:
  - by company, or single organisation unit, checking the activities and control exercised by management on this unit (organisational audits);
  - by process, examining both the operational and administrative aspects of all the organisational lines affected by the process being examined, even of different companies (process audits);
- corrective action monitoring: activities for checking the implementation of the corrective actions taken by management. These activities are not included in the annual plan, but are carried out by Internal Audit during the year;
- follow-up: activities for checking the actual implementation of the Action Plan; this is done by holding meetings with the functions subject to audit and carrying out document checks on the controls implemented following the agreed actions;
- ad-hoc consulting/actions: in order to support and respond to specific requests from ERG's Management, Internal Audit may provide support

and assistance activities. The nature and scope of these activities are defined together with the internal client, depending on staff's expertise and knowledge and on the basis of the function's independence.

Internal Audit also carries out periodic checks on behalf of the Supervisory Committees of the Group's Companies. These checks are aimed at verifying the effectiveness of the Organisation, Management and Control Models pursuant to Italian Leg. Decree 231 adopted by ERG Group's Companies. The operating procedures of the checks are defined together with the Supervisory Committees of the Group's Companies and the Compliance 231 function, also in relation to the Audit Plan activities.

In 2017, Internal Audit completed all the interventions set out in the Audit Plan approved by the Board of Directors, and carried out the checks in compliance with the 231 Models as provided for in the Plans approved by the Supervisory Committees of the Group's Companies.

The eight audits carried out during 2017 required an average period of 9-10 weeks each for completion. Following the audits, a total of 58 observations were issued which gave rise to 128 corrective action plans (around 2 action plans per observation, in line with the function's internal goals shared with the company management of reference, to which further 5 were added following half-yearly 231 Monitoring.



ΠΑΤΑ ΑΝΠ

INDICATORS

#### **ENTERPRISE RISK MANAGEMENT**

Our business model seeks to create value through the achievement of growth, efficiency and risk mitigation goals. This is why we believe that powerful monitoring of the Group's Risk Management is essential: proper and effective risk management means that we can safeguard our ability to create value for Shareholders and all Stakeholders, and ensure long-term business sustainability.

This is the context in which Enterprise Risk Management (ERM) operates. ERM is the Group's structure responsible for supporting Management in identifying, assessing and monitoring risks, as well as in defining the most effective response strategies for their mitigation.

The approach adopted by ERM is inspired by the International Framework of Reference ERM CoSO (Enterprise Risk Management Committee of Sponsoring Organizations of the Treadway Commission) and is implemented in the ERG Group as an integral part of the Internal Control and Risk Management System.

The main goals of ERM are:

 obtaining an integrated and dynamic view at a Group level of the main corporate risks, which may affect the achievement of the objectives of the Business Plan;  strengthening the corporate culture at all levels and the awareness that adequate risk assessment and management positively affects achieving goals, creating value for the company and the medium-long term business sustainability.

To this end, the ERM model is developed by means of:

- identifying and assessing the Group's main risks and defining control tools and the necessary strategies to mitigate the risks;
- continuously checking smooth operation and effectiveness of the risk management process, providing to management dynamic risk mapping evolution.

More specifically, the Integrated Risk Management methodology includes:

- integration between the ERG model and corporate strategies and, in particular, the «Plan and Budget» process, allowing the alignment between strategic planning and risk assessments;
- definition of a single Risk Evaluation method shared at Group level;
- creation of synergies with the Company's departments carrying out specific risk assessment activities (e.g. HSE, ICT);
- · introduction of quantitative and qualitative

#### **ERM GOALS REACHED IN 2017**

Risk Assessment activities were carried out on 100% of the Group's Companies, both in Italy and abroad, and all Senior and Middle Management was involved. Around 40 main risks were identified (13 of which TOP) divided into Strategic, Financial, Operating (including HSE and ICT risks) and Compliance risks. The risks were further divided within these categories into "external/internal" and "transformation/permanent". The "climate change" risk was included in the Risk Catalogue and the associated risk profile was analysed, assessing its impact on the medium/long term.

GOVERNANCE

- specific Key Risk Indicators (KRI) for structured and dynamic monitoring of the risk trend associated with their development over time;
- a six-monthly reporting activity that provides detailed information about the development of the main risks mapped.

At an operational level, the Managers - coordinated by the organisational Enterprise Risk Management Unit - identify the risks under their responsibility and provide advice to mitigate the risks of current actions/projects. Within the Group, the results of this process are consolidated through risk mapping where

priorities are defined in order to support their coordination and integrated management. All risks mapped according to the ERM approach are included in an "ERG Group Risk Catalogue".

In the first quarter of 2017, also on the basis of an external benchmarking activity on the most important international Groups using the ERM approach and of specialised publications, ERG Group's Risk Universe (the standard catalogue of homogeneous risk classes) was updated to include "Emerging Risks".

The aim of the Risk Universe is to support Management:

RISK	DESCRIPTION	MANAGEMENT STRATEGY IMPLEMENTED BY THE ERG GROUP
1- Natural variability of renewable sources	The production volumes are subject to variability due to the natural mutability of renewable sources (water and wind), which may negatively affect the production by renewable energy plants.	Technological and geographical diversification of renewable energy plants (Wind, Solar and Hydroelectric) and of the geographical location of renewable plants (European scale);  Use of highly accurate forecasting systems to draw up a plan for production and short-term operational activities;  Scheduling the plant downtime according to the periods when renewable sources' contribution is lower;  Use of industrial control systems (SCADA) for continual plant status monitoring, which allow us to take immediate action in the event of accidental failure and to reduce machine shutdown time.
2 - Price Risk	Risk caused by the volatility of the market price of commodities (EE/Gas in particular), which may significantly affect the Group's results.	<ul> <li>Definition of risk exposure limits and their regular monitoring;</li> <li>Escalation process if the approved limits are exceeded;</li> <li>Use of financial instruments to cover the price risk, if this exists;</li> <li>Contractualisation of indexed sales formulas, if possible, to transfer risks to customers.</li> </ul>
3 - Regulatory modifications	Possible regulatory modifications in the Countries where the Group operates, which may negatively affect achieving business objectives.	Regulatory monitoring through institutional relations, association channels, comparison with operators of the sector, specialised press;     Active participation in the consultations to protect the Group's interests;     Sensitivity Analysis to assess the effect of the main regulatory evolutions on the Group's results;     Periodical reporting to Management.
4 - Breach of the Covenants on Corporate funding	Risk due to the possibility of not respecting the covenant obligations of the corporate financing agreements.	Thorough assessment of each investment initiative and checking of their sustainability with reference to the impacts on the covenant;  Periodical and structured monitoring of the expected and final results and the main financial risks, which may directly or indirectly affect the covenant;  Sensitivity Analysis to check compliance of the Plan assumptions undertaken with the financial covenant.
5 - New Investments	Possible uncertain events originating from various factors, for example, scenario (micro/macro-economic, political, regulatory, business), technical, operational, financial, organisational, etc. which may have an impact on the decision of a new investment and/or its success.	Structured processes for the selection of investments consisting of subsequent project examination and approval activities including, inter alia, internal and external supporting studies, benchmark analysis, legal and regulatory analysis, sustainability models and financial assessment/planning; Timely analysis for risk-relevant projects which include: (i) Potential impact and strategy/actions to contain/eliminate the risk; (ii) Follow-up items for mitigation process monitoring; Periodic WACC / HR updating, also through benchmarking, to ensure an adequate return with respect to the expected risk profile.

ΠΑΤΑ ΑΝΠ

- during risk assessment (and especially risk identification) since it includes all areas where risks may arise;
- during the consolidation phase, by checking whether some risk areas have not been analysed/covered and, if need be, examining them more in depth.

Following the update of the Risk Universe, ERM risk assessment activities were carried out and the Group's Risk Catalogue was updated.

The "Risk Management Policy" was also reviewed during the third quarter of 2017. Some specific responsibilities were updated following organisational changes and some risk response strategies were updated to make them more

effective in the extremely dynamic context in which the ERG Group operates.

The results of the ERM process are subject to a periodic and structured reporting activity to:

- the Management/Chief Executive Officer (CEO)/ Chief Financial Officer (CFO), who assesses the appropriateness of the risk profile in relation to the goals set and the actions taken to mitigate the risks;
- the Board Committees, which are tasked with the assessment of the overall effectiveness of the Integrated Risk Management process.

More specifically, the main risks run by the ERG Group are listed in the "Risk and Uncertainties" chapter of the Report on Operations, to which reference may be made for further details.

· Specific insurance coverage levels for business interruption, property damage

RISK	DESCRIPTION	MANAGEMENT STRATEGY IMPLEMENTED BY THE ERG GROUP
6 - Cyber attacks against production industrial systems	Risk related to possible non- compliance with the covenant obligations provided in the corporate funding contracts.	Security assessment to identify system criticalities and supporting infrastructures;     Definition and implementation of the Security Programme to adapt the processes, systems and infrastructure to best practices;     Development of security awareness plans and training to users;     Use of automatic instruments (e.g. Intrusion Detection Systems) for prevention, detection and accident management purposes;     Cyber Crime insurance coverage.
7 - Failure to protect the reputational capital	Internal/external events which may negatively affect the reputation of the ERG Group (amongst the different factors: financial performance, Ethics and Integrity, Social Responsibility, HSE Policies, ICT Security, crisis management, etc.).	<ul> <li>Specific communication and information activities to maintain a high level of the Group's reputation by stakeholders, which also includes a structured process of Corporate Social Responsibility with specific social responsibility initiatives and dissemination of Non-Financial Information;</li> <li>Active relationships with all the main stakeholder and media and monitoring of the perception by the stakeholders;</li> <li>Communication activity through website / social media;</li> <li>Structured process of Reputational Crisis Management, which allows to timely manage and limit the effects of the crisis, in order to protect the reputation of the ERG Group.</li> </ul>
8 - Anti-Corruption compliance risk	Possible involvement of a Group Company and/or a director, or employee in proceedings for offences committed in breach of anti-corruption regulations, which may lead to the application of sanctions against the above persons (both natural and legal) and may damage the Group's reputation.	Adoption of a system of behavioural rules (Code of the Ethics and Anti-Corruption Policy) valid for all the Group;     Adoption of an «Integrated Anti-Corruption Model», for all Italian and foreign Companies in line with best practices;     Definition of information flows for Anti-Corruption System monitoring;     Training on anti-corruption topics;     Definition and implementation of Compliance Programmes to check compliance with the Anti-Corruption Policy.
9 - Industrial risks and HSE	Risks due to the malfunctioning of plants, which may cause problems in production processes and/or negatively affect HSE.	Implementation of a Business Continuity Management process guaranteeing the correct maintenance of production assets, through specific risk assessment activities, business impact analysis;     Adoption of certified Management Systems [ISO 14001 and 0HSAS 18001] and continuous training for all the staff performing activities inside the plants;

and injuries to the personnel.

#### THE GROUP'S PRINCIPLES

ERG carries out its activities in accordance with the highest national and international standards of Corporate Governance. With this in mind, the ERG Group is firmly committed to complying with and applying the principles of integrity, impartiality and transparency. These principles are even more important when we need to deal with the problem of corruption practically. This is a global phenomenon, which irreparably destroys the integrity of companies, whether public or private. To emphasise its attention to strict compliance with national and international laws and with applicable regulations on anti-corruption, ERG has decided to adopt a specific Sustainability Policy, in addition to its Code of Ethics. Furthermore, it has also adopted an Anti-Corruption Policy in accordance with national and international best practices and applicable to Italian and foreign companies. The Anti-Corruption Policy has been translated in English, French and German in order to be understood and implemented by all staff and to be accepted by our partners, in the countries where the Group operates.

The Group believes that it is essential to maintain and safeguard its reputation in order to be appropriately perceived by all of its stakeholders as a reliable and trustworthy counterparty.

To this end, the Group operates in compliance with the laws and regulations of the single countries in which it operates, implementing measures to fight corruption and illegal practices. Specifically, in addition to the Code of Ethics and the Organisation and Management Models pursuant to Italian Leg. Decree 231/01, adopted by the Group's Italian companies, which contain specific rules of conduct, obligations and prohibitions concerning corruption, ERG has defined Anti-Corruption Guidelines\* which, together with the Code of Ethics, are adopted by all of the Group's foreign companies. The Guidelines are applicable to all foreign countries in which ERG operates. In this respect, ERG: does not tolerate any kind of corruption, considering it a risk for a sustainable development economy, for good governance and fair practices; is committed to raising awareness and training all people, as well as to developing appropriate procedures, especially with regard to relations with communities, Bodies and Institutions, suppliers and customers. From ERG's Sustainability Policy

# OUR ANTI-CORRUPTION MANAGEMENT METHODS

Following the completion of its industrial reconversion process, also in consideration of its growing overseas expansion, the ERG Group decided to further strengthen its preventions system by adopting an Anti-Corruption System in line with most advanced national and international standards, as well as an Anti-Corruption Policy valid for both Italian and foreign companies.

The Policy establishes guidelines regarding the Group's commitment to meet the Anti-Corruption System requirements aimed at:

- a) rejecting and preventing corruption, according to a "zero tolerance" principle;
- b) ensuring compliance with all Anti-Corruption Laws, with particular reference to those applicable in the countries where the ERG Group operates;

<sup>\*</sup> The Anti-Corruption Guidelines were replaced in October 2017 by the Anti-Corruption Policy valid for all Group companies.

- c) identifying the specific anti-corruption controls that need to be performed in compliance with the Regulatory Instruments, especially as regards anti-corruption procedures;
- d) identifying training activities on the Policy and on compliance with the Anti-Corruption Laws and their recipients;
- e) guaranteeing the commitment to continually improve the Anti-Corruption System. Further operating goals are defined annually, in line with the Policy's general goals and are reflected in the yearly Compliance Plan drawn up by the "231 Compliance" Organisational Unit and presented to ERG S.p.A.'s Control and Risk Committee and to Subsidiaries' competent corporate bodies.

Achievement of the goals is monitored by the "231 Compliance" Organisational Unit and is subject to periodical reports submitted to ERG S.p.A.'s Control and Risk Committee and to Subsidiaries' competent corporate bodies

Specifically, the Policy is the Regulatory Instrument through which the Group:

- with regard to companies under Italian law, intends to further strengthen, where and to the extent
  necessary, the behavioural principles and control measures already set forth in the Code of Ethics and 231
  Models, with specific reference to the prevention of active and passive, public and private corruption, even
  when they operate directly (e.g. through branches) or through foreign subsidiaries.
- with regard to foreign companies, develops the principles of conduct in relation to combating corruption, already provided for in the Code of Ethics, and indicates the control measures that must be observed when performing activities that may expose the Company to risks of active and passive, public and private corruption.

The "231 Compliance" department was identified as the recipient, both in Italy and abroad, of any reports regarding "risk indicators" (payments or expenses inadequately documented or made in cash, third parties that declare that they have been involved in previous cases of corruption or in other breaches of law regarding them, etc.), as well as any Policy violations which persons inside or outside the Group have come to know about.

All of the Group's Italian companies have adopted their own Organisation and Management Model pursuant to Italian Leg. Decree 231/01: the 231 Models are composed of a general part, where the organisation and the responsibilities with regard to 231 compliance are described and a special part in which – following a detailed risk assessment – the activities that expose the companies to crimes of corruption (active and passive, public and private), crimes resulting from violations of workplace health and safety rules, and environmental crimes are identified and periodically updated.

The system is supervised by the Supervisory Committee established pursuant to the decree: an independent body with autonomous monitoring and verification powers.

The Supervisory Committee provides people inside and outside ERG who wish to report possible violations of the 231 Model and/or the Code of Ethics, with two separate communication channels: an ordinary mail address and a dedicated email address. The reports received are evaluated by the Supervisory Committee in an independent, professional and responsible manner and, where necessary, by listening to the author of the report and/or the person responsible for the alleged violation.

The details of the system are detailed in the following chapters and may be found on the institutional website in the section dedicated to corporate governance (http://www.erg.eu/corporate-governance).

#### **ERG GROUP'S ANTI-CORRUPTION SYSTEM**

The fight against corruption is one of the main global challenges of our times. In addition to being a source of funding for criminal organisations, corruption distorts competition between companies, hindering sustainable development and economic growth, and generating intolerable social costs.

We believe that sound corporate governance rules – including appropriate anti-corruption measures – are essential to maintain healthy and proper business management and to effectively protect our stakeholders' interests (customers, shareholders, suppliers, employees and Trade Unions, institutions, local communities) and the Group's reputation. In this context, key focus must also be given to building a solid cultural system and corporate governance values, as well as a common social consensus around this system. Each individual is indeed called to implement and promote correct, transparent and lawful conduct, regardless of the organisational he/she belongs to.

Corruption can take on different forms (not only offering money or other assets or benefits), and even common commercial practices or corporate activities – such as gifts and hospitality – under certain circumstances may represent or conceal acts of corruption. The general and mandatory rule is that any form of corruption towards any individual (not only public persons but also persons working on behalf of private companies or bodies) is prohibited.

From this perspective, the offer, promise and donation, solicitation, acceptance and receipt of corrupt payments by persons from ERG and whoever operates in the name or on behalf of the Group are prohibited.

As evidence of our constant commitment to promote compliance with the principles of fairness, transparency, honesty and integrity and to combat any form of corruption, in October 2017 we approved the "Anti-Corruption System" and the "Anti-Corruption Policy", applicable to both Italian and foreign companies. These documents were drawn up according to the best International standards (ISO 37001:20161) and are an integral part of our internal control and risk management system. Together with the Code of Ethics and the Organisation and Management Models pursuant to Italian Leg. Decree 231/01 ("231 Models"), they contribute to ensuring compliance with the national and International corruption laws of the countries where the ERG Group operates (including the UK Bribery Act).

The "231 Compliance" department is the organisational structure in charge of implementing, monitoring and checking the Anti-Corruption System and Policy, both in Italy and abroad. Specifically, the department is responsible for:

- · updating the Policy;
- promoting the adoption and updating (where necessary) of the anti-corruption procedures, including the Group's Code of Ethics;
- providing advice to ERG Group people regarding any doubt or matter concerning application of the Anti-Corruption Policy and procedures.

The department is also the recipient, both for Italy and abroad, of reports regarding "risk indicators" (payments or expenses inadequately

<sup>1</sup> Anti-bribery Management System: provides a guideline on the internal control and risk management measures useful for preventing and combating corruption in companies and groups of undertakings.

ΠΑΤΑ ΑΝΠ

INDICATORS

documented or made in cash, third parties that declare that they have been involved in previous cases of corruption or in other breaches of law regarding them, etc.], as well as any Policy violations which persons inside or outside the Group have come to know about.

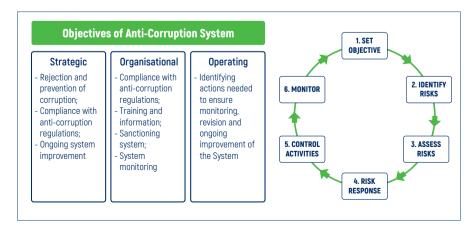


#### THE ANTI-CORRUPTION SYSTEM

The Anti-Corruption System measures the entire organisation's level of exposure to the risk of corruption on the basis of a number of specific indicators that characterise the Group (size and structure, business sectors and activities carried out, countries in which the Group operates and third parties with which it holds relations) and identifies, therefore, the strategic, organisational and operational objectives (see figure). The latter, in particular, are set out in the compliance plan drawn up annually in order to ensure the

monitoring and ongoing improvement of the Anti-Corruption System. Furthermore, the activities that expose our Italian and foreign companies to the risk of corruption have been identified and the behaviour and rules that need to be complied with have been identified. For more specific aspects reference is to be made to internal procedures.

During 2018, implementation of the Anti-Corruption System will continue with a view to ensuring its compliance, monitoring and ongoing improvement.



#### ANTI-CORRUPTION POLICY

The Anti-Corruption Policy sets out the System's principles and general objectives, and indicates for each of the activities assessed as being at medium and high risk², the controls that allow reasonable prevention of corruption. All ERG people and whoever operates in the name and on behalf of our Group must have knowledge of and observe the Policy. To this end, it is published on our website (www.erg.eu) in the "Governance" section and translated into English, French and German.

#### CODE OF ETHICS AND ORGANISATION AND MANAGEMENT MODELS

The Anti-Corruption System is in perfect synergy with the Group's Code of Ethics and with the 231 Models adopted by the Italian operating companies, strengthening, where and to the extent necessary, the behavioural principles and control measures already envisaged, especially as regards the prevention of active and passive corruption.

We conduct risk assessments periodically aimed at identifying the activities that expose the companies to crimes of corruption (active and passive, public and private), crimes resulting from violations of workplace health and safety rules, and environmental crimes. On the basis of these checks, we draw up the 231 Models, which describe the organisation, responsibilities and control measures implemented to handle the above offences.

The 231 Models are subject to cyclical revisions in order to take into account any changes in the business model, significant organisational changes and new regulations. Specifically, in 2017 the Supervisory Committees updated the 231 Models of the Group's companies (ERG S.p.A., ERG Power Generation S.p.A., ERG Hydro S.r.I., ERG Wind

Holdings Italy S.r.I. and ERG Power S.r.I.) to take account of organisational changes (One Company Project) and new regulations<sup>3</sup>. Updating of 231 Models will continue in 2018, where necessary, and the Models of newly established/acquired Italian companies will be drawn up.

In 2017, training/information was provided to Group company directors on the main aspects of entities' administrative liability for offences committed abroad also. Real cases were examined that were related to the Group's business (a total of around 3 hours of training were delivered for a total of 21 directors belonging to the Group's different companies, equal to 100%).

E-learning also continued (course duration around 1 hour for a total of approximately 26 hours) on the Group's Code of Ethics (including issues regarding the fight against corruption and respect for human rights and gender diversity) and on the 231 Models for newly employed staff in the various Italian operating companies (26 people, equal to 100% of new recruits and to 3.6% of personnel). In 2018, in addition to the above training, we also expect to deliver training on specific issues.

#### SUPERVISORY COMMITTEE

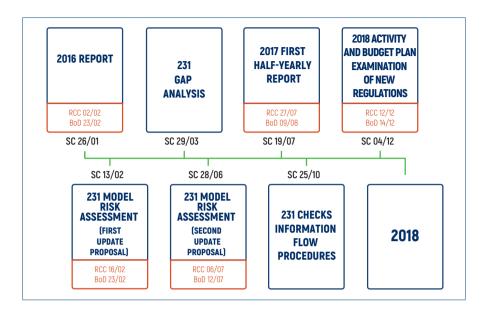
The Supervisory Committee of ERG S.p.A. (SC) consists of 3 members, of whom one is an external member. The Committee met seven times in 2017 to examine amongst other issues the information flows received and the results of the audit activities (also in relation to Italian Leg. Decree 231), as well as the proposals to update the 231 Model, the Reports on activities carried out in 2016 and the first half of 2017, and the 2018 Plan

- 2 Including the management of gifts and entertainment expenses, the management of relations held with public administrations and the authorities, and the management of financial resources.
- 3 Special reference is made here to the offence of "corruption among private individuals" and to introduction of the offence of "illegal intermediation and exploitation of labour".

55 I

ΠΑΤΑ ΑΝΠ

INDICATORS



of activities and budget. The periodical reports on the activities carried out by the SC were then shared with the Control and Risk Committee and with the Board of Directors.

The Supervisory Committee provides people inside and outside ERG who wish to report possible violations of the 231 Model and/or the Code of Ethics, with two separate communication channels: an ordinary mail address and a dedicated email address. The reports received are evaluated by the SC in an independent, professional and responsible manner and, where necessary, by listening to the author of the report and/or the person responsible for the alleged

violation and by motivating in writing the reason for which it may decide not to proceed. The SC checks and makes sure that whoever makes a report in good faith is not subject to any form of retaliation, discrimination or penalisation. It also ensures that the confidentiality of his/her identity is protected, without prejudice to legal obligations and the protection of the Company's rights or those of the persons accused wrongly and/or in bad faith.

Anonymous reports are taken into consideration only if they are accompanied by all objective elements required for the subsequent verification phase. No reports were received in 2017.



# ECONOMIC RESPONSIBILITY

2

The creation of sustainable value added over time is possible thanks to a series of actions aimed at improving our way of doing business, transforming them into a competitive advantage.

Improving processes, technology and business practices for increasingly reliable and high-performance plants.

An eye on technological innovation to prepare our path towards the future.



# 746 EUR million ECONOMIC VALUE DISTRIBUTED

2,821 MW TOTAL INSTALLED CAPACITY

7,210 GWh OF ELECTRICITY PRODUCED

86%
INVESTED CAPITAL
IN PLANTS FED WITH
RENEWABLE SOURCES

# ECONOMIC VALUE GENERATED AND DISTRIBUTED

#### REPLACEMENT COST (MILLIONS OF EURO)

	2017	2016	2015
Production value	1,065	1,041	958
Economic value distributed	(746)	(748)	(759)
Production costs	(450)	(463)	[484]
Compensation of personnel	(79)	(76)	(71)
Compensation of public administration	(51)	(39)	[44]
Compensation of debt capital <sup>(1)</sup>	(89)	(97)	(87)
Compensation of risk capital [2]	(75)	(71)	(71)
Compensation for the community	[2]	[1]	[1]
Economic value withheld by the Group	319	293	199
Amortisation and depreciation	252	254	171
Compensation of the company	67	39	28

<sup>(1)</sup> Interest paid and other financial expenses to service debt.

	2017	2016	2015
Net value added	1,065	1,041	958
Production costs	(450)	(463)	(484)
Compensation of personnel	(79)	(76)	(71)
Compensation of public administration	(51)	(39)	[44]
Compensation of debt capital	(89)	(97)	(87)
Compensation for the community	(2)	(1)	(1)
Amortisation and depreciation	[252]	(254)	(171)
Economic value withheld by the Group	142	110	99
Amortisation and depreciation	-	[3]	(3)
Compensation of the company	142	107	96

#### **ERG AND ECONOMIC RESPONSIBILITY**

ERG's growth strategy is strongly oriented towards renewable energy sources, with particular focus on wind and hydroelectric power. Our main goal is the creation of value that is sustainable over time, by growing our profitability and carefully balancing our production portfolio.

<sup>(2)</sup> Dividends distributed by the Group net of extraordinary disbursements (EUR 72 million in 2016).

#### **KEY ECONOMIC INDICATORS**



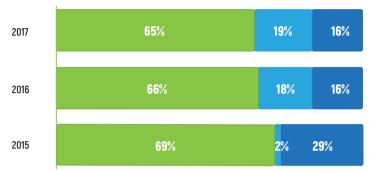




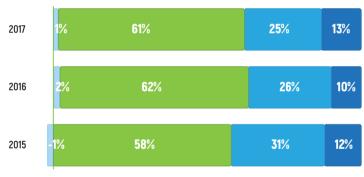




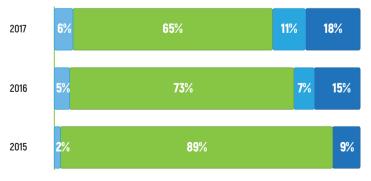




#### **INVESTED CAPITAL**



#### INVESTMENTS DURING THE YEAR

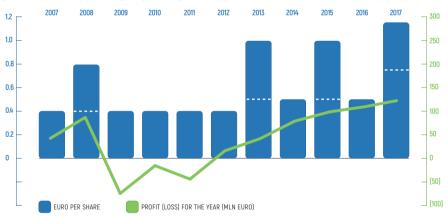


#### **ERG'S STOCK MARKET PERFORMANCE**

#### ERG VS. EURO STOXX UTILITIES, FTSE ALL SHARE AND FTSE MID CAP CHANGE % FROM 30/12/2016 TO 29/12/2017



#### 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 remunerate the capital invested by its shareholders. In 2017, an ordinary dividend of 0.75 EUR per share (0.50 EUR in 2016) was paid out besides an extraordinary component of 0.40 EUR per share.

#### **ERG GROUP'S PLANTS**

	Installed capacity in MW	Production in GWh			Wind farm load factor <sup>(1)</sup> technical availability thermoelectric power plants			Regime/ Allocations CO <sub>2</sub>
		2017	2016	2015	2017	2016	2015	
WIND	'							
Campania	247	489	503	414	23%	23%	20%	FIP ex Green certificates
Calabria	120	238	256	240	23%	24%	23%	FIP ex Green certificates
Apulia	249	531	529	472	24%	24%	22%	FIP ex Green certificates + CIP I
Molise	79	167	167	155	24%	24%	22%	FIP ex Green certificates
Basilicata	89	183	190	164	24%	24%	21%	FIP ex Green certificates, Auctions
Sicily	198	299	342	274	17%	20%	16%	FIP ex Green certificates
Sardinia	111	209	233	192	21%	24%	20%	FIP ex Green certificates
Total Italy	1.093	2.117	2.220	1.910	22%	23%	20%	
Germany	216	369	240	156	19%	16%	21%	Feed-in tariff
France	252	491	499	206	22%	23%	24%	Feed-in tariff
Poland	82	248	213	68	35%	30%	37%	Certificates of origin
Bulgaria	54	157	148	74	33%	31%	31%	Feed-in tariff
Romania	70	201	181	201	33%	29%	30%	Green certificates
UK	48	29	-	-	-	-	-	Green certificates (ROC)
Total Overseas	722	1.496	1.281	705	25%	23%	26%	
Total Wind	1,814	3,613	3,501	2,614	23%	23%	21%	
HYDRO								
ERG Hydro	527	1,144	1,358	84	-	-	-	Green certificates and certificates of origin
POWER								
ERG Power	480	2,453	2,693	2,632	63.2%	62.4%	61.8%	(2)
Total thermoelectric	480	2,453	2,693	2,632				
Total electricity production		7,210	7,552	5,330				

<sup>1</sup> The value of plant availability is calculated as follows:

<sup>- &</sup>quot;load factor" for wind farms is the ratio between the actual production values in relation to the theoretical maximum production values (calculated taking into account the actual commissioning of each individual wind farm);

<sup>-</sup> the "1st principle overall performance" index for the thermoelectric power plant is calculated in accordance with the procedures laid down by Ministerial Decree 5 September 2011 [FAB]

<sup>2</sup> ERG Power does not have any free CO2 allowances under the EU-ETS regulation. Installed thermoelectric power 869 MWt.

#### ONE COMPANY, ONE ICT

**FCONOMIC** 

RESPONSABILITY

The One Company project continued in 2017. Through consolidation of organisational changes in the various areas of the Group, this project has resulted in a more flexible internal configuration,

capable of promptly seizing the opportunities arising from the constant evolution of the electricity market. Initiatives carried out during the year focused on redefinition, reorganisation

SOCIAL

RESPONSABILITY

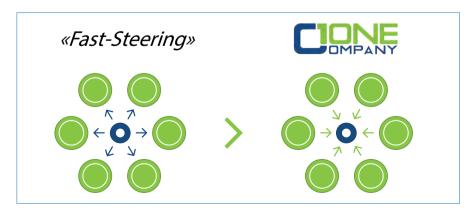


and optimisation of a number of strategic, business and support processes, as well as improvement of the level of service provided by the central structures to the various electricity production technologies (wind, hydroelectric, photovoltaic and thermoelectric). In particular, the business development, procurement and Energy Management processes were revisited with a more integrated approach. Moreover, the latter was reorganised such as to provide a single access to

the power market, thereby maximising corporate profitability and optimising management of the risk, financial and regulatory aspects.

In detail, the One Company project was developed through:

- redevelopment of the existing Organisational Units, supported by a change management process:
- optimisation of staff and rationalisation of



processes and structures;

- considerable development in the IT area, with particular focus on automation, digitisation, modernisation of the technological infrastructures, data quality initiatives, smart working and business intelligence;
- strong internal motivation, triggered by an increasingly common and shared view of the Group's mission, objectives and commitments.

These initiatives allowed us to achieve important objectives, such as:

- strengthening and consolidating our foreign presence in the wind power sector;
- further increasing in-house management of Operation & Maintenance activities;
- taking advantage of new opportunities offered by an increasingly competitive and constantly transforming electricity market, with an organisational structure able to "absorb" the new activities without significant impacts (such as what occurred at the end of the year in regard to the new "solar" technology).

#### INFORMATION & COMMUNICATION TECHNOLOGY

The ONE Company project also involved the Information & Communication Technology area, with three main objectives:

- eliminating complexity, which is the result of a long period during which the Group constantly carried out extraordinary transactions that required multiple technological integration projects or, conversely, disposals (e.g., the oil sector business);
- reducing the operating risks of various "stratified" and delocalised technologies;
- enabling ICT as a leverage of value generation to support and integrate the business processes.

In the prior three years, the Group had adopted an organisational model in which each business area managed their own specific ICT issues internally, thanks to specifically dedicated structures.

Based on the ICT Transformation plan, we moved from this decentralised model to centralised organisation, with the establishment of a single organisational structure in order to optimise processes through the technological leverage of Organisational Development & ICT.

All of the relevant Group resources and skills have been concentrated within this new structure:

- functional process analysis;
- · organisational planning;
- · management of ICT demand;
- provision of technological services to support business processes.



The objective was to realign the Group's complex technological system (infrastructures, applications, methods and relative economic data) to the requirements of the new industrial structure as Independent Power Producer.

Centralisation within a single IT structure also permitted the launch of major technological development projects benefiting the business areas, particularly for the innovative areas of predictive maintenance, analytics [example/ definition] and augmented reality to support operations. The Group's new ICT organisation began operating concretely during the first guarter of the year, with the creation of a single work plan in terms of operating methods and priorities. Thanks to a farsighted plan and strong commitment by Top Management, which considers ICT to be an important lever of competitiveness, the first year of operations generated significant results in terms of economic savings and improvement optimisation of infrastructures.

#### MANAGEMENT OF WIND FARMS

We have been operating in the wind farm business for over 10 years now: the growth path that we have undertaken has earned us, through organic growth (i.e., green-field projects) as well as through acquisitions, the role of leading Italian wind power operator, with approximately 1,100 MW of installed capacity, and has allowed us to expand our presence in another 6 European countries (France, Germany, Poland, Bulgaria, Romania and the UK).

Our Group's distinctive feature is the capacity to apply the industrial approach to the management of plants - developed as a result of our prior experience in the refining sector - and to the new renewable business. This has first of all resulted in implementation of the "Level 2 SCADA" project (summarised in the Sustainability Reports of prior years), for the creation of a single, centralised, real-time control system for the status of the turbines in various wind farms, able to remotely harmonise and manage any signals or alarms, regardless of the technology used, resetting the turbines if necessary and restarting them.

The different management approach also impacted maintenance works that must be carried out when the wind turbine can no longer be reactivated due to mechanical problems that cannot be managed remotely. In this case, we aimed at internalising these activities across the board.

The decision to internalise, included as a line of action envisaged by the 2015-2018 Strategic Plan, is mainly due to the awareness that the optimisation of maintenance operations, more or less costly in terms of production opportunities depending on the abundance or scarcity of wind, stems not only from the ability to minimise machine downtime, but also to anticipate "destructive" breakdowns and develop an efficient management of spare parts logistics.

The mix of activities necessary for optimisation of maintenance, also in a predictive light, is highly complex and variable, and it cannot be pursued when maintenance is assigned to a third-party company, which typically intervenes when the problem actually arises.



#### IMPROVEMENT OF PERIODIC CHECKS

Insourcing of maintenance activities on the Renew plants has stimulated continuous improvement in the personnel profile, in terms of both expertise as well as experience, and has enabled refining and optimisation of the preventive maintenance check-lists.

In 2017, a work team comprising people from the Operation and Maintenance Italy functions was established, with the objective of analysing the controls envisaged by the check-lists proposed by the operators and modifying the details and timing according to best practices and to the experience gained internally, thanks to in-depth knowledge of the assets.

The project mainly unfolded in three phases:

- the first involved direct participation in field activities by the "production optimisation" function, thanks
  to which possibilities for improvement in maintenance activities were identified;
- the second envisaged the formation of a technical panel consisting of internal staff experienced in check-lists and relative work instructions and the finalisation, based on what can be implemented and improved, of an initial check-list review with relative work instructions;
- the third consisted of the practical execution of maintenance by the work team, with application of
  the new check-list in the plant. The practical test confirmed the applicability of the activities added (or
  improved) and respect of the pre-established times. In particular, verification of the execution times
  enabled us to evaluate the necessary resources to manage the maintenance plan.

This path will continue in 2018, with technical-practical training activities for the maintenance staff who will conduct cyclical and preventive activities.

#### WIND TURBINE GENERATOR (WTG) MAINTENANCE

Approaches to the maintenance of industrial machines have evolved over time, with a constant search for improvement of performance.

The simplest approach is maintenance upon breakage, which is the maintenance that is planned and managed exclusively following breakage. This approach is very costly in terms of machine downtime, as all activities must be initiated when the system is off, leading to a loss in production.

The natural evolution of this scenario was the introduction of predictive maintenance, based on periodic revisions scheduled regardless of the machinery's operating conditions. A distinctive feature of this is the high cost for planned

replacement of elements that are presumed to be damaged but which still have some useful life in them. Predictive maintenance has revolutionised the approach to the management of rotating machines because, thanks to monitoring of the operating conditions of the wind turbine generator, it identifies the defect in a component directly at the source and allows decisions on any interventions to be made in advance, ensuring significant improvement in terms of both reliability and safety of the system, as well as better organisation of resources and minimisation of production losses.

Thanks to progressive growth in the specific know-how of the wind power sector and to the willingness to make our systems increasingly efficient, we have developed our own approach to maintenance, known as "Condition Based Maintenance", based on predictive maintenance. The first intervention involved the installation of Condition Monitoring Systems (CMS) on most of the Multimegawatt fleet (275 turbines, for a total of 565 MW between Italy and France at the end of 2017) to monitor the operating status of the components of the drive train (consisting of rotor bearings, gearbox and generator) with the highest risk of breakage and, therefore, with the greatest economic impact.

So how does the CMS system work? Each rotating system has a series of vibrations that change based on wear and tear of the components and the relative damage generated. Based on the knowledge acquired over the course of the years and on statistical data, we defined the specific acceptable vibration thresholds (machine in good condition), alerts and alarms for each component and each type of breakage. The CMS is therefore based on measurement of the vibrations of the components of the machines, thanks to a series of accelerometers and particle counters

installed on the drive train of the turbines. These data are submitted to the Genoa headquarters, where they are collected and compared with the attention thresholds defined by the system, permitting the rapid identification of turbines that require attention and estimation of where the damage is located, its stage of progress and the breakage times.

#### UP-TOWER MAINTENANCE INTERVENTIONS

The combination of predictive maintenance activities and the acquired capacity to perform extraordinary maintenance have allowed us to pursue a whole series of activities on main components directly in the nacelle (up-tower).

We can therefore carry out repairs before breaking and at a height, thus reducing machine downtime and operating and handling costs, as well as achieving significant economic savings by not having to replace the entire component.



#### MONITORING OF OLIO GEARBOX QUALITY STATUS

Thanks to the extensive implementation of these tools, our technicians are now able to give priority to blade maintenance from the technical standpoint, as well as to maintenance activities on underground cables and substations (electrical BoP - balance of plant) and civil works (civil BoP).

In this scenario, timing of the maintenance depends on two variables:

#### 1. Weather conditions

Since maintenance conditions can now be scheduled, they are planned during less windy periods or any time external factors impose limitations on production (e.g., in the case of restrictions on production due imposed by the network). The availability of detailed wind forecasts for each wind farm allows better planning of activities: the production threshold, which is the threshold that allows maintenance to be planned, has been set at 49% and is recalculated each time the weather forecast is updated.

The availability of technically competent personnel trained to carry out the planned activity

We implemented the "Click" system to optimise the resource allocation process in the activities to be carried out. The system receives inputs containing two key pieces of information:

- requests for maintenance to be carried out, regarding both turbines as well as the components (ordinary maintenance, planned by CMS-predictive maintenance, on failure, etc.):
- expertise of the maintenance staff, determined by considering the experience gained on the field and the technical training courses completed.

Thanks to the above inputs and with the supervision of the Maintenance Planning department, the system allocates resources based on an objective function aimed at optimising the importance of maintenance (priority to minimise production losses), staff know-how (individuals with specific knowledge of the activities to be carried out), logistics (with consequent optimisation of travel times) and equipping of the vans (so that suitable instruments to carry out the work are available). function currently under Another "Click" development is the "Same site" application, thanks to which it will be possible to organise all additional maintenance activities for a given wind farm (or an adjacent one) so that they fall within a working day of a team dedicated to the main maintenance of that wind farm, thus optimising intervention times and vehicle logistics. This app will be available on mobile digital instruments.

#### MONITORING OF OIL GEARBOX OUALITY

Thanks to years of experience in management and operation of the various systems, we have learned that the technical life of the lubricating oil of the gearbox, based on which the replacement was carried out, is longer that what is declared by manufacturers.

Therefore, each operating centre is equipped with a tool that assesses the quality of the oil and the technical decay, consequently allowing replacements to be planned when they are actually necessary. We therefore succeeded in significantly reducing the quantities of oil replaced during the year, improving our environmental impact (lower risks arising from manipulation of the product) and savings in terms of costs.

#### THE RESULTS OF OUR JOURNEY

The introduction of our remote monitoring and control system for blades and the implementation of an innovative maintenance process for the sector resulted in an increase in production, thanks to greater availability and efficiency of the machines during windier days.

Significant attention has also been paid to the instruments that monitor the performance of our assets, which have improved thanks to the identification of effectiveness indicators for the actions undertaken compared to the objectives set. In particular, the following indicators are highly effective:

- load factor: the number of hours in a year that a plant has run at full power;
- time availability: the % of hours per year a plant has been available to produce;
- energy availability: the % of energy actually produced compared to the potential production

of the farm for the given period (calculated based on the final balance of wind levels).

The trend of said indicators shows how the performance of our assets has steadily improved over time.

#### WIND - INSOURCED MW



#### PERMITTING DATABASE

Maintenance tasks, even before the "actual" intervention, require a complex authorisation process, which is mandatory for mechanical or civil works in a specific geographical area. Obtaining the "authorisation to work" as soon as possible is essential, since it limits the loss of production, and a de-localised and fragmented organisation of administrative competencies may further accentuate the difficulty of conducing these preliminary activities.

The Permitting Database is an actual geographic information system with geolocation interface. By combining the geographical data and assets of the areas where our wind farms are located with regulatory data, it shortens the time required to obtain permits for unplanned maintenance of wind farms and related works, roads, underground cables, etc.

To even further minimise times, each plant has been mapped and subdivided into pieces, to which a "tab" has been associated, complete with the constraints to which it is subject and the procedures to be followed with respect to land use planning and regulations. By clicking on the part of the plant affected by the extraordinary maintenance, the Permitting Database interface provides access to a summary data table – and to the related forms – to submit to the Body responsible for issuing the authorisation, and information on how to submit them.

ΠΑΤΑ ΑΝΠ

INDICATORS

# ANALYSIS OF BLADES WITH THE TELESCOPE: TECHNICAL GROUND CONTROLS

Given the necessity to develop increasingly effective services, in 2017 we developed a new blade inspection service in France.

To identify the best tool for our requirements in a timely and objective manner, we carried out a comparison between the various technologies: inspection by rope, with telescope, with high resolution camera and via drone.

The results of the analysis indicated that inspection by rope is the technology able to provide the most timely and precise result, although with a certain degree of inefficiency in terms of implementation costs and machine downtime (with consequent production loss). The technology which, according to the analysis, ensures the best compromise between precision, costs and machine downtime

is inspection via high-resolution telescope.

We therefore initiated a collaboration with a company that supplies this type of telescope, equipped with software able to identify with extreme precision the exact position of the defect and to send photographic documentation straight to the computer.

The system resolution allows clear detection of defects on very small blades, with a machine downtime of less than 2 hours.

To test the quality of the solution developed, we carried out a series of inspections by rope and telescope in order to compare the results obtained with the two different types of inspections. The results confirmed inspections by telescope as the preferred solution for regular analysis of the condition of our turbine blades.





## TRAINING OUR PEOPLE: A RESOURCE FOR TURBINE MANAGEMENT

As mentioned in the previous paragraphs, ERG's historic industrial vocation has resulted in the insourcing of all maintenance activities for our wind farms.

In light of the characteristics of our machine fleet, which is highly diversified from a technological standpoint (different turbine manufacturers) and in terms of the skills required (to manage substations, underground cables, anemometers, turbines, ancillary plants), the insourcing initiative required, and still requires, constant training of our people, in order to increase their knowledge of the plants and their "capacity for action".

A number of recent Italian laws and certifications based on European standards (UNI EN 15628-2014) have officially recognised the activity of the

#### TECHNICIANS CERTIFIED FOR VIBRATIONS ANALYSIS

The analysis of vibrations requires a very specific know-how. Our engineers have earned Mobius Institute Isocat II certification, recognition of possession of the necessary requirements to assess the conditions of the machines and systems through vibration analysis. The course, which required two years of specific experience in vibrational analysis, is characterised by a high standard of contents and the necessary requirements to pass the tests, satisfying specifications that are recognised throughout the world.

maintenance engineer, defining the requirements on the basis of which to classify the level of professionalism (Level 1 - Maintenance Specialist, Level 2 - Maintenance Supervisor or Maintenance Engineer, Level 3 - Maintenance Manager).

At ERG, we want our maintenance staff to grow within an officially recognised profession, a desire that is at the basis of our three-year complete training process, launched in 2016 and ending in 2018.

Following a mapping of the skills of our technicians (Skills Assessment), this process involved the performance of a gap analysis of their abilities in regard to the activities assigned to them, allowing us to define an ad hoc training programme for each of them.

Programmes have been defined for various areas, including:

- · Basic Mechanics:
- · Basic Electrotechnical:
- Advanced Electrotechnical and electrical machines:
- · Hydraulics;
- · Electrical Maintenance BoP;
- · Malfunction search Troubleshooting;
- · Maintenance supervisors;
- · Inventory management;

Between 2016 and 2017, we provided about 7,300 hours of technical training alone, both general and specialised, thereby completing the programmes that will allow approximately 75 of our maintenance staff to take the exam for Level 1 certification.

Twenty resources with a more advanced technical profile (specialised technicians, managers and engineers) are currently completing a different training programme (with minimum duration

64 hours), subdivided into meetings and project work, necessary in order to take the Level 2 maintenance exams.

#### **WIND MAINTENANCE 4.0**

Diversified technological systems, increasingly widespread throughout the territory (25 substations, 54 farms, 974 turbines, 25 anemometers), require increasingly greater and multi-specialised skills on the part of operators operating in the field.

At ERG, we focus heavily on both classroom training and on-the-job training, as well as on the technological developments of the 4.0 industry, which allow us to develop projects capable of improving the effectiveness of maintenance operations and the solution of unexpected or unknown problems.

It is on these very technologies that the project, which began in 2017 and is still in the testing phase, is based, involving the use of augmented reality glasses (or smartphones) to carry out particular activities with the remote support of other colleagues who are experts in a certain technology. Having identified the problem, the colleague at the office can suggest how to resolve it, even without being physically present, thereby permitting transversal assistance across different regions and through different technologies.



### WAREHOUSE PROJECT

Through the Warehouse & Logistics department, ERG currently manages 12 components warehouses in Italy, some of which have been involved in pilot projects aimed at optimisation and efficiency of the maintenance services offered.

The first project regarded optimisation of the spare parts data and expansion of the details pages of the various items in the system. This essentially involved two main stages:

- identification of the items that could be considered strategic for maintenance in terms of economic savings (the initial results were already recorded during the year);
- creation and inputting of the data sheets with images and technical characteristics of the various components, improving communication between technicians and stock managers.

In addition to simplifying the flows of information, this system would allow the Procurement department to search for the same spare part via alternate channels, thereby obtaining further savings.

The second project aimed at the search for the optimal layout of shelving (based on the new

requirements arising from insourcing), as well as a review and harmonisation in all warehouses of the nomenclature of the shelving, thereby facilitating the search for components and optimising the areas.

The heavy components are stacked directly on the ground, on pallets with modular units and covers to protect them from dust, with external label and photograph of the component contained within.

The first shelf level is dedicated to components with high turnover (spare parts and maintenance consumables), while the higher levels contain lighter and bulkier components.

The new criterion also applies to cabinets containing small or delicate components (electrical or electronic), considered as an extension of the adjacent shelving.

The project for the Italian locations should be completed by the end of 2018, but where it has already been implemented, there is a logical awareness and order in the storage of components that is of great value for optimal management of ERG's operational activities.



#### "SUSTAINABLE ENERGY" AWARD

The transformation of ERG's business over the last ten years has become a "textbook case", due to its capacity to anticipate scenarios, as well as for the methods in which it was carried out.

A business evolution also accompanied by a strong commitment towards all of our stakeholders, to demonstrate how and why we changed: we have had the opportunity to describe our journey in many school and university classrooms and to bear testimony and share our experience in numerous conferences. In these last few years, we have received important recognition and awards for the path undertaken. In 2016, the "Oscar di Bilancio" award (for the "detailed representation of the transformation process") and the "Best Newcomer Italy" award from the CDP (Carbon Disclosure Project) for our reporting on the measures and strategies adopted in the fight against Climate Change.

Edoardo Garrone, ERG Chairman, was assigned the "Sustainable energy" award in March 2017 for: "the capacity to anticipate and interpret changes in the economic and social context, in synergy with international policies on decarbonisation and sustainable development; in just a few years and with considerable sensitivity and business intuition, he transformed ERG, historic leader in the Italian oil sector, into a leading operator in the renewables sector, with significant development abroad. A courageous cultural and professional leap, made possible through substantial investment in the organisation and in human capital, facilitating rapid development of the necessary know-how and skills to successfully manage the new business model. A virtuous path that has developed through a transparent, constructive and supportive relationship with the communities of the regions in which ERG operates, encouraging their development through projects benefiting young people, sport and culture and stimulating the birth and growth of local entrepreneurial initiatives."

In May, Alessandro Garrone, Executive Deputy Chairman of ERG, was given the prestigious "Guido Carli" award, which each year selects 12 Italian examples of excellence in the Made in Italy realm, recognising "the green turnaround of ERG and his role in the company's transformation from oil giant to renewable energies operator".

Lastly, in March 2018, Alessandro Garrone and CEO Luca Bettonte received the "Manager Utility 2017 – Energy" prize for "the transformation of ERG, completed in 2017 with the disposal of TotalErg and its entry into the photovoltaic sector, from oil producer to producer of energy from renewable sources, leader in the Italian wind power sector and among the top in Europe".



### MANAGEMENT OF HYDROELECTRIC PLANTS

The second leading technology in terms of installed capacity at the ERG Group is hydroelectric.

The Terni Hydroelectric Complex, whose infrastructures and facilities date back to the first half of the 1900s for the most part, was acquired at the end of 2015.

The plants of the Complex cover a vast area including Umbria, Lazio and the Marche regions, and comprise 19 production plants, 7 large dams and 155 km of watercourses, tunnels and conduits.

The water sources used for electricity production are the Nera, Velino and Tiber rivers, which together represent a water system that is well integrated with the territory, enabling the creation of important natural areas, such as:

- the Oasis of Alviano on the Tiber river:
- · the Nera River Park and the Marmore waterfalls.

Thanks to a revamping process of reconstruction and modernisation that began in 2008 and ended in 2013, involving 28 Production Groups over 37, we were able to increase the technical and energy efficiency of our groups, simultaneously raising their environmental and safety standards.

We renovated and improved the automation and remote-control systems, achieving a greater capacity to prevent any failures or malfunctions, and we adopted new technologies that have allowed us to use biodegradable oils in hydraulic systems and self-lubricating materials instead of those that required the use of grease and oil.



#### PRODUCTION PROCESS

The hydroelectric process is based on the conversion into electricity of the potential energy of a higher mass of water: in short, the mass of water "falling" from above towards the area below (the hydraulic drop) drives the turbinealternator units at the foot of said hydraulic drop, generating electricity.

A typical feature of our plants is that they are in succession: therefore, the water coming out of one production plant is captured and sent to the next plant to be used in a new drop, along with additional water from other rivers belonging to the surrounding river basin. Consequently, the water is used several times, making the most of its energy content. At the end of the cycle, the water is returned to the river basin and can flow back into the natural water cycle.

#### MANAGEMENT PROCESS

The plants are managed through two main activities: "Operation" and "Maintenance", with two separate operating units.

#### Operation

The Operation unit predominantly handles control of the plants to ensure proper functioning of the 37 production groups and is carried out by personnel within the company.

Since the startup/shutdown of the machines. in accordance with the production plan, is carried out centrally for all the plants, the unit is responsible for the precise verification of the status of the plants and, more specifically, the status of the hydraulic intake (water supply), correct functioning of the equipment and turbines, verifying any anomalies detected during operation (vibrations, pressure, temperatures) and the verification/measurement/calibration of all the equipment and meters of the plants.

The unit is also responsible for two technical management activities in the larger plants for safety purposes:

- · decommissioning and safety, for works on electrical, hydraulic or pressurised systems:
- operating manoeuvres, which are very important for the management of overflows upon request by the Territorial Bodies.

Thanks to our hydraulic works and control systems distributed throughout the territory, we are able to mitigate the negative effects connected to water scarcity or abundance, such as during overflows, providing a civil protection service for the community, clearly in collaboration with the hydraulic authorities, prefectures, the fire brigade and local authorities.

#### Maintenance

Maintenance activities are planned and managed by our staff but predominantly carried out by outside companies.

The production of electricity from hydroelectric sources, while using a now consolidated technology, is highly complex, since each plant is different from the other in terms of "drop" and "water flow rate", which are intrinsic characteristics of the territory. Therefore, a large part of the maintenance projects requires "customisation".

All activities are carried out with considerable attention to the safety of people and of the territory.

In fact, we are fully aware that each of our initiatives may impact management of the water environment of the rivers and lakes that feed our systems.

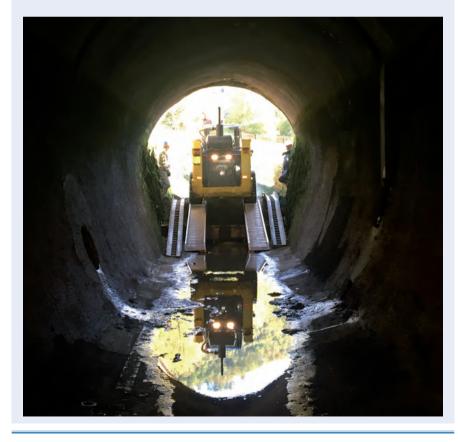
#### INSPECTION OF THE MEDIO NERA CANAL

Management of operations involves not only the operation of the plants but also more significant periodic activities aimed at verifying the correct and safe functioning of the infrastructures. Among these, the tenyear inspection of the derivation work referred to as Medio Nera was carried out in 2017.

Creation of the "Medio Nera" tunnel was a result of the studies carried out at the beginning of the 1920s, aimed at optimisation of the water resource (river). The 42-km long tunnel takes the water from the Nera river and some of its tributaries towards Lake Piediluco and from there to the plant of Galleto Monte S. Angelo.

The inspection activities required a lengthy phase of preparation and coordination with the relative authorities, due to the changes in water flow of the rivers involved over time.

The activities were conducted with particular attention to the management of safety issues and how to handle a possible emergency situation. The inspection highlighted the good condition of the water works and of the works of art present along the route, and it confirmed the absence of any lesions generated by the recent seismic events.



#### PROJECT MONLHY - (ONLINE HYDRO MONITORING)

The ERG Group, with a view to improving management of its plants (with consequent increase in productivity), is implementing predictive management systems in all its assets (in the wind segment, this phase has already been completed). In this scenario, we include the "Online Hydro Plant Monitoring" project, conceived and developed over the course of the year and which will be implemented starting from 2018. Its objective is to achieve an application aimed at machine diagnostics and production optimisation, through the analysis of performance and functional parameters from instrument measurements in the field.

Starting from the construction specifications of the main components of the system, the application envisages:

- · real-time monitoring of the main parameters (vibrations, temperature of the lubricants and cooling, etc.);
- prompt identification of any shifts in these parameters (compared to the standard production values) as warning signals that a breakage event is approaching;
- · activation of the predictive maintenance process (which therefore replaces the cyclical one).

The process starts with the development of "breakdown matrices", which associate to each type of breakdown the corresponding variation of several parameters (and no longer a change in just one parameter). Cross analysis of the variations of the different parameters permits identification of the onset of a problem well in advance, so that a solution may be found immediately and action taken to best handle any deterioration of the component. Thanks to this type of application, we will be able to adopt predictive maintenance and performance optimisation systems that will:

- reduce production losses from machine downtime, managing the procurement of any replacement spare parts in time;
- · cut the costs of maintenance "by repairing rather than replacing";
- improve the energy efficiency of systems, thereby increasing production.



### MANAGEMENT OF THE THERMOELECTRIC PLANT

The Combined Cycle Gas Turbine (CCGT) is a combined cycle cogeneration power plant with installed capacity of 480 MW, located in the multicompany site of Priolo-Melilli (SR).

The plant consists of:

- two gas turbines and respective heat recovery steam generators, which fuel a steam turbine:
- · auxiliary systems necessary for operation;
- two electrical substations that permit connection of the generator groups to the transmission grid of the multi-company site and to the Italian national grid.

The gas turbines of the CCGT are fuelled exclusively

by methane and their exhaust fumes are channelled into heat recovery steam generators. The technology underlying the burners, also fuelled solely by methane, permits the achievement of high levels of efficiency and low emissions.

Part of the electricity produced and all of the thermal energy are sold to the other companies situated within the multi-company site. Specifically, the steam generated by the CCGT is fed into the site's grid, while the electricity generated and not used within the site is sold via the transmission grid, in accordance with the rules of the national electricity market.

#### **CAR CCGT**

A strong drive towards efficiency and sustainable management of the assets has been the guiding force since the planning phases in the realisation and subsequent implementation of the CCGT plant.

We strongly desired this plant, based on maximum use of the primary energy source (natural gas) to produce electricity and process steam, with considerable advantages in terms of consumption and emissions of the complex. One of the main objectives was to reuse any available heat flow in the system, which was no longer suitable to produce electricity, for the production of steam that could be used by the surrounding industrial complex.

While such an approach involved higher investment costs and longer implementation times, it also provided greater flexibility and reliability of the plant solution selected: in fact, for the same amount of electricity and steam produced, the CCGT plant allows, thanks to the professionalism of the individuals who operate it and to the online performance control systems, lower specific fuel consumption than traditional units and a flexibility of use (understood as the possibility to quickly adapt production needs to the withdrawal requirements of the electricity network and the industrial complex) that is higher than standard thermoelectric power plants.

ERG's CCGT was the first and largest plant to earn the High Efficiency Cogeneration qualification by the National Grid Operator, meaning that it is able to achieve overall thermodynamic efficiency that is much higher than average (well over 60%). For a period of ten years, this qualification provides energy efficiency certificates (known as TEE) that can be traded on the appropriate free market.

79 i

ΠΑΤΑ ΑΝΠ

INDICATORS

#### MAINTENANCE AND EFFICIENCY OF THE CCGT

Improvement of plant efficiency has always been our constant focus: with the "continuous improvement" project, which involved all the technical operating personnel, we gave rise to numerous technical projects aimed at improving the efficiency levels (project for pre-heating of methane and of the air entering the turbines), reducing any losses (revision of the steam network) and optimising the distribution systems (efficiency of the power transmission grid).

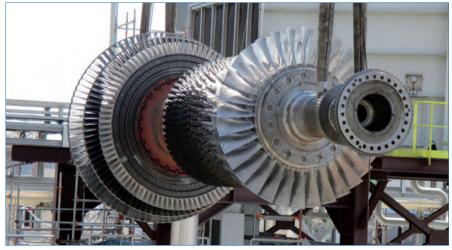
In addition, thanks to constant maintenance activities and reduction of the technical minimum,

we have improved the flexibility of the system and its reliability.

The results were observed from both a technical as well as economic standpoint: the plant's performance index calculated according to CAR regulations (1st principle overall performance) showed constant growth over the years.

Lastly, greater operating continuity enabled the achievement of excellent economic results, as we were able to best manage the performance trend of energy market prices and take advantage of the increasingly higher market price, thanks to calibration.





### THE ELECTRICITY PRODUCTION AND SALES PROCESS

The CCGT power plant is constantly monitored and operated by personnel that, based on technical analyses, estimates the plant availability on a daily basis. Such planning is essential in order to estimate the plant's actual production capacity, based on which the Bidding functions analyses the supply on the electricity market.

The two functions have a very tight relationship: Bidding participates in the markets based on the availability information it receives from Operation, while the latter plans electricity production based on the results of the markets in which Bidding has participated.

There are five main phases in this process:

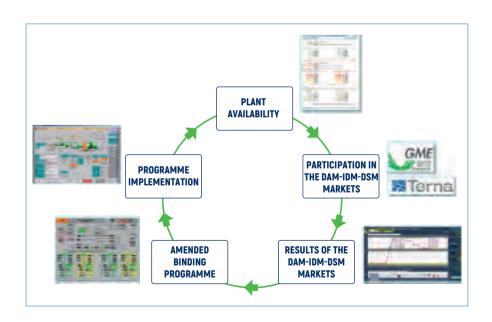
- communication of plant availability by 11:00 am of day n-1 (Operation);
- participation in the Day-Ahead Market (DAM) based on the price scenarios and levels of demand and supply (Bidding);
- · generation of a binding electricity production

- plan for the twenty-four hours of the subsequent day, based on the market results;
- any modifications to the binding plan due to variations in the dispatching services market (DSM) or in orders sent by Terna or to manage grid adjustment;
- launch of production based on the time profile defined by Bidding.

Lastly, the day of implementation of the plan, Operation shall communicate the plant availability for the next day, relaunching the information exchange cycle just described.

Graphical representation of the flow of information between Operation and Bidding

With a view to increasingly improving the flexibility of the plant in order to quickly respond to the requirements of the market and to changes in the site structure, we have invested in cuttingedge control systems that allow us to anticipate plant issues, thereby granting the possibility to carry out targeted maintenance interventions



concentrated during less remunerative periods. This activity has enabled us to achieve a plant availability of over 98%.

An important example of this is the "Plant Diagnostics Test" system, a natural extension of the system for monitoring of the key performance parameters of the CCGT plant. Providing support to all Operation and Maintenance personnel, this system activates a second level of analysis by identifying the main internal causes of deviation and the operating and maintenance interventions necessary to bring the aforementioned deviations back to within the optimal reference levels.

This system is applied to the main equipment of the ERG Power plant and is broken down into the following sub-processes:

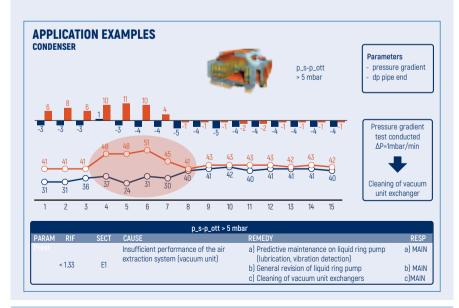
- 1. execution of diagnostic tests;
- 2. execution of corrective measures;
- 3. updating of the machine data sheet.

The control process focuses on the analysis of three main clusters of parameters related to one another:

 key performance parameters: parameters with a direct impact on the machine's efficiency (specific consumption, expected performance, etc.):

# EXAMPLE OF APPLICATION OF THE CONTROL SYSTEM: THE CONDENSER

In early October, there was an excessive deviation between the measured pressure and its reference value (optimum pressure) on the CCGT vacuum condenser unit. The system generated an alert, indicating possible operational/maintenance intervention measures. In this specific case, the exchanger of the cooling system of the vacuum group was cleaned, after which the pressure value aligned with the expected values.



- secondary performance parameters: parameters related to the key performance parameters (e.g., compression ratio, temperature, etc.) that occurred during specific test runs;
- functional parameters: parameters with a direct impact on the reliability of equipment (oil temperature, vibrations, etc.).

The change in each secondary performance parameter and functional parameter is associated to the relative cause, thanks to the experience of 0&M personnel in operating the plant, and the types of maintenance or corrective measures to be implemented are consequently easy to identify.

#### **POWER GENERATION DAY 2018 - ISTANBUL**

In January 2018, ERG -, which implemented an online performance control and monitoring system for the plants -, participated in the "Power Generation Day" conference organised by ABB at the Science Museum of Istanbul. The head of Thermo & Hydro Generation illustrated two typical digital innovation applications to support ongoing improvement of the reliability, efficiency and safety of ERG's thermal and hydroelectric assets. The intervention focused in particular on the procedure for daily calculation of specific consumption and of the indicators of the ERG Power CCGT plant, necessary to ensure the plant the maximum economic generation margin through the predictive calculation and optimisation of the variable production cost. On the same occasion, the new application under development, for online monitoring of the plants of the Terni Hydroelectric Complex, was also presented. This instrument will allow maintenance planning and management according to the CBM (Condition Based Maintenance) approach, with significant impacts on reduction of the operating costs and optimisation of the Major Overhaul maintenance cycles of the 37 hydroelectric units of ERG Hydro. Our contribution to the Conference was decisive and highly appreciated, concrete testimony of an energy operator that is increasingly oriented towards sustainability and that knows how to seize opportunities for development and technical-economic improvement of its business through technological innovation and digital transformation.

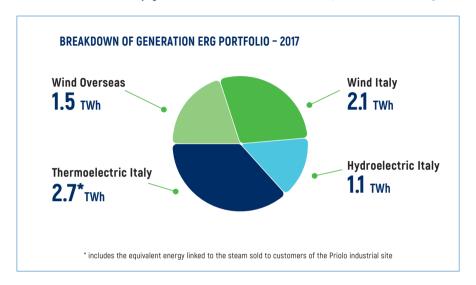


### **ENERGY MANAGEMENT**

**FCONOMIC** 

RESPONSABILITY

The year 2017 was another year of going green, with over 60% of electricity generation from renewable sources (over a total of about 7.4 TWh) and the remainder produced from natural gas.



We also took another important step during the year towards technological diversification, entering the photovoltaic sector. The group's production facilities currently consist of:

- · 39 wind farms for an installed capacity of approximately 1,100 MW in Italy;
- · 46 wind farms for an installed capacity of approximately 720 MW in Europe;
- · 19 hydroelectric power plants with an installed capacity of 527 MW in central Italy;
- · 30 photovoltaic plants with an installed capacity of 89 MW distributed throughout Italy;
- · a combined cycle plant fuelled by natural gas with an installed capacity of 480 MW in Sicily (Priolo).

Management is the department assigned to ensure the economic sustainability of the generation portfolio. In detail, Energy Management is responsible for daily maximisation of the contribution margin through the sale of electricity, optimisation of the procurement and production activities and hedging of the generation portfolio risk.

To reach said objectives and make integrated portfolio management more efficient, the function was structured into 3 main areas that work in close synergy to guarantee the analysis, planning, execution and control activities.

#### Front Office

The Front Office area is assigned the Execution phase, implemented through the operational Trading and Bidding functions that operate on the forward and spot electricity markets, with the support of the Short-Term Analysis area.

In particular, the Bidding function operates on all spot platforms to optimise the programmes of the Production and Consumption Units with regard to end customers with ERG contracts, applying the integrated supply strategy of the generation portfolio drawn up by the Short-Term function.

Instead, the Trading function operates on the platforms of the forward market with the main objective of reducing generation risk on the contribution margin through transactions involving power and gas products.

#### Middle Office

The Middle Office function is the "analytical" core of the Energy Management area and is responsible for the main planning activities. In particular, it is in charge of carrying out dynamic

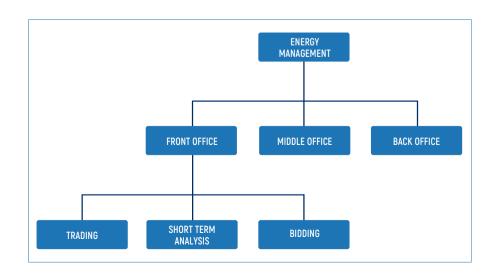
planning of the generation portfolio, optimising on the plant downtimes and target levels of the hydroelectric reservoirs, as well as drawing up the Multi-Year Production Plans and the mediumterm scenarios.

The Middle Office's activities are therefore predominantly aimed at supporting the operating functions by drawing up price forecasts (Power, Gas and other Commodities) and market analyses to support the commercial transactions carried out by the Front Office.

#### **Back Office**

The Back Office function performs the fundamental role of Control of the transactions carried out by the Front Office, through contract management, metering, settlement and liquidation of the contracts stipulated.

Its main activity is ensuring the proper execution of contracts stipulated, respect of the regulatory provisions linked to the trades made and the preparation of adequate reports on the business activities.



#### MANAGEMENT OF ENVIRONMENTAL CERTIFICATES

The plants of the ERG Group, whether fuelled by renewable sources or natural gas, enjoy a number of benefits envisaged by the existing regulations for producers of energy with low environmental impact. Specifically, plants fuelled by renewable sources are awarded Guarantees of Origin (GO): GOs are assigned by the National Grid Operator (GSE) on the basis of production (a guarantee is awarded for each MWh produced) and certify that the energy fed into the grid was produced with zero emissions. Thanks to its production, the ERG Group may request the recognition of approximately 3.5 TWh in GOs in the upcoming years.

GOs are a very important certificate, not only for the producer but also for customers: companies that make environmental awareness and reduction of climate impact key points in their strategies can affirm that their production does not generate indirect emissions (so-called Scope 2), qualifying their product as even more sustainable.

Conversely, the thermoelectric plant of Priolo, as a high-efficiency cogeneration power plant, enjoys the benefits of Energy Efficiency Certificates (TEE). The fact that the plant is able to obtain the simultaneous production of electricity and steam whilst generating high efficiency and significant energy savings is, in fact, a result of its configuration. The plant is therefore able to accrue these certificates for ten years from the start-up year of each module of the plant (up to 2019 in one case and 2020 in the other).

Linked to the production in a specific year, the Energy Efficiency Certificates are assigned by the GSE in the subsequent year, when they are added to the portfolio and are available for transfer to customers. They are generally transferred through direct trades with institutional counterparts, while a part of production is traded on organised markets; their considerable value makes optimal management of this asset particularly important.

Lastly, in order to guarantee compliance of the ERG Power plant with the European Union's Emissions Trading Directive, which implements worldwide emission reduction targets,  $CO_2$  emission quotas are purchased on the market. All those who emit  $CO_2$  into the atmosphere (the quantity of which is certified by an independent inspector) must "cancel" the emissions by purchasing an equivalent quantity of  $CO_2$  quotas.



#### **ERG AND OPEN INNOVATION**

#### COLLÈGE DES INGÉNIEURS LABS

CDI Labs is an initiative established in 2016 and promoted by the SAFM (Scuola di Alta Formazione al Management) of Turin, with the collaboration of the CDI (Collège Des Ingénieurs), to encourage the encounter between large industrial groups (ERG, Atlantia, CLN and FCA) and market-ready, innovative technological start-ups from 10 European countries and Israel.

The project is divided into three annual cycles characterised by the repetition of scouting, selection and trial activities for each year. In 2017, ERG launched the experimental phases of the projects selected from two complementary open innovation initiatives that showed high application potential with respect to the company's activities:

- Open Utility, London-based start-up operating
  in the energy sector, which created a platform
  thanks to which customers, through a simple
  online service, can obtain data and control of
  their energy supply chain, as well as match
  their consumption to local renewable energy
  production. In 2017, we tested the service directly
  with one of our industrial customers in the food
  sector, which used the system to align its energy
  consumption to the productions of two ERG
  hydroelectric plants (Galleto and Salto) and two
  wind farms (Bisaccia and Ginestra).
- FOS4X, German company that developed sensors and relative fibre-based diagnostics system for predictive maintenance on wind turbines. Their specialisation is detection of the presence of ice on the turbine blades.

Upon completion of the trial stage, we will assess the possibility to develop a long-term technological relationship with the selected start-ups.

#### ERG RE-GENERATION CHALLENGE

In 2017, the first edition of the ERG Re-Generation Challenge was defined. This national business plan competition was created to provide students, startuppers and companies of the areas in which ERG operates with the opportunity to develop business initiatives. This edition was dedicated to central Italy and to the city of Terni in particular, which implemented an urban re-generation plan. Three projects were rewarded by the jury, comprising investors, local administrators and managers.

First prize went to the University of Perugia for the WiseSensing project, a network of wireless sensors for the monitoring and analysis of wind farms. A technological alignment phase was launched in 2017, and aimed at experimenting on a number of turbines starting from 2018.

Agesic is the Rieti-based company that was awarded second prize in the challenge, with which we have developed an application able to detect states of emergency of isolated operating personnel and immediately alert rescue teams in case of injuries or sudden illness.

Also awarded was Elemize Technologies, Rome company that has developed a software that exploits artificial intelligence to optimise the energy flows of prosumers.



### SUPPLIERS AND THE ERG GROUP

#### **VENDOR MANAGEMENT**

Vendor management is one of the key processes in the area of Procurement. This is why we consider our suppliers to be a fundamental element for competitive success. The Vendor Management processes, which incorporate the Group's system of values, are periodically reviewed and adapted to best practices. The qualification activity, governed by a specific internal procedure, uses specific online Vendor Management portals that allow a complete analysis of the technical, economic-financial, legal and qualitative profile of the supplier, functional for inclusion in the Vendor List. In the initial phases of the process, all suppliers

are asked to review Model 231 and the principles of ERG's Code of Ethics and sign for acceptance, agreeing to comply with the principles of loyalty, transparency and fairness and to respect and maintain the values contained therein over time. As we believe that compliance with these values is necessary for the satisfactory completion of commercial relations, references to compliance with the Group's Code of Ethics and Model 231 are also present in all orders issued by the ERG Group and are part of the contractual clauses.

Consistently with ERG's business, no significant risks linked to the supply chain were identified. However, in order to extend our sustainability

#### **ERG AND SUPPLIERS**

ERG considers its suppliers a primary source of competitive success and, therefore, it strives to base its relations with suppliers on the principles of sustainability, integrity and confidentiality and manage relations with both current and potential suppliers in accordance with the 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, organisational 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 of a supplier that appears to be contrary thereto.
- · [...]
- demand observance of and observe contractual conditions, with particular reference to health, safety and environmental topics;
- avoid suppliers with whom they have a family relationship or affinity;
- · clearly and transparently show the evaluation criteria adopted and the reasons for the selections made.

From the ERG Code of Ethics

principles to the supply chain as a whole, we have processes in place to assess environmental and supplier health and safety aspects and to enhance the value of companies with specific certifications and awards.

The working conditions of employees and compliance with wage and social security obligations are also part of the requirements imposed on our counterparties, subject to rules and assessments in line with those envisaged by the standard supplier qualification process. All of these aspects are verified through a specific questionnaire, which the supplier must fill out for accreditation. Moreover, we also introduced specific questions in the questionnaire relating to the protection of human rights, such as the ban on child labour, the obligation of equal treatment and non-discrimination and the possession of SA8000 certification.

The qualification procedure feeds into the vendor rating system, which is applied to suppliers with contracts above a certain economic threshold. It is designed to monitor and improve the performance of suppliers and contractors in terms of correct behaviour during the tender/offer and quality processes, compliance

with environmental and safety standard and punctuality in the performance of the service or supply.

Specific documents have been generated, such as the Health, Safety and Environment Regulations for Works and Services tenders, through which suppliers are informed and measured with regard to all safety aspects and constantly stimulated, also through adequate sanctioning systems, to achieve the set targets.

#### **SUBCONTRACTING**

As regards subcontracting, the current procedure, further consolidated in 2017, envisages that all requests be received by the Procurement function prior to the beginning of works, complete with certain information, such as the type of activity being subcontracted, the extent in percentage terms with respect to all works and a guarantee of the maximum discount applied with respect to contract prices.

The Procurement function proceeds to validate the process after a careful documentary check, including verification of the regularity of remuneration and contributions and compliance with the workplace health and safety regulations.

#### TALKING SUSTAINABILITY WITH SUPPLIERS

In 2017, we began a project with a number of relevant suppliers, aimed at identifying the common points of their respective sustainability strategies and identifying the sustainability attitudes that represent added value for both of us. In supplier assessment, the workshop highlighted the importance of security issues, management systems and relative certifications, sub-supplier and sub-contractor control along the supply chain, eco-design and eco-efficient products, climate change commitment and business continuity.

The process will be further developed in order to identify guidelines and tools to protect the integrity of supply chain sustainability and increasingly involve suppliers/sub-contractors in compliance with the principles and values considered essential and with the most stringent reputational requirements.

All documentation regarding the request, verification and authorisation is standardised at the Group level and reviewed periodically in light of updates to the reference regulations. The same documentation is made available to all employees through the company's information portal.

# THE PROCUREMENT PROCESS, TRANSPARENCY AND EQUAL OPPORTUNITIES FOR SUPPLIERS

ERG's evolving procurement role envisages a shift from purely optimising purchasing activities, purchasing processes and vendor list management, to managing the most advanced aspects of strategic sourcing development, optimising the overall supply chain and demand, as well as risk management aspects, also through category management activities and tools.

These innovative processes are aimed at safeguarding the information and technical assets represented by our suppliers, but above all at consolidating and developing them in line with the competitive drive of the energy market and the evolution and growth of our Group.

At ERG, we want to create equal opportunities

for all selected and qualified suppliers. This means ensuring competitive conditions among them and, therefore, maximising, where possible, the use of competitive tender processes in the assignment of tenders, contracts and orders.

To the extent possible, we also use local suppliers close to our plants, in order to increase the value generated by our activities and shared directly on the territory.

The use (where appropriate) of tender processes through the web portal enables precise and transparent tracking of all the phases of the assignment process and optimisation of the times: in fact, we have set the objective of using a single or exclusive supplier only when there are technical reasons or objectively identifiable constraints.

Respect of the agreements subsequently signed with suppliers, also in terms of contractual terms and payment, compatibly with the need to simplify and standardise them, is another important principle to which we pay careful attention.

# RESPECT OF PAYMENT TIMES AS A COMPETITIVE EDGE IN RELATIONS WITH SUPPLIERS

According to our Code of Ethics, we are called upon to ""...manage relations with suppliers based on the principles of legality, transparency, correctness and loyalty. [...] demand respect of and respect the contractual conditions".

During a difficult economic period, we believe that guaranteeing our suppliers payment terms consistent with contractual provisions helps them to best manage their business, guaranteeing long-term sustainability. Therefore, we constantly monitor respect of the agreed payment terms and, since 2016, we report on them.

The analysis conducted highlighted that approximately 91% of the turnover payable calculated in terms of value (93% in 2016) is paid in accordance with the contractual terms\*. We also believe it is important to be "real" interlocutors for our suppliers: this is why we do not use call centres or third-party services, but rather answer their calls directly, maintaining a collaborative relationship that is fundamental to ensure effectiveness and efficiency of the service.

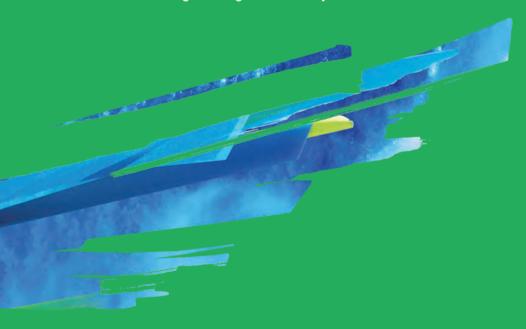
\* The Group's administrative procedures involve the execution of two "massive" payments per month, generating an average delay of approximately 7 working days.

# ENVIRONMENTAL RESPONSIBILITY

**3** 

Around 4.7 TWh of electricity produced from renewable sources that have enabled us to save almost 3 million tonnes of CO<sub>2</sub> in a year, a cogeneration plant with very low emissions, certified management systems, development projects managed with a close eye on the environment.

In this way we contribute to combating climate change and safeguarding biodiversity.



2,901 kt CO<sub>2</sub> AVOIDED BY USING RENEWABLE ENERGY SOURCES

4,757 GWh
OF ELECTRICITY GENERATED
FROM RENEWABLE SOURCES

**0.16** kg CO<sub>2</sub>/kWh ELECTRICITY PRODUCTION CARBONISATION FACTOR

2,525 t
WOOD REMOVED FROM RIVER-BEDS
AND SENT FOR RECOVERY

# THE EUROPEAN AND GLOBAL APPROACH TO CLIMATE CHANGE

The international scientific community is now in agreement that climate change, a genuine threat to the future generations, is largely the result of human activity. This correlation emerges quite unequivocally when observing the connection between greenhouse gases and global warming. For some time, the global consensus around combating climate change, which has gradually become stronger, has impacted on the economic and energy policies of nations and international organisations, translating into legislative measures and initiatives aimed at promoting a responsible approach to progress and energy, prioritising the future of the planet and the wellbeing of the next generations like never hefore

#### **EUROPE 20-20-20**

In both Italy and Europe, the current energy policy guidelines are defined by the "20-20-20 Climate and Energy Package" within the "Europe 20-20-20" strategy, which defined the following three objectives for 2020:

- a 20% reduction in greenhouse gas emissions compared to the levels recorded in 1990;
- 20% of energy requirements satisfied by renewable sources:
- · a 20% improvement in energy efficiency.

#### THE PARIS AGREEMENT (COP 21)

By signing the Paris Agreement during the UN COP 21 at the end of 2015, 195 States joined the European Union in making a concrete commitment to combating climate change. The Agreement entered into force in 2016, thereby becoming binding for its signatories.

Following its ratification by over 94% of the

countries involved, including the USA and China, on 4 November 2016 the Agreement formally came into force, committing signatories to adopt concrete plans to monitor and reduce greenhouse gas emissions in order to keep the Earth's average temperature increase "well below" 2 °C and to take all possible actions to limit this increase to 1.5 °C. The Agreement requires that the climate-energy plans adopted are reviewed every 5 years on the basis of eventual variations from the forecasts.

#### **ROADMAP 2050**

The European Commission has also been working for some time on the definition of a long-term climate and energy policy. In 2011 it launched the "Roadmap 2050" project on global sustainable development in relation to the climate (and the economy), focusing on the decarbonisation of production and energy systems. In line with this policy, back in 2014 the leaders of the EU redefined the minimum objectives in terms of the reduction of greenhouse gas emissions, the coverage of energy consumption with renewable energy and energy efficiency for 2030:

- at least 40% cuts in greenhouse gas emissions;
- at least 27% share for renewable energy;
- at least 27% improvement in energy efficiency (a goal that will most probably be increased to 30%).

To give substance to such a broad policy, in November 2016 a package of legislative initiatives was published that will regulate the EU's climate and energy choices for the second decade of the 2000s: the "Clean Energy for all European Package".

#### THE NATIONAL ENERGY STRATEGY (SEN)

At national level Italy was one of the first Member States to adopt, at the end of 2017, a National Energy Strategy directly inspired by the European Clean Energy Package.

Like the latter, the SEN covers the decade 2020-2030 and seeks to consolidate Italy's leadership in the use of renewable energy sources and in the sphere of energy efficiency, defining the guidelines for the transition towards zero emission energy that is competitive compared with the rest of Europe and less dependent on imports.

#### EU-ETS SCHEME: REVIEW OF THE ETS DIRECTIVE

The ETS system is regarded as the European Union's main tool for meeting its greenhouse gas emission reduction targets for 2020 and 2030. Based on the "cap and trade" principle, the EU-ETS is an economic environmental policy tool applied to greenhouse gas emissions and consists of a market of emission allowances. The maximum cap is expressed as the number of emission

allowances (European Union Allowances - EUA) that are either auctioned or allocated for free to plant operators.

The protracted slump in  $\mathrm{CO_2}$  prices, together with the need to adapt the system to the 2030 decarbonisation targets, has made the structural review of the ETS system a necessity. As such, in 2015 the European Commission presented a reform proposal for the system, which will cover the 2021-2030 decade, aimed at providing a structural solution for the excess supply of  $\mathrm{CO_2}$  quotas, the trigger for the fall and subsequent stagnation of quota prices to levels way below those required for decarbonisation.

After over two years of discussions the European Council and the European Parliament came to a more incisive agreement compared to the reform of the ETS proposed by the European Commission. The crux of the reform is the annual reduction of auctioned allowances, the so-called "linear reduction factor", equal to 2.2% from 2021, which will be reviewed and increased further from 2024.

#### **CLEAN ENERGY FOR ALL EUROPEAN PACKAGE**

In line with the Energy Roadmap for 2050 and the commitments connected with the Paris Agreement, at the end of November 2016 the European Commission presented the Clean Energy Package (CEP) of 11 legislative initiatives designed to enable the EU to meet its climate-energy goals for 2030. The initiatives should be finalised in 2018 and regard:

- the rules for drafting and checking the national energy plans designed to achieve the climate-energy goals for 2030;
- · the structural review of the ETS system for the management and limitation of greenhouse gas emissions;
- the review of directives to promote the use of renewable energies and their unlimited participation in electricity markets;
- the review of electricity markets at transnational level in order to create uniformity and favour the energy transition towards low- or zero-impact energy sources;
- further development of energy efficiency in both the industrial and the civil sector.

GOVERNANCE

94

and the doubling of the ETS market "stability reserve", which serves to eliminate excess emissions quotas on the market: once activated, the reserve should absorb up to 24% of the excess quotas in each annual auction, for the first four years, increasing their prices and encouraging the reduction of emissions as a consequence.

Following the ratification of both the Parliament and the Council, the agreement should be published in the Official Journal of the European Union, presumably by the first quarter of 2018.

#### THE ROLE OF RENEWABLES

In order to completely eliminate our dependence on fossil fuels by the middle of the century, electricity will increasingly be produced using clean and available energy sources such as water, wind and sun.

According to the main international scenarios, the cost of electricity generation plants fuelled by renewable energy sources (particularly photovoltaic and wind energy) will continue to fall, leading them to spread more quickly than envisaged just a few years ago and resulting in a faster decline in the generation of coal-based energy.

Investments in electricity generation technologies are therefore increasingly likely to prioritise renewable sources, even in rapidly evolving countries, China in particular.

The availability of clean electricity at reasonable prices, in combination with the use of storage systems, will favour the electrification of energy consumption with great benefits in terms of air quality in big cities and sustainability in general.

#### **OUR ROLE**

In June 2018 our Group will celebrate 80 years of active presence in the energy world. As a business we have grown together with Italy and Europe,

seeking to combine growth and value creation for our shareholders with the requirements of the context and a close awareness of the economic and social evolution of our country: at the start of the new millennium we transformed from an oil industry operator into an IPP (Independent Power Producer) and during our growth process we have succeeded in anticipating the evolution that the entire energy system is now experiencing. In fact, as Europe reduced its oil refinery practices by 15% in 2008-2014, we gradually sold off our refining business. At the same time, while the installed wind energy capacity in Europe almost doubled, going from over 60 GW to just under 120 GW, we increased our own wind energy capacity sevenfold.

Today we can say that we have completed the transformation to clean and sustainable energy thanks to our portfolio of assets which is diversified in terms of technology and geographical area, complementary and flexible.

In recent years ERG has demonstrated - and will continue to work on the ideas and projects currently in the pipeline - that it is possible to pursue more ambitious development and wellbeing objectives than in the past in a sustainable way, making better use of our resources, producing less waste and making fewer alterations to the ecosystem. No easy feat but one which can certainly be achieved through a joint and ongoing commitment, as ERG has proven in the past.

Moreover, sustainability is a "compulsory choice" for guaranteeing the wellbeing and future of the next generations.

#### THE MAIN STAGES IN OUR EVOLUTION

In order to combat atmospheric pollution, between the late 1980s and the early 1990s Italy adopted a national energy plan and passed a series of laws to support efficiency and what were known at the time as "alternative" energy sources. In the same period ERG embarked on what was an unprecedented investment in Europe, and only the second of its kind in the world, as part of a joint venture with one of the giants of the US electricity market: an innovative industrial project which in 2000 led to the launch of the first Italian plant for the gasification of heavy oil products, a facility designed to generate around 4 TWh of electricity a year. Subsequently, the Kyoto agreements and the consequent commitments to renewable energies gave rise to an environmental approach concentrated on the systemic use of energy.

The somewhat reductive concept of containing the pollutant emissions of every single plant was in fact superseded by a broader and more inclusive evaluation of the effects of human activity in general on the entire planet, particularly in terms of containing climate change. With this in mind, Europe introduced its "20-20-20 Strategy" and the European ETS market was launched to promote renewable energy and energy efficiency in individual States. Driven by this evolving context, in the second half of the 2000s we made another important change to the Group strategy to focus on greater diversification in the energy world, this despite the fact that the oil industry was at that time enjoying a new golden age. In accordance with this new strategy, in 2006 we acquired EnerTAD, a company that develops and manages wind farms for the production of electricity, resulting in the creation of ERG Renew. This was a particularly significant change which on the one hand represented our official entry into the renewable energies sector, as per the multi-energy strategy we had adopted, and on the other marked the start of the gradual reduction of our oil portfolio.

With this transformation underway, between 2008 and 2015 we disinvested from the Oil industry with great purpose and reinvested in renewable energy. Through acquisitions and the construction of new plants we grew in the wind power sector both in Italy and abroad (Germany, France, Poland, Romania and Bulgaria). In 2013 we became the leading wind power operator in Italy and one of the top ten operators in Europe following the acquisition of the IP Maestrale plants from GDF Suez, described by Bloomberg as the biggest M&A deal of 2013 in the renewable energies sector. The same year, thanks to our distinctive industrial approach to the business, we began internalising the Operations & Maintenance activities of our wind farms.

In 2010 we opened the new natural gas plant in Priolo, a benchmark in terms of high-yield and ultra low-emission thermoelectric cogeneration technology, while in 2015 we entered the hydroelectric energy market with the acquisition of the Terni Hydroelectric Complex. The hydroelectric plants were immediately integrated in the Group's operations and, a few months later, thanks to targeted investments we were already able to increase our energy production on a like-for-like basis in terms of available resources. The increasing awareness of environmental issues and sustainable development that has gradually pervaded international society in recent years has created an encouraging context for our vision of the energy business and has convinced us to continue focusing strongly on renewables. In February 2016 we entered a new foreign wind power market, the UK, launching a project for the development of a wind farm in Northern Ireland, and we also concluded the acquisition of 11 other wind farms in France and 6 in Germany.

In 2017 we completed the construction of the Northern Irish wind farm and continued to grow in the French wind power sector. We also completed the sale of our remaining stake in TotalERG, a fuel marketing company and joint venture with Total and, at the same time, entered the Italian photovoltaic sector through the acquisition of around 90 MW of solar parks in 8 regions in Northern and Southern Italy.

# OUR PRINCIPLES THE GROUP'S CODE OF ETHICS

ERG believes that the complete compatibility of its activities with [...] 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 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, minimising 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 environmental and social impacts before undertaking new activities or introducing modifications and innovations to processes and products;
- establish relationships based on dialogue and constructive collaboration, marked by the utmost transparency and trust, with institutions and all stakeholders, with the goal of developing its activities while respecting local communities;
- maintain high levels [...] of environmental protection by implementing management systems that are
  developed, periodically verified and certified according to internationally recognised standards and
  introducing management and intervention methods and procedures, based on the careful analysis and
  assessment of risks, in order to deal with possible emergencies;
- provide continuous information, awareness-raising activities and training to consolidate the [...]
   environmental protection principles at 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 considers whether or not their conduct is in line with company policies, and particularly the above points.

From the ERG Code of Ethics

# OUR MANAGEMENT METHODS IN THE HSE AREA

The ERG Group pays close attention to managing the environmental aspects of its plants, going well beyond straightforward compliance processes. For this reason, it has implemented an integrated environmental and safety management system that complies with the international ISO 14001 (environment) and OHSAS 18001 (safety) standards. In this way we guarantee the ongoing supervision of the processes carried out in our production sites through a management approach that permits the systemic integration of the two areas (Environment and Safety), which are given equal consideration.

An integrated management system has been developed for all our technologies (wind, hydroelectric and thermoelectric):

- each Group company has its own HSE policy which revisits the principles outlined in the Group's Code of Ethics and the Sustainability Policy;
- the head of the company (Managing Director, General Manager, Sole Director etc., as applicable) is responsible for its implementation, guaranteeing the correct application of the system, also by third parties, and is also in charge of ensuring regulatory compliance;
- a centrally coordinated HSE department which, for each technology, provides support for monitoring regulations, supervising activities in the field and overseeing the correct implementation of the operating procedures in the environmental sphere;
- the Operating Units that directly manage the plants in line with the indications in the integrated management manuals, guaranteeing regulatory compliance and respect for all other commitments voluntarily undertaken by the Group.

At the beginning of 2017, a Group HSE unit was set up, with the aim of Guaranteeing the observance of the legislation in force relating to health, safety and environment, by means of the development of an integrated HSE system at Group level and the co-ordination of the HSE Organisational Units dedicated to the different generation technologies. An integration, which in ERG's vision, has the objective of designing and accomplishing a single management system which, maintaining the different technologies of the operating areas, makes it possible to harmonise and simplify all those "transversal" processes relevant for the safety and environmental aspects.

In addition, recognising just how significant having a local plant is for the resident population, we believe that communication and information is a priority issue. For this reason, our hydroelectric and thermoelectric plants are registered with EMAS and this, thanks to the Environmental Declaration published each year, makes it possible to report the results of the management of relevant environmental aspects on a continuous basis.

As well as operations management, a structured monitoring system based on the Organisation and Management Model has been implemented for the Italian companies in accordance with Leg. Decree 231/2001.

# IDENTIFIED RISKS AND SPECIFIC MANAGEMENT METHODS

The Group's commitment in this area also takes the form of an analysis of the potential impact of its activities on the various environmental matrices. For the most relevant issues, the specific risks identified and the relative Management Systems adopted in each of the three different technologies are presented below.

#### **USE OF ENERGY RESOURCES**

The ERG Group renewable energy plants (wind and hydroelectric) use a fairly small amount of electricity acquired from the grid, enough to guarantee a continuous supply of electricity to the ancillary systems and safety systems.

During regular operations the plants produce enough electricity to satisfy their requirements.

The ERG Power thermoelectric power station uses natural gas as its primary source, producing the energy it requires during operations. Grid electricity is only used for some services outside the plant and in the event of plant shutdowns.

In order to minimise the environmental impact deriving from the purchase of energy from the national grid, following a decision by the Sustainability Committee the ERG Group has made a pledge to procure certified electricity from renewable sources. This policy is applicable to all of the Group's plants wherever technically possible.

The quantities and relative indicators are reported on the pages at the end of the document.

#### **EMISSIONS OF GREENHOUSE GASES AND POLLUTANTS**

The ERG Group's renewable energy plants (wind and hydroelectric) do not generate direct emissions. As regards indirect emissions, please refer to the paragraph "Use of energy resources".

The ERG Power thermoelectric power plant fuelled by natural gas generates  $\mathrm{CO_2}$  emissions that are disclosed in accordance with the EU-ETS regulation and certified by an external body. Other emissions (NOx - nitrogen oxides and CO - carbon monoxide) are measured thanks to continuous monitoring systems certified according to the UNI14181 standard.

Some of the high voltage electrical equipment at our plants (switchboards and switches) is insulated using sulphur hexafluoride (SF6). This gas is included among the greenhouse gases: the plant Operating Units (for all technologies) monitor eventual dispersions and intervene as quickly as possible to eliminate leaks and to restore the correct quantities. The quantitative data relating to the various emissions and relative indicators are reported on the summary pages at the end of the document.

#### **USE OF WATER RESOURCES**

Water resources are used differently according to the technology. In any case, none of our plants are located in areas suffering from water shortages.

For the wind farms this aspect is "not material" as they do not use water resources in their production processes.

Neither is this aspect of relevance to the hydroelectric plants as the water drawn from rivers and reservoirs is used for the production of electricity and to cool the systems before being returned to its source in the same quantity and quality.

The thermoelectric power plant mainly uses two sources of water: seawater to cool the plants and untreated water to produce the demineralised water needed to generate steam.

Seawater is drawn and returned in the same quantity and quality: the use of this source does not impact on the availability in the environment of resources used for human consumption.

Once demineralised, the untreated water is used to produce the steam required by the plant to replenish the CCGT steam cycle and to supply the site's industrial customers so they can fuel their production processes. The water drawn for the replenishment of the CCGT steam cycle is returned to the environment in the form of steam or condensation and does not impact on the availability of water for human consumption. In any case, technological improvements to the plants are consistently identified in order to reduce the consumption of untreated water through the reuse of water discharged from other site plants.

The quantities and relative indicators are reported on the summary pages at the end of the document.

#### OTHER IMPACTS OF ACTIVITIES

Following the materiality analysis in the environmental sphere, additional representative elements of ERG's business have emerged and are therefore covered in the report:

- · visual and noise impact of the plants;
- · effluents and waste;
- · management of biodiversity.

The impact and management of these individual aspects vary according to the technology: below is a summary of these elements and their relative management systems.

#### Visual and noise impact

Wind farms: visual and noise impact is assessed as part of the authorisation process by the relevant authorities. More specifically, all new large Italian plants are subject to an EIA (Environmental Impact Assessment) by the Ministry for the Environment. Similar authorisation processes are in place in all other European nations. As a result, all new plants are constructed with respect for applicable laws - non-material aspect.

# NON-FINANCIAL STATEMENT REPORT PURSUANT TO ITALIAN LEG. DECREE 254/2016 - ENVIRONMENTAL AREA

Hydroelectric plants: the majority of plants and relative hydroelectric works are historically part of the landscape; some sites (e.g. the Galleto power plant) are also of particular artistic interest. The visual impact of the plants and the sites is not a material aspect.

The new plants, meanwhile, are constructed on the basis of authorisations issued by the competent authorities and are therefore developed with respect for applicable laws - non-material aspect.

The noise generated outside the plants is only a significant aspect for those located near to homes or residential areas. Noise emission measurement and monitoring campaigns were carried out in order to check compliance with applicable noise pollution legislation. The measurements taken were compliant with the legislation – non-material aspect.

Thermoelectric power plant: the ERG Power plant occupies around 25 hectares of the approximately 900-hectare multi-company site of Priolo (SR). In terms of both noise and visual impact, the location of the plant at the centre of this multi-company site - a major industrial district - means that it does not have any visual impact on the resident community. Periodic measurements, carried out at the edges of the site, demonstrate that the noise emissions comply with the legal limits.

These aspects are therefore not material.

#### Management of biodiversity

The impact of new plants on the biodiversity in the areas in which they are located is the subject of assessment and authorisation by the relevant authorities during the permit issuing phase.

The environmental management systems certified in accordance with the ISO 14001 standard involve the constant monitoring of the interactions between the plants and the environmental matrices: in this way the provisions of the authorisations will continue to be observed.

Wind farms: the main form of interaction between the wind farms and biodiversity regards the resident and migratory birds that pass through or nest in the wind farm areas. Preventive analyses prior to the construction phase and subsequent monitoring (where requested) are carried out to make sure that the farms do not interfere with the regular life of the birds. The periodical analyses carried out (detailed in past Sustainability Reports) show that the turbines have become an integral part of the areas in which they are located and are therefore recognised by birds as part of the landscape.

Hydroelectric plants: Refer to the published article which outlines the methods used to manage these aspects.

Thermoelectric power plant: as mentioned, the ERG Power plant is located on the multi-company site of Priolo Gargallo (SR). There are no interactions between the plant and areas of high biodiversity

#### Effluents and waste

All plants have an Integrated Management System certified in accordance with the ISO 14001 (environment) and OHSAS 18001 (safety) standards. The hydroelectric and thermoelectric plants are also registered as per the EMAS regulation.

The existence of certified management systems guarantees the constant monitoring of updates to the regulations and that plant operations are carried out according to procedures that respect best practices and the reference regulations.

One of the goals common to all of the ERG Group's Business Units is minimising the amount of waste produced and maximising its recovery.

Refer to the published article which outlines the specific activities designed to optimise the management of waste and effluents.

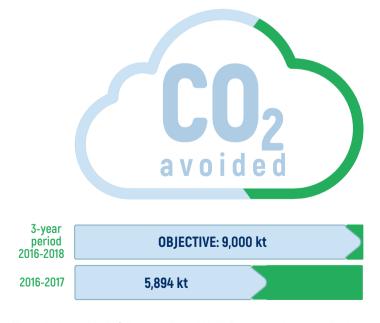


102

# CO<sub>2</sub> AVOIDED: 2017

	Installed capacity (MW)	GWh produced up to 31/12/2017	CO <sub>2</sub> avoided up to 31/12/2017 (kt)
Wind power – Italy	1,093	2,117	1,169
Wind power – Germany	216	369	290
Wind power - France	252	491	293
Wind power - Poland	82	248	214
Wind power - Bulgaria	54	157	135
Wind power – Romania	70	201	151
Wind power - UK	48	29	18
Hydroelectric	527	1,144	631
TOTAL	2,342	4,756	2,901

# CO<sub>2</sub> AVOIDED: 2016-2018



**FCONOMIC** 

RESPONSABILITY

#### WE SAVE PRIMARY ENERGY SOURCES BY PRODUCING RENEWABLE ENERGY

As well as having positive effects on the environment by avoiding CO2 emissions, the production of electricity from renewable energy sources also has a positive impact on the Italian economy as it makes it possible to avoid purchasing primary energy sources (gas, oil derivatives etc.) for the production of energy. In order to accurately present this impact, we have calculated the TOE avoided, estimating the quantity of energy sources that were not purchased to produce energy by conventional means: over two million TOE in the last three years.

2017	2016	2015	
~ <b>810</b> ,000 TOE	~ <b>830</b> ,000 TOE	~460,000 TOE	

#### **DECARBONISING OUR ELECTRICITY PRODUCTION**

The transformation process of ERG's business, focused increasingly on the production of electricity from renewable sources, has made it possible to reduce the carbon intensity of its energy production year after year.

In this way, by the end of 2017 ERG had reduced the carbon intensity of its production by 89% since it entered the renewable energies sector. In the last three years it has reduced it by 32%.

#### ERG GROUP ELECTRICITY PRODUCTION CARBON INDEX (kg CO./kWh)



<sup>\*</sup> the drop in 2014 was due to the sale of the ISAB Energy plant, the one in 2010 to the entrance into service of the ERG Power plant wich replaced the existing oil feeded power plants.

104

# THE REDUCTION OF CO<sub>2</sub> EMISSIONS

As well as our constant focus on minimising our impact on the natural environment, the reduction of our direct and indirect GHG emissions represents another important commitment for us.

All of our direct emissions ("Scope 1" emissions) derive from the activities of ERG Power's natural gas-fuelled cogeneration thermoelectric power plant. Thanks to its configuration, the station, operational since 2010, guarantees very high yields with consistently low emissions per MWh produced.

All of the continuous improvement processes that have been implemented have resulted in an increase in efficiency without any change to the emission levels, which are nonetheless well below the legal limits. These emissions are certified according to the EU-ETS regulation.

Other Scope 1 emissions are generated by:

- SF<sub>6</sub> (sulphur hexafluoride) leaks from some high voltage equipment;
- F-gas (fluorinated gases) leaks from air conditioning systems;
- · the use of company vehicles.

The values related to these emissions are not material (below 0.08%).

Meanwhile, our indirect GHG emissions from energy consumption ("Scope 2" emissions) are generated by the purchase of national grid electricity required for the functioning of the plants if they are not operational, and by condominium services for the offices.

In line with the ERG Group's environmental and sustainability commitment, the Sustainability Committee approved a project for the supply of

#### CDP 2017: ERG'S RATING IMPROVES

The Carbon Disclosure Project (CDP) is an initiative that was launched with the aim of collecting and disseminating both quantitative and qualitative information and data on the strategies that companies adopt to combat climate change.

Having successfully joined the initiative in 2016, receiving the "Best Newcomer Italy" award, we decided to participate once more this year, further improving our final rating which rose from B to A-.

2017 **A-**

2016 **B** 



This result is an important acknowledgement for us, not only because it recognises the transparency of our communications but also because it is confirmation of the Group's unyielding commitment in terms of both the actions and strategies we have adopted to promote a form of sustainable development that seeks to combine economic performances with a reduction in  $CO_2$  emissions.

In fact, our business strategy, focused on the production of energy from renewable sources, in line with the indications of COP 21, views respect for the environment and transparency towards our stakeholders as key elements in combating climate change.

ΠΑΤΑ ΑΝΠ

renewable energy for all Group requirements. Thanks to this project, by the end of 2016 all Italian plants were run on "green" energy. This process continued in 2017 for the foreign plants, where technically feasible: by the end of the year 90% of the energy supplied came from renewable sources with estimated savings of around 13,000 tonnes of CO<sub>2</sub>.

Our other indirect GHG emissions ("Scope 3" emissions) refer to emissions deriving from the transfers of employees and are calculated by the travel agency on the basis of a certified methodology. These come to around 1.2 kt of CO2. We are also collaborating with a turbine supplier to estimate the Scope 3 emissions generated by the wind energy supply chain

These emissions will be offset thanks to the annulment of CERs for hydroelectric projects.

These emissions will be offset thanks to the annulment of CERs for hydroelectric projects.

It is much more difficult to estimate the emissions along the supply chain for the other technologies (hydroelectric and thermoelectric) as the plants are formed of numerous components from different suppliers (unlike wind power plants which have a single supplier) and some infrastructure was built at the start

of the 1900s. In the future we plan to expand our analysis thanks also to collaborations with some of our suppliers.

#### SUSTAINABLE TRANSPORT

The company has adopted a sustainable transport programme that takes account of the specific distribution of employees across Italy: around a third of employees are concentrated in Genoa (the headquarters) with the remainder split between the secondary sites (Rome and Terni) and the plants distributed across the country.

This geographical dispersion makes it impossible to develop sustainable transport services in the strictest sense of the term. However, the Group has nonetheless sought to optimise the logistics of its employees' movements, reducing their environmental impact as far as possible: company cars are made available to staff which they can share for transfers between Group sites (typically Genoa / Terni and Rome / Terni).

The following measures have also been introduced at the Genoa site:

- vehicle for general services, generally used in the city, 100% electric;
- inclusion of hybrid vehicles in the "car policy";
- activation of a carpooling app for employees for both commutes and transfers.

#### THE REDUCTION OF SCOPE 2 EMISSIONS

Emissions can also be reduced by using energy more efficiently: the ERG Group has launched a project to replace existing lighting systems with new LED technology systems. The first steps were taken in 2016 in the Genoa offices and at the ERG Power plant, and we continued this process at the ERG Hydro site in Terni in 2017. At this site the energy diagnosis studies have made it possible to improve the efficiency of the heating/air conditioning/ sanitary water and lighting systems: the new systems will be installed by the end of 2018 and will produce savings of:

- · around 220,000 kWh/year thanks to new boilers for heating the offices (-43% consumption);
- · around 175,000 kWh/year thanks to the new LED lights (-81% consumption).

The balance for the 2016 activities (-400,000 kWh/year approx.) and 2017 activities will therefore make it possible to reduce consumption by around 800,000 kWh, the equivalent of over  $450 \text{ t/year of CO}_2$ .

106

# ATMOSPHERIC EMISSIONS: A SUSTAINABLE AND RELIABLE COMMITMENT

Cutting-edge plants designed in accordance with the best available technologies, consolidated experience in the performance of production processes, a detailed and constantly updated plan of controls, certified and reliable continuous monitoring systems, continuous improvement goals: these are the key elements for the optimal management of atmospheric emissions.

With the goal of achieving sustainable growth, the company is committed to monitoring all environmental aspects and in particular the emissions conveyed (NOx - nitrogen oxides and CO - carbon monoxide) by the CCGT (Combined Cycle Gas Turbine) cogeneration power plant.

These emissions are constantly measured through advanced Monitoring Systems (EMS) which are able to assess the validity of the measured data, describe and define the functioning of the plant during the "normal operations" and "transition" stages, verify

compliance with the limits established by law and, if the instrument is unavailable, calculate and validate the missing data.

Operators in the control room are therefore able to accurately verify how much has been emitted from each emission point and carry out an hourly assessment of the concentrations and masses emitted in order to respect the limits and established monitoring frequencies.

The validity and functionality of the equipment for monitoring and maintaining the performances of the EMS are guaranteed through the application of the UNI EN 14181:2015 standard, which establishes their periodic maintenance and calibration by both internal staff and specialised and qualified companies, with a final audit by external bodies. All metrics that are not continuously measured are monitored by a certified external lab via periodic sampling campaigns, in the ways established by the Integrated Environmental Authorisation.



# IMPROVING INFRASTRUCTURE FOR COMMUNITIES

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

The inevitable consequence is, unfortunately, hydrogeological instability, i.e. events such as landslides, erosion and floods that generally occur very quickly but very intensely, causing great damage to the affected area's morphology.

These phenomena are also the main cause of the deterioration of wind farm infrastructure (access roads to turbines, assembly pitches), as well as one of the possible causes of faults in electrical infrastructure (breaking of underground cables, breaking of electrical joints, etc.).

For this reason, the presence of wind farms in an area stimulates actions to improve the main infrastructure, to repair secondary roads and to improve safety (e.g. by enabling fire and rescue vehicles to access the zone more quickly).

#### MILITELLO WIND FARM

In 2017 ERG carried out major work on the Militello wind farm in Sicily.

As the plant is located quite far from the roads used on a regular basis, the road infrastructure at the site, out of use for some time, was no longer in optimum condition.

The activities to redevelop this infrastructure mainly involved improving the safety of the slopes close to the roads by removing the instable masses present and using them to buttress the slope and protect the road more effectively from landslides and subsidence. Work was also carried out to empty and clean the existing drains and repair the road surface. The upgrading of the infrastructure is not only beneficial for the wind farm but also makes it more accessible to those that use it for farming and sheep rearing, as well as for fire-fighting vehicles, of particular importance in a dry zone that is all too often subject to summer fires: once again we managed to reconcile our business requirements with improvements for the community.



# ENVIRONMENTALLY-FRIENDLY CONSTRUCTION AND MANAGEMENT

Thanks to our know-how and application of industry best practices, when designing and constructing every new plant we carefully assess environmental, social, archaeological and technical-urban planning aspects and, in cooperation with local authorities, always seek to identify the solution with the smallest environmental impact.

In the 2016 Sustainability Report we outlined the approach we took when planning the development of the wind farm in Brockaghboy (Ireland) which, due to its specific geographical location, saw us focus particular attention on the nesting and reproduction of birds living in the area, receiving help from expert ornithologists in all phases of the design and construction of the site.

In 2017 we completed the construction of the farm and managed a series of activities distinctive for their social and environmental consequences according to the "least impact possible" philosophy, thus guaranteeing the maximum sustainability of the project.

# Resurfacing the road in areas adjacent to the wind farm

Before beginning construction work a preliminary inspection was carried out on the state of the municipal roads close to the wind farm which HGVs would have used to transport the necessary materials and the wind turbines.

In accordance with the local authorities, when the transportation activities were finished we resurfaced these roads so they could be used by the community.

In order to minimise the inconvenience caused to the general public the work was carried out during periods when there is less traffic on the roads, such as holidays and when the schools are closed.



## Replacement of landowner fences

The Brockaghboy site is located in a hilly area reserved for grazing animals (sheep and cattle) in which the various plots of land are divided by fences and gates.

In order to make the site safer and more functional both during and after the construction of the wind farm, we decided to substitute all of the fences and access and separation gates. By replacing the old fences with taller ones, we made the area safer not only for the animals, which cannot go out onto public roads, but also for drivers along these roads.

#### Tree planting

Following the construction of the farm, new indigenous species of trees were planted to compensate for the activities carried out during the work to prepare the site and worksite.

#### Monitoring of bats

Two monitoring activities were carried out on the avifauna in the area. The first, carried out before construction work began, analysed the resident bat colonies; the second involved an assessment of the interaction between the turbines and birds (bats in particular) in order to confirm that there is no interference in the lives of the animals, evaluating any eventual corrective actions to take.

### Noise monitoring

The authorisation process required an assessment of the farm's noise impact on the surrounding environment. In 2015, before work began, we sampled the "background noise" of the wind farm (i.e. the noise it produces on an ongoing basis), which proved to get louder as the wind increases. In 2018 we will update this analysis with the functioning machines to check that this "additional" noise does not exceed the figures calculated during the design phase. If necessary, it will in any case be possible to act

on some parameters of the turbines to mitigate their impact.

#### Construction of the electrical substation

We also focused particular attention on reducing environmental impact during the design and construction of the Brockaghboy electrical substation, taking several measures to minimise the consequences of our activities. More specifically, the following were used for the electrical substation:

- materials with high energy efficiency and low visual impact;
- low energy-loss cables for the transportation of electricity, thus increasing the efficiency of the farm;
- technologically advanced systems for monitoring the state of transformers;
- sensor systems for the switching on of lights and the use of energy-saving light bulbs to minimise consumption at the worksite and substation;
- a rainwater harvest system capable of making the station self-sufficient, making the construction of additional facilities for the procurement of water unnecessary.



# **NEW MINI HYDRO PLANTS**

Following the acquisition of the Terni Hydroelectric Complex we began studying its technical characteristics in order to identify energy efficiency opportunities based on the best possible exploitation of every available drop (altitude difference that can be exploited in hydraulic terms) and flow, in such a way as to not waste the potential energy contained in the water flows.

The first projects identified in 2016 regarded the energy use of water released downstream from existing diversion works (so-called Environmental Flows) and in 2017 three mini-hydro plants were developed with an overall installed capacity of 400 kW and a forecast average annual producibility of 2.20 GWh (equal to around 1,200 tonnes of  $\mathrm{CO}_2$  avoided).

Each of the three plants was developed on the basis of an individual design shaped by specific drop and flow characteristics:

· at the Visso plant an "Archimedes' screw" turbine

- was installed (Worm screw Flow 1,300 l/s Reference drop 3.25 m);
- at the Santa Maria Magale plant a "Kaplan" turbine was used (Flow 5,000 I/s - Reference drop 4.29 m);
- at the plant at Turano dam a "Pelton" turbine was installed (flow 200 l/s - Drop 49.6 m).

We focused close attention on environmental and landscape aspects during both the design and development phases; in particular, all of the central buildings were covered in natural stone so they were in harmony with the surrounding environment thanks to colour shades consistent with the site areas.

Where appropriate, we also carried out reforestation activities and installed furniture (benches, picnic tables, etc.) in public areas to improve the landscape. More specifically, given the Visso plant's location in "Monti Sibillini National Park", to make up for the impact of the new plant





and the pre-existing dam we built a "fish ladder" to recreate the water flow interrupted by the presence of the infrastructure. During the design phase a specific study was carried out to define the size of the fish ladder on the basis of the fish present on the river-bed.

#### FISH LADDER

In 2017 ERG designed and developed a number of new plants for the production of electricity from renewable sources. These included the little hydroelectric power station of Visso, located along the River Nera in the municipality of the same name (in the Marche).

In line with the sustainable development model we have adopted, the plant was designed and built with the goal of exploiting the water resource while minimising its impact (particularly on the freshwater ecosystem and fish) and enhancing the local area and environmental heritage.

This environmental awareness is even more important given the location of the new plant in Monti Sibillini National Park, an area noted for its natural value, landscape and fauna. In fact, the section of the river affected by the work has significant environmental characteristics with clear water rich in oxygen and a river-bed with a granular substrate that is necessary for the presence of various fish species, including the prized brown trout.

The new plant is connected to the existing hydraulic infrastructure which, through a lock built in the 1920s, intercepts the water of the River Nera a little downstream from the town of Visso, diverting some of the flow towards the Preci plant and releasing an environmental flow downstream of the lock, thus guaranteeing the continuity of the river flow and the conservation of the aquatic environment.

The development of the new plant represented a chance to make structural changes to the existing lock and therefore improve the river environment as a whole, creating positive repercussions for one of the most important categories of fauna in this habitat, the fish.

To restore the flow of the river and enable fish species to migrate downstream, when choosing which hydraulic machine to install ERG opted for the one that is most compatible with the aquatic environment, the "Archimedes' screw". For the type of species present in the water course in question the impact of the Archimedes' screw is irrelevant, as borne out by the numerous studies carried out on functioning hydroelectric plants. The number of revolutions of the blades of the screw and the volume of water available between one blade and the next proved compatible with the speed of the fish and the passing of these through the hydraulic device.

Meanwhile, to restore the flow of the river and enable fish to migrate upstream a fish ladder



was constructed. It was decided that only a portion of the entire environmental flow would go through the turbine with the rest allowed to pass through the fish ladder.

This new structure improves the general environmental impact of the existing lock because it makes it possible to restore the freshwater connection between the downstream and upstream habitats, enabling the transit of granular material, microorganisms, micro fauna and, in particular, fish.

This infrastructure, the first of its kind in the Marche region, is located close to the channel of the Archimedes' screw and is fed directly by the section of the river upstream of the lock, discharging the water in the downstream section.

With the goal of reproducing a situation as similar as possible to a natural water course suitable for native fish species, the side walls of the ladder were made from natural stone, the bottom covered with crushed stone made up of different-sized pebbles, and the incline of the entire channel was structured in such a way as to resemble a water course as closely as possible. The key to the success of the ladder is the fact that fish are naturally attracted by turbulent and well-oxygenated water flows, which become a stimulus for them to overcome the obstacle and move along the ladder.

The plant was completed in late December and the expected conditions, in terms of the functioning of the work, have already been verified and will be the subject of subsequent periodic measurement campaigns.

Achieving this goal was very important for us because we managed, as part of our company development programme, to reconcile the use of the water resource with the enhancement of the local area.



ΠΑΤΑ ΑΝΠ

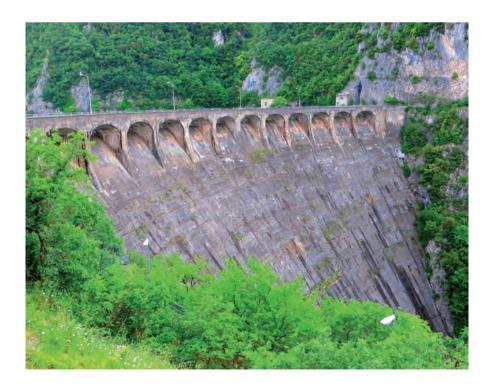
# MANAGING MINIMUM VITAL FLOWS

A barrier, whether a dam or lock, creates a discontinuity in the river's ecosystem which impacts on the river-bed downstream. These effects can in any event be mitigated by releasing water downstream of each barrier to maintain the health of the river-bed or to use for irrigation.

In 2006 a specific piece of Italian legislation introduced the concept of the "Minimum Vital Flow", i.e. the environmental flow required on a constant basis to sustain freshwater ecosystems. The three regions that host the ERG Hydro plants (Umbria, Lazio and Marche) have recently

updated their Water Protection Plans in which, as well as complying with the law, the management of water releases is geared towards mitigating the effects of the climate as far as possible with the importance of water accumulations in the ecosystem of an area well documented.

ERG is committed to supporting the competent authorities - in its areas of expertise - in planning the necessary activities to achieve the surface water quality goals in the areas in which it operates, making its knowhow and any necessary resources available.



# WASTE MANAGEMENT AT ERG HYDRO: RECOVERY THE ABSOLUTE PRIORITY

Respect for the environment and minimising the environmental impact of the Group's activities is one of the cornerstones of the Code of Ethics and is also reiterated in the Sustainability Policy.

Every technology is distinctive for its relationship with the environment: of these, hydroelectric involves the territory more than any other because the infrastructure used to collect the water creates canals and lakes. The plants are also located in 3 regions (Marche, Umbria and Lazio) and make use of the water of the Tiber, Nera and Velino river courses.

From an environmental perspective, hydroelectric power generation does not have any significant impact as the channelled water is returned to the body of water from which it was taken in the same quantity and quality.

The only potential source of pollution for receptors is the water used for cooling the plants which could be contaminated accidentally.

More specifically, all of the production plants have tanks for the collection of natural plant drainage and water used to cool the machines that separate out oily parts; specific tank emptying systems prevent traces of oil from being spilled downstream.

If the automatic systems identify the presence of oil in the tanks, personnel are trained to take all possible measures to remove the pollutant substance and prevent it from contaminating water bodies.

For several years ERG Hydro has also implemented environmental improvement measures in its plants to prevent the risk of oil leaks in the environment

#### These have included:

- the reduction in the volume of lubricants present in the plants thanks to engineering modifications that have made it possible to increase the pressure of the systems and reduce the quantity of lubricants as a consequence;
- the use of next-generation synthetic biodegradable oils which, in turn, has led to a search for products that decompose in water and carbon dioxide but which are not harmful.

The management of streams and lakes is another area of focus in hydroelectric plant operations: the natural life cycle of plants and the dereliction of land that reduces wood and countryside cleaning activities results in the continuous transportation of riverbed materials downstream.

These materials build up every day against the ventilation grates which prevent them from entering the decanting channels of the water that flows to the turbines.

Flooding can also drag significant quantities of various materials downstream, particularly wood that accumulates along riverbanks and lakesides.

For years ERG Hydro has pursued the goal of recovering as much of the material it produces in its cleaning and maintenance activities as possible, and in particular the residues of grate cleaning operations (mechanical cleaning of ventilation grates, mainly comprising organic material) and residues carried by the river Tiber to Corbara dam (the dam furthest downstream

from the Terni Hydroelectric Complex).

Removing these residues from our rivers is useful for the industrial sector but also very important for the environment as it helps keep



both water and riverbanks clean, benefitting the water system and hygiene levels and minimising hydrogeological risk.

Grate cleaning waste is sent to a processing centre where the various matrices (leaves, small quantities of human waste, wood) are separated and sent separately for recovery.

This process made it possible to recover 100%

of grate cleaning waste for the first time in 2017 (around 1,200 tonnes of material), with evident benefits for the environment.

The impact generated by the transportation of these materials is truly minimal thanks to the relatively equidistant location of the processing centre from the production sites.

116

Likewise, on reaching the lake in Corbara woody materials transported by the river Tiber are removed from both the water and the banks and sent to a processing centre that separates the small quantities of human waste (metals, plastic). Here, too, all of the processed material is sent for recovery: in 2017 around 1,300 tonnes of material was recovered.

By keeping the water and banks clean it is possible to use the lake for tourist and recreational purposes while, at the same time, fostering the correct integration of the hydroelectric use of the river Tiber's water in the local context.

# WIND TURBINES: FULLY SUSTAINABLE PLANTS

Almost all of the materials used to construct a wind turbine (tower, nacelle and blades) are recyclable, making it easier to dispose of at the end of its useful life.

A study by ANEV, the Italian Wind Energy Association, broke down the various construction elements, hypothesising the following scenario:

Material	Origin	Scenario	
Steel	Tower and other components	90% re-usable	
Cast iron	Foundations and other components	90% re-usable	
Copper	Electrical components	95% re-usable	
Aluminium	Electrical components and structure	90% re-usable	
PVC plastic	Other components	100% landfill	
Fibreglass	Blades and nacelle structure	100% landfill	
Lubricating oils	Turbine's mechanical parts	90% re-usable	

Source ANEV

The same study also analysed the Energy Pay Back Time (EPBT), i.e. the time needed to reach a balance between the energy used during the extraction, production, design, transportation, installation, future dismantling and recycling phases of the facility and the energy it produces when operational.

For a 2 MW wind turbine, the most common type in Italy, the estimated average EPBT is 9 months. After this time, a wind turbine has already produced the amount of energy needed for its entire life cycle: this is another factor that underlines the environmental compatibility of producing electricity from renewable wind power.

# THE OASIS OF ALVIANO

In the eastern part of the Alviano lake, slightly upstream of the dam of the same name, an oasis was created (around 400 hectares out of a total of 900 hectares for the whole lake) to host various resident bird species and, thanks to its geographical position, it has become a stopping point for migratory birds.

It has all the typical features of humid freshwater areas - marshes, a pond, swamps, a water meadow, one of the largest woods in Central Italy - and is home to a huge number of bird species, such as great white egrets, stilt birds and ospreys, and many different amphibians, such as crested newts and agile frogs.

The mammals that live in the Oasis include foxes, boars, badgers, porcupines and hedgehogs.

The WWF has taken care of the Oasis of Alviano since its establishment, in 1990: our support contributed to ensure the maintenance of the environment and better reception of species.

The park also hosts a large Environmental Education Centre that often welcomes school

classes keen to get in contact with nature by observing the bird species at close hand and carrying out little scientific research activities in the educational pond.

In fact, a laboratory has been set up where the microscopic life of the marsh can be studied: using microscopes, cameras and screens, students can observe all the phases of a research project "live".

There are also seven sheds for bird watching activities equipped with notice boards and explanatory panels to help visitors recognise the different species. A tower was also built so visitors can watch the birds.

In 2016, the WWF focused on "maintenance" activities in the flooded prairies, cutting weeds and pruning trees in the areas in front of observation posts, which are very important for the nesting and rest of the birds and therefore of great interest to birdwatchers. Reception activities in the Oasis were also improved and enhanced.





# SOCIAL RESPONSIBILITY

Safety and certified management systems as a key condition for the management of the business and our assets.

Training, the enhancement of talent and inclusion are the principles of our approach to people.

Suitable remuneration for attracting talent and motivating managers.

We support the development and promotion of the local areas in which we operate by providing training activities for youths and incentivising the launch of new businesses.



100%
ISO 14001 AND/OR OHSAS 18001
CERTIFIED ITALIAN COMPANIES
CONSISTENT WITH THEIR ACTIVITIES

20.9% FEMALE EMPLOYMENT

99.6%
EMPLOYEES ON PERMANENT EMPLOYMENT CONTRACTS

6.6 days/year of training per employee

# OUR PRINCIPLES THE GROUP'S CODE OF ETHICS

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.

### Furthermore

The Group's sustainable approach manifests by means of policies aimed at protecting and developing the Human Capital via: [...] the adoption and application of certified processes and procedures, also supported by the adoption of Health and Safety Management Systems certified in accordance with recognised standards, aimed at minimising the risks and removing the cases which may place the health and safety of its personnel and the third parties who operate care of the plants and/or offices of the Group at risk. [...]

From the ERG Group Sustainability Policy

## Furthermore

In observance of these principles we intend [...] to encourage careful and responsible management within the sphere of safety in the workplace, aimed at the prevention of accidents, injuries and occupational diseases and the protection of the health of the workers, by means of:

- the precautionary assessment of the risks associated with the activities and the processes handled for the purpose of adopting appropriate technical-operational mitigation solutions;
- the verification that, both the design and construction of new plants, and the realisation of changes to processes, equipment, the organisation (structure and/or roles), are supported by an analysis/assessment of the risk:
- the identification and on-going monitoring of the significant dangers of accidents linked to the plants run,
   and adopting suitable prevention measures in line with standards of recognised validity;
- · the use of systems and processes aimed at ensuring the intrinsic safety of the activities;
- · the checking and assessment, in terms of safety, of the reliability of the contractors and the suppliers;
- the drawing up of emergency plans aimed at the protection of the population, the environment and those who work in the Facilities, in the event of an operating anomaly and/or a significant accident;
- the registration, analysis and communication of the accidents and near misses, planning and implementing the necessary improvement action.

From the Quality, environment and safety policy

# OUR MANAGEMENT METHODS WITH REGARD TO HEALTH AND SAFETY

The ERG Group pays significant attention to the handling of the aspects linked to Environment, Health and Safety care of all our plants, which goes well beyond the mere compliance processes: for this reason, it has adopted Integrated Environment, Health and Safety Management Systems compliant with the

ISO 14001 (Environment) and OHSAS 18001 (Health and Safety) standards. The latter will be replaced, via a process which will commence in 2018, by safety certification based on the ISO 45001 standard.

In this way we ensure constant supervision of the processes carried out within our production sites via operations which permit the systemic integration between the two areas (Environment and Safety) which are held in equal consideration.

In all our technologies (wind, hydroelectric and thermoelectric power) an integrated HSE management system has been adopted:

- each Group company has its own HSE policy which draws on the principles laid out both in the Group's Code
  of Ethics and in the Sustainability Policy;
- the operational implementation is entrusted to the individual in charge of the company (Managing Director, General Manager, sole director, etc. depending on the circumstances) who guarantees - also in dealings with third parties - the correct application of the system and is responsible for the legislative compliance;
- an HSE unit, co-ordinated at central level, which for each technology provides the support for the legislative monitoring, the checking of the on-site activities and supervision of the correct implementation of the operating procedures in the environmental and health and safety sphere;
- the Operating Units which directly manage the plants in accordance with the matters envisaged by the
  integrated management system, ensuring the accurate legislative compliance and the observance of the
  policies of all the other commitments voluntarily undertaken by the Group.

At the beginning of 2017, a Group HSE unit was set up, with the aim of Guaranteeing the observance of the legislation in force relating to health, safety and environment, by means of the development of an integrated HSE system at Group level and the co-ordination of the HSE Organisational Units dedicated to the different generation technologies. An integration, which in ERG's vision, has the objective of designing and accomplishing a single management system which, maintaining the different technologies of the operating areas, makes it possible to harmonise and simplify all those "transversal" processes relevant for the safety and environmental aspects.

According to the safety procedures in force, employees, third parties and occasional guests are informed and trained on what to do if an emergency occurs at the operating sites. Furthermore, 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 risks linked to health and safety and to organisational changes and organizes systematic meetings in order to discuss and evaluate any improvements that could be made.

# IDENTIFIED RISKS AND SPECIFIC MANAGEMENT METHODS

The Group's commitment within this sphere also manifests in the analysis of the possible impacts of the business activities on health and on safety.

In general, we can divide the analysis up into three areas:

- · impacts on the health and safety of workers;
- impacts on the health and safety of third party workers who operate care of our plants;
- · impacts on the health and safety of the individuals who live in the vicinity of our plants.

The analysis of the possible impacts of the activities on the health and safety of the workers, both employees and third-party companies who operate care of our plants, is carried out within the sphere of the Management Systems and is based on legislative compliance and on the best sector practices. The adoption of these systems permits the use, for whomever operates in our plants, of uniform procedures and suitable control systems: also thanks to on-site audit activities, we guarantee an ongoing supervision and continual checking of the correct running of the activities.

These controls are joined by the accurate analysis of the causes of any accidents, as well as near misses: in this way we implement a series of preventive actions which, using the "lesson learning" method, can avoid that the accidents are repeated and that the near misses turn into accidents.

Since we believe that the protection of health and safety is a generalised cultural fact and must not be a "unilateral initiative of the ERG Group", we further the collaboration and involvement of the employees and third parties via dedicated meetings and events which may stimulate the active participation in the processes, also by means of the formalisation of indications and suggestions for improvement of Health and Safety standards which we usually reward by means of internal competitions.

The group objectives regarding the safety of the employees (included in the Sustainability Commitments) envisage the "absence of accidents caused by safety shortfalls in the plants and in the offices". The reporting is available in the specific section of the document.

Also, the impacts on the health and safety of the individuals who live in the vicinity of the plants are handled with a view to an integrated management system and, therefore, are analysed for each technology.

Wind farms: In the design phase, the class of the turbines is selected for the specific site and, therefore, the size is developed so as to operate safety during the entire life cycle of the plant. The wind turbines installed at our wind farms are designed and constructed by leading construction companies according to the pertinent international legislation, so as to ensure the safety and health of the workers when running. Thus turbines are also compliant with the necessary certification in terms of electricity generation, structural reliability and safety specifications relating to installation and start-up. The maintenance

programme implemented by the Company permits the running of the wind farm under safety conditions for the entire life cycle of the site.

Hydroelectric plants: Over the last few years, revamping work has been carried out on many electricity generation units with the adoption of latest generation machines and equipment which observe stringent design/installation standards with respect to the safeguarding of the health and safety of the operators and third parties during the running and maintenance activities. Furthermore, the inspection and maintenance programmes ensure the permanence of the expected safety levels. However, the hydraulic works connected to the generators (in particular the dams) represent an element of attention: their structural safety is constantly monitored by the Group units which also collaborate with the Institutions tasked with the periodic checking of their stability.

An additional significant element of these plants in the handling of the safety of the area on which they are located are the so-called overflow "detention activities" which the dams perform thanks to their accumulation capacity. Accordingly, the overflow surges of the rivers due to heavy rainfall are interrupted, the water collected and released in a controlled manner so as to decrease the impact. Obviously, the regulation of the overflows is carried out according to well defined operating protocols agreed with the local Authorities which require the full conciliation of the opening manoeuvres of the mobile parts so as to guarantee the safety of the populations downstream from the dams.

The thermoelectric plant is included within the context of the Priolo Gargallo multi-company site, where numerous industrial activities co-exist. The gas turbines installed are latest generation, Low NOX in type and therefore guarantee very contained emissions well under the authorised thresholds. Machines and equipment are compliant with stringent design/installation standards with respect to the safeguarding of the health and safety of the operators and third parties involved in the running and maintenance activities. Furthermore, the inspection and maintenance programmes ensure the permanence of the expected safety levels.

Very stringent safety protocols are applied within the site in consideration of the type of plants present (in particular the presence of a refinery subject to the legislation on RIR - major risk accident plants). The emergency response service in the event of emergency is ensured by the Fire Brigade and A&E/Nursing services present at the site; the co-ordination with the local authorities, in accordance with the matters envisaged by the Multi-company Internal Emergency Plan, guarantees the intervention of outside support so as to contain any emergency situations at the site and safeguard the population which lives in the surrounding areas.

124

# **OUR SAFETY MANAGEMENT SYSTEM**

The careful handling of health and safety in the workplace is one of the consolidated values in ERG's way of doing business. For this reason, besides being expressly included in the Code of Ethics, it is referred to in the other policy documents adopted by the certified companies, such as the Sustainability Policy and the HSE Policies.

A series of activities was launched in 2017 aimed at maintaining the health and safety of the workers

#### **H&S MANAGEMENT SYSTEM**

The first initiative concerned the reference standards and the monitoring processes. In particular, in light of the new structure ONE Company and in view of the approval in 2018 of the new ISO 45001 standard for the certification of the H&S management systems, we will launch the review, adaptation, simplification and harmonisation of all the procedures complying with the OHSAS 18001 standard which have stratified over time in the various Group companies.

# SYSTEM FOR CONTROLLING THE PERFORMANCES AND AUDIT

Monitoring the key performance indicators (KPIs) is an activity of fundamental importance for constantly stimulating the organisation towards the realisation of the "zero accident" goal. This is why the system for controlling the performances with regard to safety and environment has been combined and aligned for all the Group companies by means of a common adoption of definitions, KPIs, analysis and reporting methods as well as standard criteria for handling and analysing the accidents.

We have also enhanced the control activities by means of the structuring of a Programme of Internal Audits to be implemented, thanks to "transversal" teams, on all the company entities. In this way, we have furthered the exchange of know-how and the interaction between different operating areas, as well as boosted the analysis of the results by those responsible according to a systemic logic, thanks to which it is possible to continually improve the work conditions of the individuals preserving the assets.

# SAFETY WALKS AND IN-FIELD HSE AUDITS

During the year, the HSE Organisational Units of the ERG Group carried out many in-field checks to monitor the compliance of contractors with Health, Workplace Safety and Environment principles and regulations. In addition, the standards set by the OHSAS system help monitor workplaces and processes.

537
WIND POWER CHECKS

53
THERMOELECTRIC POWER CHECKS

51
HYDRO POWER CHECKS

ΠΑΤΑ ΑΝΠ

### SYSTEM FOR REPORTING NEAR MISSES

We strongly believe that our staff's awareness and active participation are one of the necessary conditions for effective implementation of our principles. With reference to the handling of the near misses, the furthering of a safety culture based on prevention covers an important role, because it helps keep individuals and the environment in which we live from damage.

For this reason, we have decided to provide incentive for and enhance the reporting process for the employees and third-party companies who operate care of our sites: by means of an accurate and in-depth look at each problem, in fact, we can trace back to the causes and assess whether identical or similar situations can be found in other parts of our plants.

However, despite the observance and constant monitoring of the effectiveness of the operating procedures, during 2017 four accidents involving Italian employees were reported (2 within the sphere of the maintenance activities on the thermoelectric plant and 2 at the wind farms) and 2 accidents involving employees involved in the maintenance of the French wind farms. The Group's HSE units have assessed the events which occurred and action has been undertaken aimed at suitably amending the operating procedures and replacing the equipment with other more suitable means so as to prevent the

accidents being repeated. The analysis not only concerned the specific site of the accident but also all the areas of the plants affected so as to extend the effects of the prevention action as far as possible.

#### RAISING AWARENESS OF THE CONTRACTORS

Another firm belief of ours is that the safety culture must not be cultivated within the Group alone, but must also be spread among those who come and work care of our sites. Accordingly, we have directly involved our contractors in classroom-based awareness raising activities for the purpose of furthering the safety culture and the sharing of our approach.

The company documents which discipline the dealings with the suppliers have also been reviewed, with the aim of giving particular emphasis to the technical-documental checks on the requisites of the contractors before the commencement of the work. In conclusion, we have implemented a last-minute risk analysis process which envisages, at the time of the effective start of the activities and under ERG's co-ordination, that an in-depth and careful analysis be carried out on the situation in the work areas, so as to confirm or adapt the assessment of the interference risks performed previously. This final moment is formalised onsite between ERG's representative and those of the contracting company.







# **SAFETY PROJECTS IN THE WIND SPHERE**

#### **FACILITATE THE NACELLE ASCENT**

The maintenance of the wind turbines is a physically demanding activity. Many turbines in fact do not have lifts (only available in the most recent models) and reaching the nacelle positioned at around 90 metres from the ground may require around 15/20 minutes of climbing via stairs. In order to facilitate a rapid and less energy-consuming ascent for the operators, we have decided to install the stair assistant in 131 turbines. This mechanism makes it possible for the engineer to hook themselves up, via a special harness, to a system equipped with a small motor which, always remaining in traction, manages to decrease the exertion of the operators by up to 80% in any event following their pace and rests. By means of this expedient, the ascent times are halved, we alleviate the exertion of the maintenance engineer and improve the related safety.

#### NACELLE EVACUATION KIT

Awareness continued to be raised with regard to safety in 2017. Among the various topics dealt with, it is worth mentioning the important aspect of equipping each nacelle of the turbines with an evacuation kit so as to minimise the risks for the operators which access the same.

We believe that such awareness is fundamental for ensuring not only our engineers/operators the greatest level of safety possible, but also of guaranteeing our customers increasingly greater safety standards. In fact, also in the wind power sector in which we operate, we always set ourselves the objective of a "zero accident" safety policy. The number of turbines which at the end of 2017 were equipped with the evacuation kit exceeded 130 units.



ΠΑΤΑ ΑΝΠ

# **ERG HYDRO: THE LARGE DAMS**

ERG Hydro, the Group company that owns our hydroelectric assets, operate seven "large dams" (Aja, Alviano, Corbara, La Morica, Marmore, Salto and Turano), with a total reservoir volume of approx. 600 million m<sup>3</sup> of water.

These dams are supervised 24/7 by operational staff and a "dam custodian", whose job is to measure and monitor the water data (water level in the reservoir) and the weather data (measurement of rainfall and/or snowfall, air and water temperature).

The dams are also equipped with a system which continually monitors the main physical parameters (levels of the water basins, flow rate, temperatures) which permits the operational staff - who are present around the clock at the

Terni remote operation room - to carry out a continual control in real time.

A team of engineers performs the structural monitoring of the dams, and at certain periodic intervals they measure the "conduct" of the dam, or rather the possible movements in terms of horizontal and vertical shifts of the dam, its rotations, deformations, etc.

The main reasons why dams may be subject to such movements are attributable to:

- dilation of the structure in its entirety due to temperature differences;
- temperature difference between the external side exposed to the surrounding environment and the side in contact with the water:



128

 higher or lower water pressure depending on the level in the reservoir.

All the data originating from the instrumental monitoring system is archived in an "IT database" for subsequent analysis and validation. In order to assess the integrity of the structure, it is necessary to carry out a constant control on certain fundamental parameters, such as the "up-stream/down-stream" change in direction of the dam crowning, the under-pressure values and the values of the losses or filtrations. The calculations may be based on either the mere flowcharting of the data on a ten-year time series (analysis of the long-term trends) or on the definition of statistical conduct-related models.

Specifically, the latter make it possible to obtain the forecast values which compared with the real measurements carried out in the field may activate, if necessary, any additional controls or implement corrective action.

In addition to these monthly checks, efficiency and reliability tests are carried out on:

 the operating mechanism of the locks, which are needed to regulate the water flow;

- the acoustic warning system (siren) in the event of the opening of the locks;
- communication systems;
- power supply continuity systems in the event of the lack of electricity from the external network.

All data recorded are sent to the Control Authority every month and a specific "report on the state of the works" is drawn up every six months, also containing all the measurement data from the previous five years.

Twice a year, the Control Authority performs "supervisory 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.

# ORDINARY AND EXTRAORDINARY MAINTENANCE WORK

The ordinary and extraordinary maintenance measures on the dams and the related complementary facilities (locks, guardhouse, manoeuvring towers, generator rooms) are planned on the basis of the instrumental controls and the functional tests.

## DAM MANAGEMENT IN THE EVENT OF AN EARTHQUAKE

In the event of seismic events with a magnitude of greater than 4 on the Richter scale which involve areas in proximity to dams, it is envisaged that, in accordance with a series of consolidated procedures and protocols defined by the Supervisory Authority, in the hours immediately after an earthquake, the Group's technical and operational departments - coordinated by the Chief Engineer - carry out a careful inspection to ascertain the structural conduct of the dam and of the load-bearing structures of the complementary facilities, as well as functioning tests on the drainage equipment, power supply systems and telephone connections.

The results of these checks are promptly sent to the Supervisory Authority as an "Extraordinary Certification of the condition of the works".

ΠΑΤΑ ΑΝΠ

# **DETENTION OF RIVER OVERFLOWS**

Besides the 19 generation plants (including the 3 new plants constructed in 2017 which use the releases of the Minimum Vital Flow), ERG Hydro has 7 large dams and 22 minor barriers, all located along the rivers Velino, Nera, Tiber and their tributaries.

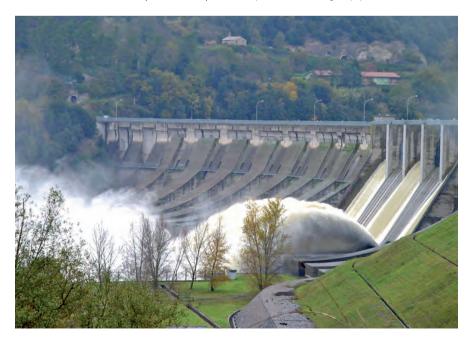
Barriers and water works have the main function of conveying the river water to the power plants. Furthermore, they acquit a safety function, making it possible to handle and control the natural flowrate changes (overflow events) and mitigating the impacts on the area.

In the event of overflows, the operation of the reservoirs, especially those with a significant capacity, makes it possible to modulate the releases of water downstream from the barriers in quantities which can be received by the water basins, containing the flowrates within the river-beds: it is therefore possible to exploit

their accumulation capacity so as to release lower flowrates downstream thus operating a "detention" of the river overflows.

Thanks to the rainfall and flowrate detection systems, installed throughout the pertinent area, and the constant contact with the Competent Authorities (Civil Defence Agency, Regional Operations Centres, Prefectures, Municipal Authorities, etc.), during the overflow events the Terni Control room ensures a continual remote control of the plants and the water works, handling the river water transits so as to avoid flooding.

Besides remotely managing the plants and accessory facilities, guards are always present at all the dams, professionally trained and ready to deal with any situation, and abundant command and control systems are installed in order to operate the drainage equipment.



# OUR PRINCIPLES THE GROUP'S CODE OF ETHICS AND THE SUSTAINABILITY POLICY

"ERG offers equal working opportunities to all, on the basis of individual professional profiles and potential performance levels, without any discrimination, disapproving of 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;
- ensure a work environment in which the dealings between colleagues are characterised by loyalty, correctness, collaboration, reciprocal respect and trust;
- offer suitable working conditions from a health and safety standpoint, as well as respectful of the moral personality of everyone, so as to further interpersonal relationships free from prejudice;
- counter any form of intimidation, hostility, isolation, undue interference, conditioning or harassment, sexual or of any other type or kind;
- ensure that, within a framework of reciprocal rights and duties, the worker is guaranteed the possibility
  of expressing their personality and reasonable protection of their sphere of confidentiality in personal
  and professional dealings;
- · intervene in the event of attitudes not compliant with the principles set out above.

For the purposes of the implementation of the above, ERG undertakes to make available, via the internal communication channels and the competent units, the information relating to the policies for handling the individuals, compatibly with the confidentiality restrictions laid down by aspects of good business management; furthermore, it has always taken steps to develop the professional skills of the individuals present in-house by means of training, with growth and development programmes supported by adequate budgets.

Each unit head is obliged to involve their co-workers in the performance of the work and the achievement of the assigned objectives; in turn, the latter will have to participate with spirt of collaboration and initiative, actively contributing to the implementation of the established activities. Moments of participation in discussions and decisions functional for the achievement of the business objectives are always envisaged, in which the feedback on the various points of view of the co-workers permits the unit head to make the final decisions with greater security.

From the ERG Code of Ethics

The Group's sustainable approach manifests by means of policies aimed at protecting and developing the Human Capital via: supervision over the observance of the principles acknowledged by the Universal Declaration of Human Rights, by the declarations of the International Labour Organisation, the principles of the United Nations Global Compact: the adoption and application of certified processes and procedures. also supported by the adoption of Health and Safety Management Systems certified in accordance with recognised standards, aimed at minimising the risks and removing the cases which may place the health and safety of its personnel and the third parties who operates care of the plants and/or offices of the Group at risk; the complete observance of the legal obligations with regard to involvement of employees, or their representatives, in the business reorganisation processes; the guarantee of the equality of the individuals, understood as the desire to ensure equal opportunities without any discrimination based on political opinion, nationality, age, gender, sexual orientation and/or any intimate characteristic of the human; the acknowledgement to the individuals of the freedom to join and/or associate themselves with trade unions or workers' organisations; the definition of the activities and policies aimed at encouraging the conciliation between private life and work; the turning to account of the contribution of the individuals to the achievement of the business objectives, using appropriate assessment systems and supporting training initiatives for professional development. Aware that for the achievement of the objectives indicated above the active contribution of all the individuals is decisive, ERG develops on-going targeted information, awareness raising and training activities.

From the ERG Sustainability Policy

# OUR MANAGEMENT METHODS WITH REGARD TO HUMAN RESOURCES

The ERG Group assigns great importance to the management of the human resources in consideration of the fundamental role which the same undertake in the development and the management of our business.

The principles which the Group complies with are clarified in the Group's Code of Ethics and in the Sustainability Policy.

The governance is handled via two committees: the Human Capital Committee and the Supervisory Body established in accordance with Italian Leg. Decree No. 231/2001.

The Human Capital Committee has the task of:

- defining and monitoring the main programmes and activities for the development of the human capital (career/replacement plans, medium/long-term incentive plans, identification and handling of the talent, retirement...);
- providing support to the Executive Vice President and the Chief Executive Officer in the decisions
  relating to the development of the personnel and the variable remuneration and medium/long-term
  incentive systems, as well as for the proposals to be submitted to the Nominations and Remuneration
  Committee.

The Supervisory Body established in accordance with Italian Leg. Decree No. 231/2001, in its guise as Ethics Committee, oversees the correct application of the Code of Ethics with specific regard to the aspects of respect of human rights, equal opportunities, etc.

It also handles any reports in this connection received by the e-mail channel available to all the employees and also third parties.

The handling of the relations with the social partners is delegated to a specific unit which reports, with regard to strategies and results, to the Chief Human Capital Officer.

All the dealings with the employees, with the collective representatives of the employees and with the social partners, are always carried out in observance of the legislation in force in the country in which we are present, guaranteeing the correct application of the National Collective Labour Agreements for the sector involved.

# IDENTIFIED RISKS AND SPECIFIC MANAGEMENT METHODS

With reference to its scope, the ERG Group has analysed the aspect of gender equality, the implementation of the international agreements, the dialogue with the social partners, the respect of human rights, the measures adopted for preventing violations and impeding discriminatory action.

The analysis, performed internally, took into consideration the countries in which the Group operates, the business sector, the legislation and the practices which we make reference to, the implementation of the policies and the Management Models, the governance structure.

Downstream from the analysis, the spheres - even if important - are not considered to be sources of risk particularly by virtue of the operating practices which ensure the observance of said principles. A specific policy on these aspects will be implemented over the next two years for the purpose of rendering the approach to the matters in question explicit and formalised.

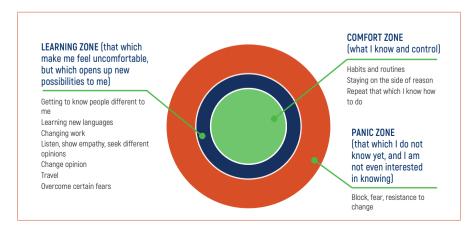
# WHAT TALENT MEANS FOR ERG

That which guides our talent management model is a "holistic view" of the individual: our processes in fact focus on various aspects which characterise the employee, such as the performance, the expertise, the skills, the development potential, the motivation and, in particular, talent.



"Talent" is a key word for us, which differentiates our culture in the approach to the individual from that of the majority of the businesses. In ERG, "talent" is not represented by an individual with potential outside the ordinary, but is that distinctive characteristic which permits him/her who possesses the same to achieve out-of-

the-ordinary results naturally, getting pleasure from said action. The interpretative key means that in ERG we are driven towards the search for the talent of the individual more than the talented individual, or we are led to invest more in "that which exists" rather than "that which is lacking". With a view to this, one of the responsibilities of the 2018-2022 leadership model will be represented by Talent Enabling, or the ability to enable talent also within colleagues and external partners so as to aim at excellence. The search for talent starts off first of all from the People Managers, driven to use this new prospective as a "pair of glasses" so as to read the co-workers. However, they must not be the only parties responsible in this process: this is why in the last two years we are increasingly focusing on raising the awareness of these resources in the discovery and best use of their personal talent. Recognising one's talent is gratifying, but also highly invested with responsibility: we ask each one to discover and cultivate it so as to reach the full and authentic expression of oneself, as well as to use it so as to move outside one's comfort zone and enter into the learning zone.



ΠΑΤΑ ΑΝΠ

INDICATORS

# **SOURCING, RECRUITING, ONBOARDING: WELCOME TO ERG**

ERG has a predilection for internal growth, preferring to connect the individual aspirations of the individuals with the opportunities generated by the development of the business.

We access the outside market when we believe that an external professional or manager could determine a significant leap in the quality of our skills and introduce discontinuity in our approach, representing an advantage for our

Group. Furthermore, on a cyclical basis we plan transversal growth programmes for youngsters marked by the "ERG spirit".

In general, the uniformity and the outline of the process permits ERG, in every Italian or foreign venue, to guarantee the respect of each individual, irrespective of age, gender, ethnic origin and nationality.

We follow a three-step process.



## SOURCING



Via our website



(spontaneous candidatures, open position)



Via agreements with Schools, Universities, Advanced Education Masters



Partecipation in special events





## RECRUITING

The screening of the CV based on the type of position sought, and gives rise to the selection process:



Telephone interview



Interview in-house with Human capital

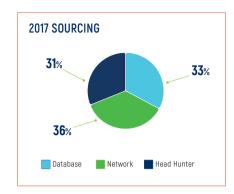


Technical interview in-house with line manager





## **ONBOARDING**



#### **EMPLOYER BRANDING**

Recognising our specificities and divulging them externally so as to confirm and evolve our culture on the one hand, and on the other so as to enter into contact with individuals who productively and rapidly enter ERG and who at the same time contribute to our evolution: this is the mission of our employer branding.

During 2017, we continued to invest our energies in Digital Communication, in particular on the Career Website and on the Social Media which ERG has decided to use: Linkedin, Twitter and YouTube.

A recent Potentialpark survey revealed that 47% of the possible candidates decided to send their application to also famous businesses, because they found the area of the company website dedicated to individuals and careers as neglected or ineffective

The website is a window onto the Company for us, onto our way of existing in ERG, onto the Group's values and those of the individuals which work in the same. Through the voice of the leading players, we spread awareness of the Green Energy Makers and above all else the way in which one is a Green Energy Maker.

For example, we have made tools and food for thought available to the individuals who follow us on the web rooms and channels, in order to handle their career to best effect: from writing one's CV, to preparing oneself for the skype interview, the personal interview, how to tender one's resignation, the first day at work... we have created factsheets which can be downloaded and which can be filed and used if needed.

## POTENTIALPARK ACKNOWLEDGEMENT

For some years ERG has decided to monitor the effectiveness of its digital communication in the HR sphere participating in the Potentialpark survey; the latter is a Swedish company specialised in Employer Branding, in particular dedicated to young talent. ERG interacts with other players of the Italian market and since 2017 also the European market.



In 2017, the "Work with us" section of the website was judged the best in Italy, the digital communication in its entirety ranked  $4^{th}$ , the usability via mobile came in  $3^{rd}$  and the CV collation and candidate experience system ranked  $8^{th}$ .

In 2018, we already have the European results which place the ERG career website in 8th position.

### SOCIAL MEDIA

Once again, this year we have dedicated particular attention to our presence on social media.

Besides the channels already manned (Linkedin, Twitter and YouTube), @ERGcareer was created in 2017, the twitter account which relaunches the open searches, makes the ERG culture "seen" and "heard" by means of images and videos and provides food for thought on one's career, via the comments of the ERG managers, our trainers and the HR influencers.



## **OUR ACTION FOR UNIVERSITY STUDENTS AND NEW GRADUATES**

Our Group cooperates actively with Universities and postgraduate schools offering opportunities to students so as to guide their professional development and take the first steps in the world of employment. These partnerships involve success stories, visits to plants, internships, cooperation and career days. In 2017, ERG took part in the initiative sponsored by Confindustria, Federmanager and AIDP, "I want to be a Manager". University students about to graduate and those who have already graduated worked with a number of managers for 3 days, participating in their activities, dealings, meetings and normal day-to-day business. To complete and enhance this orientation system, at the end of this experience, we organised an individual debriefing session and a professional orientation interview.

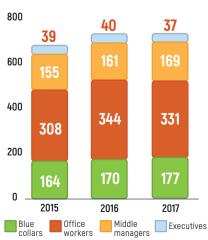
# ERG AMONG THE ITALIAN EXCELLENCES OF THE "AMBROGIO LORENZETTI" PRIZE FOR GOOD BUSINESS GOVERNANCE

This year ERG took part in the "Premio per il Buon Governo d'impresa", set up by GC Governance Consulting, which is in its 5th edition and is named after Ambrogio Lorenzetti, author of the fresco in the Sala dei Nove at Palazzo Pubblico in Siena, "Allegoria del buono e cattivo governo e dei loro effetti in città e in campagna" [1338-39]. This is an acknowledgement of the good business governance pursued by means of a correct and effective integration of the Governance safeguards in the culture and the operations of the company.

# 138 ERG GROUP PEOPLE AND ORGANISATION



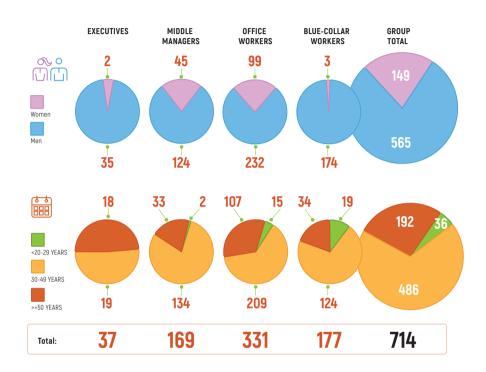




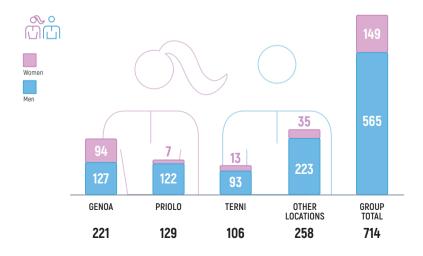




# **ROLES BY AGE AND GENDER**



## **GENDER BY SITE**



140

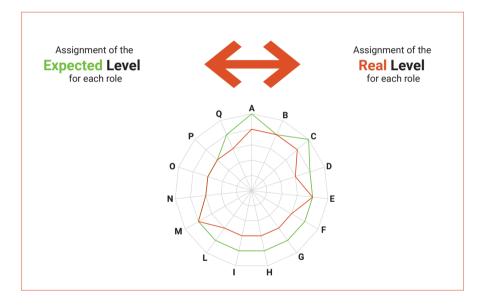
# HUMAN CAPITAL COVERAGE: WHAT HAPPENED IN 2017?

2017 has been a year of confirmations. The Group changed organisational logistics and structure, passing from a "Fast Steering" model to a "One Company" model, but the method for measuring the HCC continues to generate important and useful information for the new organisation.

The primary objective of the HCC also remained unchanged: compare the level of expertise



"expected" for each role from the "real" level assessed for people in different roles.



Nevertheless, this year it was possible to achieve a comparison with the figures relating to 2015 and 2016, thereby generating important information with a view to "Change Management". The 3 years of data generated and shared at Group level, in fact, made space for new ideas and new food for thought so as to increasingly improve both the HCC instrument and the outputs which derive from the same. The Talent Management & Acquisition area, for example, uses the models and the information provided by the HCC to

formulate one's professional growth and training activities, where the generated indexes indicated certain aspects to be improved.

The main results of the HCC were as follows:

- assessment of the entire corporate population (excluding the first line reporting to the CEO);
- definition of 385 skills which make up the "skills catalogue";
- · definition of 208 roles in-house.

In 2017, our "Human Capital Coverage" index

was 87%, reporting an increase of around 1 percentage point compared to 2016 in a decidedly different context with completely overhauled organisational logics.

The main factors which brought about this increase are due to a number of important factors:

- the identification of the company's organisational areas where measures were needed;
- the suitable development of organisational processes to improve productivity within some specific action areas;
- training achieved in accordance with clear logics also taken from the analyses developed with the HCC.

Competence, expertise, know-how and ability to learn are fundamental characteristics for

individuals, but are also the resources on which the Group's future is built. From a sustainability perspective, ERG invests greatly in the growth of its individuals and in Self Employability: with a view to this, the HCC index is also a tool used by our employees to continuously adapt to changes of the labour market and to stimulate their professional development along a specific direction.

The target indicated for the HCC in the ERG Business development plans is the achievement of a coverage index equal to 92% in 2022 which, having considered the extremely dynamic climate of organisational change, emerges as being a very challenging objective. With a view to this, we are constantly working to improve the model and further challenges await us for 2018.

KPIS OF THE PROCESS FOR DEFINING THE "HCC"				
2015	600  EMPLOYEES ASSESSED	91%  COMPANY  EMPLOYEES(1)	365  SKILLS IDENTIFIED	84%  HCC COVERAGE
2016	650  EMPLOYEES ASSESSED	100% COMPANY EMPLOYEES(1)	379 SKILLS IDENTIFIED	86%  HCC COVERAGE
2017	700  EMPLOYEES ASSESSED	100%  COMPANY EMPLOYEES(1)	385 SKILLS IDENTIFIED	87%  HCC COVERAGE

142

# EXPERIENCE AND TRAINING TO INCREASE THE COVERAGE OF THE ROLES

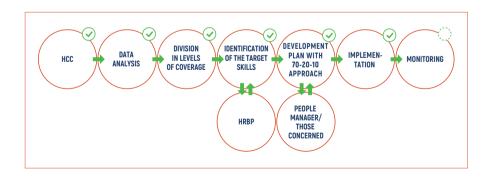
Thanks to the Human Capital Coverage, we are able to obtain important information on the degree of coverage of the roles on the basis of the skills which the ERG individuals possess and can implement.

In 2017, in light of the job rotation generated by the One Company approach and by the new strategic set-ups of a number of organisational areas, we were able to identify the priority skills on which to take action. The main instrument used was the Personal Development Plan (PDP), while for the cultural and strategic evolution of the work teams (for example procurement) we resorted to collective plans.

The global process developed in the following phases:

 Analysis of the HCC data to identify the priority skills and the key individuals on which to

- concentrate so as to obtain an increase in the  $\ensuremath{\mathsf{HCC}}$
- 2. In-depth analysis of the results emerging from the HRBPs:
- Use of the PDP for the HCC coverage both at technical and managerial skills level (also emerging from the indications relating to the Career and Succession plans);
- Agreement on the choices with the People Managers and the selected employees;
- Identification of the synergies between the different areas of focus and types of measures:
- Scouting versus Internal Suppliers and External Suppliers;
- 7. Planning of the action for the realisation of the 2018-2020 Plan:
- 8. Implementation of the agreed action;
- 9. Monitoring of the agreed action and checking of the effectiveness of the recovery of the gap.



ΠΑΤΑ ΑΝΠ

# THE TRAINING APPROACH WITHIN ERG

"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 achieving the Group's objectives in accordance with the commitments to social and environmental responsibility established by the management."

(ERG Group's Code of Ethics)

Training within ERG has always been considered an investment for the future, dedicated to our most important asset: the people.

The approach on which we create our training courses aims to increase the individual value of our people who are driven, in line with the most modern trends with regard to learning, to grow by means of a self-orientation process. In fact, in ERG we are convinced that each individual can and must be responsible for their own learning both with regard to the choice of the contents and the manner of availing of the training, seizing the opportunities for improving the quality of their working life and not only by means of, on the one hand, the acquisition of both technical and conduct-related skills and knowledge, and on the other hand, the learning (at times unconscious) of attitudes, values, abilities, processing of the group identity and the ERG work culture. We focus on making sure that the «effective» conducts become «habits» to be shared for speeding up the spreading of our culture and our managerial model.

The starting point is characterised by the development of a certain degree of awareness of one's potential and one's talents, which must

be supplemented by an analysis of one's interests and one's personal motivation so as to be able to make a weighted choice of the items on which to focus one's annual training plan.

The daily work, what is more, permits the consolidation of the learning via tangible action monitored and shared with the others, which represents wealth in terms of personal growth and interaction. This dialogue also exists in the classrooms where the training courses are held: here in fact individuals meet in the various courses, originating from all the venues, from every business area, colleagues with different experience and personal backgrounds, from all the age brackets and every level. The sharing of the approaches and the points of view, like the comparison of different experiences and stories is a distinctive trait of our Group which we want to continue to nourish.



## YOULEARN 2017

The YouLearn course addresses everyone, without distinction in relation to gender, seniority, geographic origin or job level and provides the same instruments to all the ERG personnel so as to self-guide one's growth.

YouLearn envisages a didactic model in four phases (pre-work, classroom, on the job, monitoring) which envisage moments of:

The didactic model which we have chosen envisages:

GOVERNANCE

- informal learning (stimulus, in-depth analysis, exercises before the classroom or shadowing, coaching, implementation of the post-classroom action plans);
- formal learning (the classroom sessions, the webinars, the e-learning activities);
- social learning (the follow-ups, the tutorship, the Group-coaching in which to share and make available one's experience also to the others).

employee is required to choose those on which to build their training course, are collated in a catalogue which is reviewed and possibly enhanced in light of the historic moment the company is experiencing and in relation to the challenges and the objectives which it presents itself with.

The training actions, from amongst which each

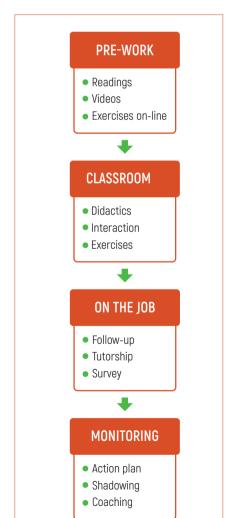
2017 was the year of One Company which guided the contents of the YouLearn training on the transversal nature of the processes, on the creation at all levels of managerial conduct and habits which are effective and successful especially in relation to the new transversal teams which have been established.

The YouLearn catalogue has therefore been made up of 36 training actions (mainly regarding soft skills) divided up into 7 theme-based lines aspiring to key words such as future, talent and quality of the managerial conduct.

Besides the training on the soft skills, ERG has always been heedful of the constant up-dating of the technical-professional skills of its individuals. We organise and provide training, refresher and innovation courses both in relation to the annual Planning and with respect to the new requirements arising from the new professional challenges which the markets sets us.

In 2017, in accordance with the logics for increasing the Human Capital Coverage envisaged by the 2018-2020 development plans, already some Focus areas had been affected by targeted training activities, such as:

- category Strategist for the Procurement Group;
- specific HSE professional courses for Site HSE Workers and Managers;
- · SAP for Thermo Maintenance;
- specific professional courses for Human Capital Administration;



145 **I** 

 training on Revamping 10 kV Schneider Control Panels for Thermo Operations.

With regard to the methods for availing of the training in 2017 we enhanced the remote use, by

means of e-learning, mobile-learning, webinar and tutorship channels. The results disclose a considerable increase in the use for the training which can be availed of remotely (+37%) of which 80% can also be used via cell phone.

### **SUCCESSION PLAN**

The sustainability of the Group also stems from the guarantee of the continuity of the business results even in the presence of resignation/exit of the individuals. In order to ensure this continuity, ERG has developed the Succession Planning, a process in which the first 2 organisational levels are involved and which identifies the candidates who could cover the various organisational positions:

- · in case of emergency;
- · immediately;
- · within one year;
- · within 3 years.

Again in 2017, the Group availed of organisational solutions capable of guaranteeing operations in the event of emergency in the presence of each leaver. What is more, all the positions have candidates which after 1-3 years may cover the requirements of the role successfully.

	KPIS IN OUR TI	RAINING	
2015	27,584 HOURS OF TRAINING PROVIDED	DAYS OF TRAINING PROVIDED PER PERSON	92% PEOPLE WHO PARTICIPATED IN THE TRAINING
2016	31,787 HOURS OF TRAINING PROVIDED	5.6  DAYS OF TRAINING PROVIDED PER PERSON	96% PEOPLE WHO PARTICIPATED IN THE TRAINING
2017	37,950 HOURS OF TRAINING PROVIDED	6.6  DAYS OF TRAINING PROVIDED PER PERSON	97% PEOPLE WHO PARTICIPATED IN THE TRAINING

# **NEW LEADERSHIP MODEL**

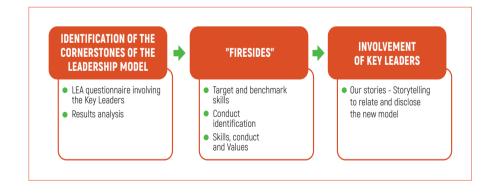
The Skills System and the Leadership Model are two instruments which the companies use to support the achievement of the business objectives over the mid/long-term, so as to generate and spread a unique and distinctive work culture and to reveal the expectations on the method of operating.

After the Senior Team up-dated ERG Group's skills model in force in 2012, introducing conduct aimed at ensuring the accomplishment of the strategic plan for those years, in 2017 the Human Capital Committee decided to review and redefine the same skills in light of the new 2018-2022 strategic plan. The approach used has permitted us to highlight also those values, despite all the transformations which have affected our business, in which ERG recognises

itself and on which it bases not only the approach to the business, but also the involvement and the dialogue with all its stakeholders.

The work of the HCC extended for more than six months and envisaged, in an initial stage, also the involvement of 60 Key Leaders of the Company, who were requested to identify, by means of the LEA¹, questionnaire, the conduct which more fully contributes to the accomplishment of the strategic plan. If on the one hand, this involvement was useful as initial awareness-raising on the subject, on the other hand it provided useful inspiration for creating the communication plan. In the second stage, we chose the formula of the

1 The LEA questionnaire is one of the most common tools in the world for measuring and developing managerial skills.



"fireside" as the plenary work method, which is the creation of a workshop as an informal moment in which to write, interact, exchange opinions, with the aim of coming out of the session with a convergence of ideas and new stimulus for the next session.

The outcome of these workshops was a model made up of 4 values, 6 skills and 18 forms of conduct.

ERG's individuals will be involved personally in the implementation and the spreading of the plan, where the example and the feedback are considered to be fundamental levers.

In particular, all the employees are required to:

- · guide and inspire;
- make things happen;
- · imagine and plan the future;
- · recognise, develop and support the talent;
- adopt an empathetic and involving style to generate consent;
- · create transversal and performing teams.

In the third and last phase of the process for the definition of the new leadership model, we started to allow the skills "to thrive" for the Key Leaders of the group by means of the storytelling instrument.

Under the guide of Scuola Holden, we have in fact learnt that leadership also manifests by means of the ability to involve via emotionally impacting stories. In the end, we were able to produce 18 stories (three for each skill) which in 2018 will be used to continue the disclosure throughout ERG of the new map of conduct.

Within ERG, we consider the skills system to be a guide for handling the development and promotion processes, planning the seminars and training courses, handling the feedback processes. The next step will be to align all the current instruments available, and start to "train" the individuals to recognise and boost the implementation of the same.



# **HUMAN CAPITAL AND REWARDING POLICIES**

The ERG Group's rewarding system is based on the recognition of merit and, consequently, was designed to generate a sense of belonging, motivation and drive towards improvement by optimally balancing monetary and non-monetary benefits.

A fundamental principle which the ERG Group pursues is that of guaranteeing equal opportunities of economic recognition for all its individuals, each in relation to their professional ability and characteristics, and it is always active with regard to the implementation of policies and procedures aimed at preventing any conduct of a discriminatory nature.

The cornerstones of our rewarding system are:

 Selectivity: development of the high performers and recognition of the market conditions for the normal contributors:

- Fairness: the ability to ensure that everybody's basic remuneration is consistent with the cost of living in their country;
- Economic sustainability: the optimum balance between the aspirations of the individual and the company's financial resources.

### REMUNERATION SYSTEM

The analysis of the remunerative positioning of the minimum salary level per category and gender with respect to that established per category by the National Collective Labour Agreements for each category - NCLA - (Energy and Oil, Electricity and Executives of companies producing goods and services) indicates a starting salary for each category in line with the values established by the National agreements.

### REMUNERATIVE POSITIONING OF THE MINIMUM SALARY LEVEL WITH RESPECT TO THE NCLAS (1)

Desition	2017		2016		Change 2016/2017	
Position	Women	Men	Women	Men	Women	Men
Executives	134%	110%	134%	110%	0%	0%
Middle managers	114%	108%	117%	110%	-2%	-2%
Administrative staff	100%	104%	104%	100%	-4%	+3%

On the other hand, the comparative analysis focused on the average salary levels indicates that the remuneration of the ERG Group is on average 40% higher with respect to the

contractual minimums. With respect to 2016, the remunerative positionings reported a slight decrease due to the generational changeover which saw the exit due to retirement of personnel

### REMUNERATIVE POSITIONING OF THE AVERAGE SALARY LEVEL WITH RESPECT TO THE NCLAS (1)

Decision	2017		2016		Change 2016/2017	
Position Wo	Women	Men	Women	Men	Women	Men
Executives	134%	166%	139%	168%	-4%	-1%
Middle managers	138%	143%	139%	145%	-1%	-1%
Administrative staff	155%	159%	155%	160%	-0%	-1%

Analysis carried out excluding the employees covered by the National Collective Labour Agreements (NCLA) for Metalworking and Mechanical Engineering.

ΠΑΤΑ ΑΝΠ

with a considerable length of service and the entry of personnel with a minor length of service. The implementation of the principles underlying the reward system reflects in the statistics on the average remuneration differential between men and women, which in the middle manager and administration worker categories (70% of the company's population) is no higher than 4%. The remunerative differences between men and

women employees at the Genoa and Rome offices and the operational sites reflect the minor supply on the market of female personnel qualified for technical roles. The growing divulgation of the sensitivity towards green energies and the new work which these technologies introduce, should in the future lead to a rise in the interest of the female workers for study courses which will qualify them to undertake these new professions.

### MAN/WOMAN REMUNERATIVE DIFFERENTIAL<sup>1</sup>

Position	2017	2016	2015
Executives	81%	83%	97%
Middle managers	96%	96%	97%
Administrative staff	97%	96%	97%

<sup>1</sup> The figure is the result of the percentage ratio between the average fixed remuneration for women for each position they belong to and the average fixed remuneration for men for the same position. Analysis carried out excluding the employees covered by the National Collective Labour Agreements (NCLA) for Metalworking and Mechanical Engineering. The positions considered do not count women blue-collar workers and executives since the female presences represent a limited number.

### MAN/WOMAN REMUNERATIVE DIFFERENTIAL<sup>2</sup> BY SITE

Decision	Genoa/R	ome office	Operation	onal sites
Position	2017	2016	2017	2016
Middle managers	97%	97%	84%	83%
Administrative staff	104%	102%	86%	86%

<sup>2</sup> The figure by site is the result of the percentage ratio between the average fixed remuneration for women for each position they belong to and the average fixed remuneration for men for the same position. Analysis carried out excluding the employees covered by the National Collective Labour Agreements (NCLA) for Metalworking and Mechanical Engineering. The positions considered do not count women blue-collar workers and executives since the female presences represent a limited number.

### WELFARE SYSTEM

The in-house welfare system is divided up into five areas of intervention

### 1) Worklife Balance

The balance between work and personal commitments is furthered by means of:

a) Re-entry programmes due to maternity leave:

flexible daily hours and financial contribution forms are envisaged so as to deal with preschool expenditure (nursery school and crèche):

 Family assistance: acknowledgement of leave for assisting family members and specific paid leave for medical visits of the employee and under-age children.

### USE OF WORK-LIFE BALANCE LEVERS OUT OF THE TOTAL OF THOSE ENTITLED

Position	Total	Women	Men
Flexi hours	4,3%	100%	0%
Medical leaves (3)	47%	53%	48%

<sup>3</sup> The figure refers to just the Genoa, Rome and Terni offices.

### 2) Supplementary pension schemes

The ERG Group supports the development of the second pension pillar. On average, 66% of

the population are members of contractual supplementary pension funds in relation to which the company pays an additional contribution.

Supplementary pension schemes	NCLA	% participation
Previndai	Industrial Executives	97%
Fondenergia	Energy and Oil	80%
Fopen	Electric	78%
Open funds	Miscellaneous	4%
Weighted average		66%

### 3) Health benefits

The health benefit services furthered by the Group relate to:

- a) Supplementary health benefit funds of a contractual nature;
- taking out of supplementary insurance policies covering professional and non-professional injury risks;
- c) voluntary healthcare protection initiatives

addressing all the employees (for example: flu vaccinations and specific cancer prevention programmes, such as breast cancer and prostate cancer). Medical offices are also present care of all the operational locations providing not only first aid, but offer counselling on health problems unrelated to work, and check-ups for workers who are exposed to specific risks.

Supplementary health benefit fund	NCLA	% participation
Fasi	Industrial Executives	100%
Fasie	Energy and Oil	76%
Fisde	Electric	98%
Metasalute	Metalworking and Mechanical Engineering	2%
Weighted average		64%

### 4) Free time

The company's investment to improve the internal climate is clearly shown by a series of recurring events, which strengthen the sense of belonging to the "ERG community".

The support for sport and sporting activities is complementary to ERG's "green vision", by means of funding and direct participation in Italian and international sporting events (Italian energy

championship, marathons and half marathons in Italy and abroad).

### 5) Vocational training

ERG people benefit from on-going training investment (YOULEARN) geared towards improving individual employability.

FRG AND

SUSTAINABILITY

151 I

ΠΑΤΑ ΑΝΠ

INDICATORS

# PAY FOR PERFORMANCE

The remuneration of executives and middle managers attracts, retains and motivates qualified managers, makes the most of their skills and aligns personal goals with those of the Group to create sustainable value in the medium and long run.

We have different bonus schemes according to the roles. Specifically, they are the MBO (Management By Objectives) and LTI (Long Term Incentive) systems which aim at achieving certain economic, financial and strategic goals, linked to value generation for the company.

Over the last few years the system has been progressively extended: at the end of 2017, all the executives and middle managers with greater responsibilities were involved for a total of 109 personnel (29% executives, 71% middle managers; 14% women).

### SHORT TERM

The MBO system helps the participants achieve annual goals on the basis of a three-year business plan. The system sets a number of performance goals for the participants, structured as follows:

 a Group-level goal for all participants, which accounts for 30% of the total bonus and is based on the "Consolidated income before IAS tax at current values" indicator;  additional individual goals (up to three) depending on the person's role, for the remaining 70% of the bonus, on the basis of quantitative indicators linked to economic and/or project related parameters.

Each goal has a certain weight and share of the total bonus.

The amount paid for outstanding performance cannot exceed a certain threshold, which is 150% of the target value for the corporate 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.

### Sustainability Clause

Consistently with the close attention that the Group has always paid to the safety of its workers, and regardless of the final corporate performance, no corporate objective-related bonus will be paid to participants in the MBO systems of a specific work site in a year in which an accident occurs that results in the death or in permanent invalidity of a Group's employee that is 46% or more.

Туре	Weight	Definition		Level of achievement of performance indicators	Incentive paid
Corporate	700/	Consolidated	l income before IAS	= Threshold Indicator	50% target value
objective	30%	tax at current adjusted values		≥ Outstanding Indicator	150% target value
Individual			Economic	< Threshold Indicator	80% target value
objective	70%	Divided in: Development Organisational		≥ Outstanding Indicator	120% target value

### LONG-TERM INCENTIVE SYSTEM (2015-2017)

In 2015 we started applying a new long-term incentive scheme for the Group's CEO and Top Managers.

**FCONOMIC** 

RESPONSABILITY

The LTI System was designed as both an incentive and a retention system to tie together as much as possible, in terms of objectives, the beneficiary's interests and the sustainable generation of value within the business plan.

In particular, it strives to:

- · encourage its recipients to support an improvement of value creation performance for the Group and for its operating companies:
- · empower the recipients effectively on the organizational levers in play by modulating the EVA (Economic Value Added) performance index depending on their organizational role (corporate resource or business asset);

increase the recipients' desire to achieve - and possibly to exceed- the value creation objectives laid down for the 2015-2017 period;

SOCIAL

RESPONSABILITY

- focus the recipients on the ability to propose and implement investment projects that foster the growth of ERG's market value; all resources are also motivated, in different ways, based on the TSR (Total Shareholder Return) parameter;
- · retain the recipients that are deemed critical to improve ERG Group's performance.

The target performance indices are differentiated depending on the role of the beneficiary within the Group, in relation to the scenario in the 2015-2017 business plan.

Any possible accrued amount will be fully paid in 2018, at the end of the three-year accrual plan (2015-2017).

### **EVA AND TSR**

ERG Group's Economic Value Added (EVA) 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 (TSR) 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.





ΠΑΤΑ ΑΝΠ

INDICATORS

# ONE COMPANY, ONE CONTRACT

The contractual structure and the ERG Group Industrial Relations system have been affected by the various acquisitions and transformations over the last few years, which led to the joint presence of NCLAs belonging to three different commodity sectors.

2017 was a year of radical innovation for the Group at collective bargaining level. After in-depth analysis, aimed at identifying a new contractual host capable of more fully representing the new industrial structure and the professionalism and skills typical to the electricity sector, ERG identified the Electric NCLA as the sole NCLA for all the ERG personnel. This choice, effective as from 1 January 2018, is consistent with the creation of the "Elettricità Futura" association in which ERG is one of the main associates

The choice was the result of dialogue with all the National, Territorial and Local Trade Unions, aimed at jointly identifying a single legislative and contractual solution for all the Group's personnel. The encounters, which in the tradition of ERG Industrial Relations took place within a positive and participative climate, involved concise timescales and a structured analysis method.

The contractual convergence and the climate in which it developed also represented an important moment of dialogue and discussion on the company objectives with all the Social Partners and the stakeholders in the ERG trade union sphere, in a moment when attention to the development of renewable energies in Italy is becoming a common priority for all.

Thanks to this trade union process, we have managed to pass from obsolete and no longer functional legislative and contractual structures to a single system of rules and conditions at national level, consistent with the business model and which will give life to synergic benefits for the realisation of our 2018-2020 Plan.





# NEW MEASURES AIMED AT SIMPLIFICATION AND ORGANISATIONAL WELL-BEING

2017 was not only a year of contractual convergence, but was also the year in which, thanks to the pursuit of a relational model between the Company and the respective trade union representatives aimed at participation and constant dialogue, we managed to create an agreed on and prompt regulation of certain systems, also particularly innovative. Among the various 2<sup>nd</sup> level agreements signed, the innovations which merit particular attention are two: the adaptation of the Corporate Productivity Bonus and the introduction of a new system, entitled "Ferie Solidali".

### **New Corporate Productivity Bonus**

Since according to the Social Partners the One Company model has radically innovated the functioning of the Group's organisational and corporate structure, it was agreed to simplify the model in use by means of the inclusion of the Wind indicators within the structure of the

P.P.A. of ERG Power Generation, with particular reference to all the Organisational Units of the company which provide a service to the various forms of electricity generation of the Group.

### "Ferie Solidali"

The trade union agreement which envisaged the introduction in the Group at the end of 2017 of a measure known as "ferie solidali" (solidarity vacations) was particularly innovative, from the standpoint of the most advanced company welfare measures present in the Italian context. By means of this agreement, the Parties defined formalities and timescales by means of which all the employees can voluntarily donate their vacation entitlement to other "needy" colleagues by means of the creation of solidarity vacation bank. The instrument, also funded by a company contribution, falls within the group of innovative measures aimed at pursuing the conciliation between private life and working life, and will be implemented in full during 2018.

	MAIN NUMBERS OF THE 2 <sup>ND</sup> LEVEL BARGAINING						
3	TRADE UNION REPS	DELEGUES DU PERSONEL (FRANCE)					
17	2 <sup>ND</sup> LEVEL AGREEMENTS SIGNED AT AREA LEVEL	25 TOTAL TERRITORIAL ENCOUNTERS					
0	STRIKE HOURS	COOLING DOWN AND CONCILIATION PROCEDURES					

ΠΑΤΑ ΑΝΠ

# **COMMUNICATION WITHIN ERG**

In order to protect and increase our reputational capital, inform and involve the individuals who work in ERG, the communication activities are fundamental because they correctly and thoroughly convey, outside and within the company, information relating to our way of doing business. Over the years we have focused in the development of a digital communication system which is able to reach our reference stakeholders in a widespread and immediate manner, with targeted contents and without intermediation. Transparency, quality and promptness are the mainstays of our communication.

The main communication goals are:

- the building of reliable and long-lasting relationships with our internal and external stakeholders;
- · keeping discussion alive, proactive and two-way;
- the strengthening of our reputation and our identity.

By contrast, the primary channels via which we relate the ERG cosmos are three:

· the corporate website www.erg.eu, addressing in

particular investors, analysts and journalists, but also those seeking employment;

- the social media, with our @ERGnow and the new @ERGcareers Twitter accounts, the company profile on Linkedin and our ERGnow channel on YouTube:
- the intranet site ERGate, which up-dates employees on the latest Group news, on events, internal initiatives and the collaboration and knowledge sharing tools available. Since 2017, the website has also been available in English so as to further communication and interaction with the colleagues of the foreign branches.

### **OUR CORPORATE WEBSITE**

Our corporate website www.erg.eu aims to be a benchmark for the general public and tells of the activities, commitments and past of the Group starting off from the individuals, the GreenEnERGy Makers.

It is precisely due to their growing contribution and involvement, in fact, that over the years we have been able to improve our website, enhancing it with daily work experiences and stories.



Besides updating the "traditional" areas (Investor Relations, Corporate Governance, etc.), we have talked in an increasingly incisive manner about the evolution of our business, supplementing it with contents relating to the sources of energy which have enriched our portfolio. The latest new inclusion concerns the area dedicated to solar power, a section rich in images, videos and infographics.

During 2017, we obtained optimum results in the main analysis relating to the quality of the on-line communication.

### Potentialpark Italy

GOVERNANCE

The results of the 2017 edition of Potentialpark Italy were published in March, in which ERG gained first place for the "Career website" (18th place in 2016) and fourth place in the "overall" Italian ranking (14th in 2016).

Potentialpark is the Swedish company specialised in Employer Branding addressing young talent, which, each year, assesses the online communication (Careers website, the mobile interaction with applicants, the application tracking system and social media presence) of the companies. The 81 companies forming part of the sample were assessed according to 319 criteria by 8,279 young talented Italians.

The section "Lavorare in ERG" was decreed the best in the "Career Website Italy" category for 2017. We were classified in 3rd place with regard to mobile interaction with applicants (+8 positions

compared with the 2016 edition), in 8th place with regard to the application tracking system (+30 positions compared with 2016) and in 64th place with regard to social media presence and use.

### CSR On-line Awards

The seventh edition of the 2016-2017 CSR On line awards research was published in May. The analysis, performed by Lundquist (a strategic consulting firm specialised in on-line corporate communication) on the websites of the 100 leading Italian companies (80 listed companies with highest market capitalisation and 20 important unlisted companies), assigned eighth place to the Sustainability section of our website (+6 positions compared with the previous edition, in 2014).

Amongst other aspects, the research analyses the quality of the contents of the Sustainability section, the integration of this within the other areas of the corporate website and the degree of agreement on and valorisation of the contents on the social media, assessing both the surfing experience of the user and the degree of completeness and updating of the information present.

This latter point, in particular, arises from the awareness that today Corporate Social Responsibility has become a competitive factor and digital communication permits direct and real-time dialogue between the companies and the stakeholders.

### ERG RESULTS REGARDING ON-LINE COMMUNICATION

ERO RESOLIO RESO	Criteria	Number of companies taking	Positions	Score development compared with the previous edition	
Potential Park	319	81	First (Career Website) Fourth (general ranking)	+17 (Career Website) +10 (general ranking)	
CSR On-line awards	68	100 (80 listed and 20 non listed)	Eighth	+6	
Webranking	50	112 listed	Seventh	+1	

### Webranking

In the Webranking Italy 2017 ranking, published in November, our website obtained seventh place, gaining one position with respect to the 2016 edition. The objective of the analysis, which this year examined 112 listed companies, is to further digital culture within the companies, helping them to understand how to improve and meet the needs of the stakeholders

This is the 16th Italian edition of the main research at European level on the quality of the on-line corporate communication (performed by Lundquist in collaboration with Comprend).



### SOCIAL MEDIA

ERG has been present in the social media since 2015 with Twitter, Linkedin and YouTube accounts. The communication strategy, besides basing itself on mainstays such as promptness and dynamism, favours the narration of the aspects of company life, with the aim of consolidating ERG's positioning as one of the most important producers of green energy and strengthening the relationship with the main stakeholders and peers.

### Twitter @ERGnow

@ERGnow is the official ERG account on Twitter. It is used, both in Italian and English, to divulge news and information on the business, on the performance of the stock and on the Corporate Social Responsibility activities, as well as on the

most important events sponsored by ERG. At the end of 2017, @ERGnow exceeded the quota of 8,300 followers (7,700 in 2016) publishing 697 tweets.

The @ERGcareers account was created alongside @ERGnow in September 2017, entirely dedicated to the recruiting of young talent both in Italy and abroad. On @ERGcareers, in an integrated manner with the ERG Linkedin profile and with the official website www.erg.eu, young talent can track down employment offers but also information on the development policies and talent management of the company, as a guide for the self-assessment of their candidature.

During the four months of operations in 2017, this new account published more than 200 tweets and is followed by 136 followers.

### Linkedin ERG S.p.A.

Business transactions, financial results, interviews with management, CSR activities and projects are the main contents of the ERG Linkedin profile.

The positions open in parallel with the @ ERGcareers account are also published.

The followers were more than 14,000 at the end of 2017 (10,111 in 2016), with more than 400 posts published and around 6,000 average views.

### Youtube ERG S.p.A.

On this channel ERG publishes all the videos produced, which mainly concern institutional events and stories from the management and the employees of the company, who narrate their experiences and their view on the significance of working for a green company.

It is starting off from its "human capital" that ERG wishes to strengthen its social identity. In 2017, 16 videos were published on YouTube, for a total of 7,796 view minutes and 6,684 total views by single users.

### CSR Online Award and SustMeme Climate & Energy Top 500 Ranking

In 2017, ERG was indicated in the ranking of the 2017 CSR Online Award of Lundquist as the Italian company which had talked the most about CSR and sustainability on social media. In particular, 63% of the @ERGnow tweets contained keywords linked to CSR for the aspects of "energy", "renewable" and "climatechange".

Again in 2017, the @ERGnow account permanently joined the SustMeme Climate & Energy ranking of the Top 500 influencers and players worldwide active on Twitter in the section which includes the subjects Climate Science & Forecast, Carbon Economy, Emissions, Clean, green and renewable energy, Generation and efficiency.

### INTERNAL COMMUNICATION

During a period of great change, which sees the company at the end of a transformation process from oil operator to leading "green energy" player, internal communication becomes a fundamental activity for informing and involving all the employees.

Specifically, a targeted measurement of the information needs of the company employees is an indispensable base for being able to plan action likewise targeted to satisfy them. Accordingly, in 2017 as well the degree of appreciation for the on-line internal communication instruments was monitored, in other words the "ERGate" intranet portal and the "TeamERG" house organ. Thanks to the statistical analyses on the web pages visited, we were able to collect important data not only on the "level of interest" for the various sections/ articles but also on the most suitable methods for making these communication tools more effective and functional for the users' benefit. Furthermore, in relation to the process for consolidating ERG as a player of the "green economy", during the year internal initiatives were organised aimed at informing, involving and

stimulating ERG personnel with regard to their "green responsibility" and on the environmental sustainability principles.

### On-line communication instruments

### **ERGate**

Via the intranet portal, the employees can find all the information necessary for "company life". The tool, designed to promote the sharing of information, documents, images, projects, etc., is visited on average by almost all the company employees. In 2017 the English version of ERGate was published, also permitting colleagues from our foreign branches, recently acquired, to get in touch with the Group's values.

### **TeamERG**

TeamERG is the digital and interactive company magazine which contains stories, projects and the most important events of the Group. It is published each quarter also in English and is read on average by all the ERG personnel.

### Internal initiatives

### **ERG's Got Talent**

An internal competition conceived to create discussion on and greater awareness of the aspects of sustainability. The initiative required the use of any form of art to represent green energy. The "creative responses" (pictures, photographs, videos, stories and much more) were published on the company intranet.

### Company voluntary Service

In collaboration with Legambiente, ERG organised the first day of "company voluntary service" activities at the Museum of Contemporary Art, Villa Croce in Genoa, within the sphere of the celebration of the 25th edition of the "Puliamo il Mondo" initiative. More than 80 volunteers were involved for more than 5 hours in picking up abandoned rubbish, varnishing benches and

maintaining the greenery. Children also took part in the company voluntary service day, as witnesses to the fact that it is never too soon to transmit the values of respect for and attention to our environment to future generations.

### The Family Day

The annual event for employees' children between 3 and 12 years of age and their families (around 120 participants at the Genoa, Terni and Siracusa locations). Once again, this year it was organised in collaboration with Legambiente, that supported us in designing the event and in organising workshops on green energy.

### Rome Half Marathon and CorriRoma

Once again in 2017 the ERG team challenged itself

in the greenest of sports. A total of 22 runners participated in the Rome Half Marathon and CorriRoma, taking our logo to the Colosseum, the Roman Forum and Circus Massimo, before returning to Via del Corso for the final stretch.

### The rider team

In its second edition, the Motorcycle Rally of the "BikERGs" saw our bikers share the roads and the scenery of the hills of Mugello, known to all keen bikers. Colleagues from all over Italy met up on a Saturday morning in September at Barberino del Mugello and headed towards the "Mugello Circuit", a Bikers temple, to then set out for the most well-known passes in the area.

### **VOLUNTARY WORK AT VILLA CROCE**

Being a responsible and sustainable business not only means producing while respecting the environment but also being able to integrate with the social fabric in which one operates. For this reason, receiving the proposal of the Sustainability Committee with enthusiasm, ERG organised the first day of company voluntary service activities in Genoa, in collaboration with Legambiente. A public park which needed maintenance activities on the green areas was chosen for the "pilot project": one morning in November more than 80 "volunteers" - including the company's top management - spent more than 5 hours collecting abandoned rubbish, painting benches, cleaning the drainage duct for the outflow of rain water and maintenance of the Villa Croce park. Children also took part in the company voluntary service day, the latter witnesses to the fact that it is never too soon to transmit the values of respect for and attention to our environment to future generations. This experience was judged by all as "fantastic": we are aware that we have done something good for our city receiving in exchange the possibility of availing of a recovered area.





# THE MAIN COMMUNITY INITIATIVES

### **ENVIRONMENT, HEALTH AND SOCIAL DEVELOPMENT**



Vai col Vento!

The third edition of the environmental education project "Vai col vento!" took place from March to May. It was promoted by ERG and involved students of the third year of middle school in the municipalities where our wind farms are located. Since its first edition, this project has been sponsored by the Ministry of the Environment and by the Carabinieri police since 2016. It involved 1,500 students from the Regions Sicily, Calabria, Basilicata, Campania, Molise, Apulia and Sardinia. The initiative, which has the objective of raising the awareness of students and teachers of the active role which young generations can perform to safeguard the environment and develop the culture of sustainability, envisaged classroom lectures held on renewable energy sources, wind in particular, on environment topics, climate change and energy efficiency. After the lectures, the students were taken on guided tours of wind farms, where our technicians explained how wind farms are built, managed and operated and how they generate electricity.



A tutta Acqua!

Further to "Vai col ventol" and featuring the same format, in spring 2017 the first edition of "A tutta acqual" took place, dedicated to students of high schools in Umbria and Lazio, where ERG is present with hydroelectric plants. Again in this case, educational moments and guided visits were envisaged care of the Galleto plant and protected area of the Marmore waterfall.



Progetto Scuola

Starting in 2010, we created the "Progetto Scuola" (School Project), to support activities within schools of all levels in the province of Siracusa. In 2016, in particular, we supported the "Progetto Legalità" (Legality Project), organised by Siracusa's provincial Carabinieri division, through the competition entitled "Un casco vale una vita" (Helmets save Lives) for third-year secondary school pupils. We also supported the "Icaro 2017" road safety education project, organised by Siracusa's provincial Traffic Police division, which involved approximately 2,000 secondary school students.



**Electricity Day** 

In the framework of "Progetto Scuola", we organised the "Giornata dell'Energia Elettrica" (Electricity Day). This event involved the last-year students from the technical schools of the areas where our plants are located. We have held this event several times in Siracusa and, in 2017, also in Terni, Perugia, Rieti and Viterbo. In November, over 150 students from four different technical schools visited the Galleto hydroelectric power plant. Other students from Augusta (SR), Palazzolo (SR) and Carlentini (SR) were offered a visit to the combined-cycle power plant in Melilli and to the Carlentini wind farm control centre. Our managers and engineers explained the technical characteristics of these two plants to the students, while pointing out the importance for ERG of the energy efficiency and sustainability of the production.

GOVERNANCE

### **ENVIRONMENT, HEALTH AND SOCIAL DEVELOPMENT**



### ERG Re-Generation Challenge

In Spring 2017, the first edition of the ERG Re-Generation Challenge ended. This business plan competition was created to provide students, start-uppers and companies with the opportunity to develop business initiatives in the area around Terni. The project was a part of the "Terni Urban Re-Generation" initiative, developed by the Terni municipality for the redevelopment of the urban area. 10 finalist teams emerged, chosen from among 66 projects originating from 11 Italian regions. The three best ideas were awarded a sum of money which they can use to develop their projects.



# The Oasis of Alviano

The WWF has been taken care of the Oasis of Alviano since its establishment, in 1990, and contributes to the maintenance of the environment and to better reception facilities.

An Environmental Education Centre is located inside the park, which also includes seven bird-watching hides equipped with noticeboards and explanatory panels to help visitors recognise the many species. A tower was also built so visitors can watch the birds.



### Fondazione Mus-e Onlus

We support the Fondazione MUS-E Onlus, which organises projects for primary schools with an elevated presence of immigrant children or those from difficult socio-family situations so as to involve pupils in art creation initiatives for school integration.



### **GEMUN**

In February, ERG supported GeMUN (Genoa Model United Nations), the student conference which annually brings together in Genoa 700 youngsters between 14 and 26, originating from all four corners of the world for three days of work structured according to the United Nations model. This year the central theme was Sustainable Development. The participants are students required to simulate diplomatic roles in the guise of representatives of the various countries of the world. The GeMUN, affiliated with the Hague United Nations model, is officially recognised by the UN and is considered to be one of the leading 10 events of its kind worldwide.

### **CULTURE AND KNOWLEDGE**



CSR IS – Sustainability and Social Innovation Expo

GOVERNANCE

Spreading the culture of Sustainability is very important to us: this is why we support the "CSR IS – Sustainability and Social Innovation Expo", whose key words for the 2016 edition were "Change, cohesion, competitiveness". We attended the edition held in Genoa and the final nation-wide event at the Università Bocconi in Milan. This initiative was significant not only to showcase our best practices for Corporate Social Responsibility, but also to stimulate networking among some of the most important CSR players.



Explora and the Museum for Children In September 2017, our collaboration with Explora and the Museum for Children in Rome concluded, with the "Watch out for the wind!" exhibit on wind energy. Our goal was to help children understand one of the most important and widespread renewable sources developed in Italy, and help them discover what wind energy is, in a playful experience.



Science Festival In November, ERG took part in the 2017 edition of the Science Festival, which was held in Genoa between 26 October and 5 November. Within the sphere of the many activities and workshops scheduled during the Festival, "The Wind of Change" was proposed, a virtual experience conceived for youngsters from the age of 11 upwards.

**Boot Camp** 

We supported the sixth edition of the "Boot Camp", an educational event provided to the members of the Young Entrepreneurs Group of the Genoa Confindustria. Theory and practice merge to create useful skills to tackle the difficult scenario that Italian companies are currently operating in.



Light show at Siracusa's stone quarries We supported the initiative of Siracusa's Cultural Heritage Agency called "Un Paradiso da riscoprire" (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.



We support the Istituto Nazionale del Dramma Antico (INDA, National Institute of Ancient Drama) foundation, which has been organizing and staging festivals of classical works at the Greek Theatre of Siracusa since 1914, and which promotes classical culture in Italy and throughout the world.



Umbria Jazz Foundation We support the Umbria Jazz foundation which organises the "Umbria Jazz" Festival in July in Perugia: during the period of the musical festival, the main square in the town was renamed "ERG Square". Our contribution also furthered the organisation of Umbria Jazz Spring, which was held in Terni over the Easter period.





GOVERNANCE

### **CIVITA**

We are members of CIVITA, an association that promotes and manages Italy's cultural heritage and which protects, promotes and uses its artistic assets also by organising shows, movie screenings and European projects.

### YOUNG PEOPLE AND SPORTS



### Torneo Ravano

Again in 2017, we were the main sponsors of the "33rd Torneo Ravano – 24th Coppa Mantovani", the most important school tournament in Europe. This event took place at the Fiera di Genova grounds and included football, rugby, volleyball, basketball matches, team cycling races, fencing, light athletics, sailing, canoeing and water nolo

This edition once again saw record participation with over 5,000 children, who played and, above all, had fun during this 10-day sports event.

### The "Archimede ed Elettra" Trophy

In 2017, the 26<sup>th</sup> edition of the "Trofeo Archimede ed Elettra" was held: this event is the traditional school sports competition in the Province of Siracusa. The venue for the event was the "Riccardo Garrone" ERG Sports Centre in Siracusa. 1,000 students were involved, from different schools in Siracusa and its Province.



### **NPC Cares**

In 2016, we became partners of "NPC Rieti Pallacanestro" to support the "NPC Cares" project: this initiative was created by the Rieti-based sports team to support the healthy mental and physical development of young people through sports and the success stories of well-known champions.



### Sports Stars

In our role as Gold Sponsor, we took part in the 18th edition of "Stelle nello Sport" (Sports Stars) - a project designed to promote the values of sports in a broader sector of the population in the Liguria Region, particularly focusing on young people and students and on to the least-known sports, the support Paralympic sports and fundraising for the Gigi Ghirotti Association in Genoa and the Fondazione Areo non-profit organisation.



### 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 that supports the community and the region, with a strong emphasis on young people.

# **ERG FOR YOUNG PEOPLE**

For ERG, students, teachers and schools are crucial stakeholders for the social responsibility activities it carries out in the Italian regions where it does business.

Our activities are designed jointly with schools and are addressed to students of many age groups and with diverse education backgrounds: thanks to sports and school activities we help students understand the culture of sustainability and learn to respect regulations and laws.

The fourth edition of the environmental education project "Vai col vento!", promoted by ERG, was held in 2017. It was designed for students attending the last year of middle schools in the municipalities that host our wind farms. The project, sponsored by the Ministry of the Environment as well as by the Carabinieri, involved about 1,500 students who live in Sicily, Calabria, Basilicata, Campania, Molise, Apulia and Sardinia.

The initiative consists in class lessons focussed on renewable energy sources, especially wind energy, as well as on environmental issues, climate change and energy efficiency. The lessons are complemented by guided visits to wind farms during which our specialised technicians show how a wind farm is built, managed and operated for the production of electricity.

Inspired by the success of "Via col vento" (Go with the Wind), during the 2016-2017 school year, a new project was designed:

"A tutta Acqua!". The project was addressed to all the high schools located in Terni, Perugia, Rieti, Viterbo and Macerata where our hydroelectric assets are located. The activities, which involved about 600 students, consist in a lesson on

climate change and on the production of energy using renewable sources. Students also get to visit the Galleto hydroelectric plant, one of the most important and representative of the Terni Hydroelectric Complex. The training day ends with a visit to the Marmore waterfalls park where the Galleto plant is located.

The "Giornata dell'Energia Elettrica" (Electricity Day) is another initiative set up for high school students, which for some time has been repeated in the province of Siracusa. Since 2016, due to the acquisition of hydroelectric assets, the event was also held in Terni, Rieti, Viterbo and Perugia.

Last November, over 150 young people from four technical schools of those cities visited the Galleto hydroelectric power plant. The following week, 150 more young people from Siracusa visited ERG Power's natural gas-powered, combined-cycle power plant in Melilli as well as our wind farm control centre at Carlentini. Our managers and engineers showed them the technical features of the two structures, highlighting the aspects related to energy efficiency and to sustainability of ERG's plants.

The "Progetto Scuola" (School Project), which we have been organising since 2010, is dedicated to the students of Siracusa: a set of several training initiatives in many fields.

The first project is "Un casco vale una vita" ("A helmet for life"), dedicated to third-year secondary school pupils and organised as a partnership with the Carabinieri. The activity is split into two days: a workshop during which about 200 students talked about road safety issues and a closing event where the 250 winners

ΠΑΤΑ ΑΝΠ

of the contest linked to the Carabinieri's Progetto Legalità contest were awarded the prize (a customised motorcycle helmet).

The second project is "Icaro 2017", a road safety education project organised by Siracusa's provincial Traffic Police division. The project involved about 2,000 secondary school students.

Another set of activities that involve students is centred on sports: ERG's "Riccardo Garrone" sports centre in Siracusa hosted the 25th edition of the "Trofeo Archimede ed Elettra" as well as the fourth edition of the "Trofeo Riccardo Garrone", dedicated to the students of the area and sponsored by the Italian Football Federation.

The 2016 edition involved over 1,000 young male and female footballers from 22 primary and secondary schools in the province of Siracusa, who took part in both 5-a-side and 7-a-side tournaments.

In Genoa we contributed to the organisation

of the Trofeo Ravano, the biggest European school competition, which involved 10 sporting disciplines, both male and female. The 2017 edition involved over 5,000 children, who played and, above all, had fun during this 10-day sports event.

As for university and post-university education, we were involved in the seventh edition of the SAFE Master Course on Energy Sources Management. We talked about our business evolution: the transition that from an "oil" operator led us to become an important independent producer of electricity using especially renewable sources. We also talked about sustainability and climate change. We also organised a visit to the Galleto hydroelectric power plant where our engineers explained how the plant works.

We also cooperated with several Universities (Genoa, Milan Cattolica and Bocconi, Rome) where we told the students attending different courses about our approach to renewable energy.



## THE EDOARDO GARRONE FOUNDATION

In 2017, the Foundation continued to pursue its mission creating and accomplishing interesting and free projects for all the children involved, also in conjunction with the scientific support of professionals and mentors. The topics change from time to time but the approach and the main goals are always the same: involving and training the young generations while enhancing the territories' social and cultural resources.

In continuity with that realised as from 2014 in the Apennine area and as from 2016 in the Alps. the ReStartApp® and ReStartAlp® campuses were launched, with the collaboration Associazione Progetto Valtiberina and Fondazione Cariplo. The Campuses, open to aspiring entrepreneurs under the age of 35, aim to offer effective support to the entire system of the mountain businesses throughout Italy, strengthening a new "Italian mountain economy", boosting synergies and exchange of best practices between the Alps and the Apennines, focusing on the development of the geographic excellences and, at the same time, turning to account the identity unity of "made in Italy" which is a common feature of the various local production activities.

The social commitment of the Edoardo Garrone Foundation was enhanced in 2017 thanks to the realisation of the Fundraising Coaching plus project, an initiative which falls within the sphere of the fund raising and professional development of the Third Sector. Fundraising Coaching Plus offers small non-profit making organisations in

the Genoa area the possibility of using free advice for 12 months, for the purpose of supporting them in the acquisition of skills and instruments for implementing fundraising strategies and involvement of the supporters in a structured and on-going manner.

In collaboration with the Savona Ceramics Museum Foundation, the Garrone Foundation also created the "Un futuro di ceramica" project. Conceived with the end objective of selecting a new team to be entrusted with the experimental management of the Museum, this initiative represents an important occasion for coming together and collaboration between the public and private sector within the sphere of promotion and development of cultural assets. The desire however is to place the Museum at the centre of a new model capable of intensifying the cultural value and tourism potential of the ceramic heritage in the Savona area, thanks in part to its significant collection and the important renovation and reorganisation measures underway.

Other projects, again dedicated to training and by now consolidated in terms of format, have continued their constant renewal in keeping with the social and economic context. Genova Scoprendo, for example, thanks to the dialogue with the Regional School Office Administration as well as with the teachers and students involved in the project, further extended the main topics of Sustainable Development and of Active and





ΠΑΤΑ ΑΝΠ

Responsible Citizenship. Such topics were introduced in 2014 and now are essential in the growth of young people who would like to actively participate in both the evolution and the future of their area.

# RESTARTALP® AND RESTARTAPP® FOR AN ECONOMY OF THE ITALIAN MOUNTAIN TERRITORY

Created this year in collaboration with Associazione Progetto Valtiberina, ReStartApp®, a temporary incubator of business in the Apennine area, has since 2014 furthered the creation and the development of start-ups whose purpose is the development, promotion, protection and sustainable exploitation of the area of the Apennines.

With the same objectives, thanks to the collaboration between Cariplo and the Edoardo Garrone Foundation, as from 2016 the ReStartApp® format was repeated in the areas of the Alps under the name of ReStartAlp®, which in 2017 saw its second edition.

The formula common to the two projects is that of a residential campus lasting 10 weeks where professors, experts and professionals breathe life into teaching activities, business creation and development workshops, case studies on success stories, as well as visits to production communities and Alpine destinations that have affirmed themselves both in Italy and internationally thanks to projects to relaunch the areas economically, environmentally and socially. During 2017, 28 youngsters aged between 22 and 35 from throughout Italy, took part in the ReStartApp® and ReStartAlp® campuses.

### PROGETTO APPENNINO® - APPENNINOLAB

AppenninoLAB has made a name for itself as an authentic experimental workshop for those who love the mountains, nature and sports.

In 2017, around 30 students from high schools in Liguria and Piedmont were selected to attend an adventurous and educational Camp that took place from 17 to 22 July in the Parco delle Capanne di Marcarolo (Alessandria). Group activities, orienteering in the woods, excursions, kayaking, team building activities, mountain bike rides, internal contests are only some of the activities that students involved took part in.

They were guided by two outstanding guests: Luca Mercalli - a famous climatologist - and Davide Cassani - the coach of the Italian Cycling Team.

The project, now in its third year, presented the opportunities offered by green jobs as well as by the mountain economy thanks to the development of sports, tourism, culture and food tradition.

### **FUNDRAISING COACHING PLUS**

The Fundraising Coaching Plus project, which came about in 2017 from the collaboration with Philantropy Centro Studi, is an operational consulting course lasting 12 months which aims to help the small non-profit making organisations for community work in the Genoa area acquire skills and instruments for fundraising at professional level.



The first edition of the training project saw two organisations selected - Teatro Necessario Onlus and Abeo Liguria Onlus - out of 38 candidates and therefore their participation free-of-charge. The project envisages coaching for the whole of 2018 by a team of professionals guided by professor Valerio Melandri, lecturer of Fundraising techniques and principles care of Bologna University and Columbia University in New York, so as to formulate their fundraising process, conceived on the measure of their objectives and their starting situation.

### **CERAMICS MUSEUM PROJECT**

In order to identify a new team for the experimental management of the Ceramics Museum in Savona for the next two years and possible extension for the following three-year period, in 2017 collaboration came about between the Foundation of the Museum and the Edoardo Garrone Foundation for a period of two years. Within the sphere of participatory planning which wishes to evolve innovative and efficient models for the management and development of the cultural assets, the Edoardo Garrone Foundation make its experience available to youngsters, with particular regard to the dimensions of self-employment and area involvement.

The final objective of the initiative is to develop the cultural and tourism-related potential of the

Savonese ceramic heritage, posing the Ceramics museum as the key element of the tourism and cultural relaunch of the area.

173 applications were received, both from groups and single experts in the economic, cultural, tourism and creative sphere, who had the desire to take the risk and get involved in this new managerial challenge in the museum sector. The formula chosen for the first selection phase is new, seeing the candidates involved in the Hackathon Day "Un futuro di ceramica", a day of competition, analysis of the context, creativity and innovation aimed at identifying the ideas and the parties leading the project.

### **TRAINING**

# Sustainable growth: seminars with Luca Mercalli

Given the great success obtained in 2016 in terms of participation and involvement, the Edoardo Garrone Foundation chose to repeat the offer of training sessions with Luca Mercalli, Chairman of the Italian Meteorology Society, also involving students from upper secondary schools.

"Sfide ambientali per il vostro futuro" environmental challenges for our future: this
is the title of the encounters proposed by the
Edoardo Garrone Foundation on the urgent
theme of climate change. Held between January
and November 2017 in the suggestive setting





ΠΑΤΑ ΑΝΠ

INDICATORS



of the Sala del Maggior Consiglio at Palazzo Ducale, the encounters with the well-known climatologist saw the participation of more than 800 youngsters. The objective of the initiative was to offer the younger members of society an authoritative and qualified standpoint on the subjects of environmental emergency and sustainable development, at the same time providing food for thought and rehashing so as to continue the classroom work with their teachers. Precisely so as to permit in-depth analysis during the traditional lessons, the Garrone Foundation organised a meeting between Luca Mercalli and the teaching staff of the Liguria-based schools of all levels so that the teachers could share approaches and materials from the classroom work.

### Discovering Genoa (Genova Scoprendo)

The renewed concept introduced in 2014 and centred on sustainability and active citizenship continues to be highly appreciated by both teachers and students.

The 2016 edition paid great attention to actions concerning sustainable development undertaken in Genoa, as well as to the organisation of a greater number of meetings with the classes and,

therefore, to training activities for the students and to the development of new support materials with ideas to be used during the entire academic year. The "KEEP CLEAN" event was introduced in the 2017 edition, which involved students in effective cleaning action in the town parks of Nervi, with the end goal of separate waste collection.

The initiative was accomplished in collaboration with Amiu and the Genoa Municipal Authority and saw the participation of Roberto Cavallo, a well-known "waste expert" who profiled the activities with interesting data on the interaction between the environment and various types of waste.



GOVERNANCE

### THE 2017 RESTARTAPP AWARD WINNERS

### 1st prize - "Goji del Mugello" by Erica Pini, Vicchio (Fi)

Spread the consumption of Goji berries and other oriental plants in Mugello, to then extend this throughout the entire Apennines, is the mission of Azienda Agricola Pini. A clear and determinate mission, flanked by an ambitious vision: make Goji the new and future Genius Loci of the Apennines. The entrepreneurial idea is therefore the creation and diffusion of a new brand, under the name GOJIdelMUGELLO®, which identified the production of fresh organic Goji berries cultivated in the Mugello area, and the processing of derivative products. The central core of the activities of Azienda Agricola Pini over the next 5 years will be the cultivation of organic Goji berries and the sale of the fresh product, as well as experimentation on the transformation and processing of the product. The planting of ginseng and gradually of other oriental plants will in fact start, as from the first year, alongside the Goji berries.

### 2<sup>nd</sup> prize - "Sol.Inno S.r.I." by Michele Galeri (Marche, location to be defined)

Sol.Inno is a business project which furthers industrial hemp as a valid alternative for agricultural entrepreneurs, as a secondary business for eco-tourism operators and, in more general, as a product for various uses and with high environmental sustainability features care of consumers. The market in which Sol.Inno resides is a multi-sector market (food, sustainable housing and nutritional chemistry out of all) not yet mature, characterised by a genuine boom with regard to consumption and cultivated surface areas (+200% each year). This exponential growth is due to both the greater awareness of the consumers and the favourable legislation at the end of 2016. In particular, Sol.Inno will propose: agricultural consulting services to entrepreneurs interested in the inclusion of hemp in the current crop rotation system, marketing consultancy services for hemp growers and transformers interested in more fully marketing their products, set up of a sales outlet for hemp-based products of the agri-food and cosmetics sector for the eco-tourism operators with a view to a secondary business involving zero investment.

### 3rd prize - "Alòrto" by Letizia Venturini, Anghiari (AR)

Alòrto sets itself the objective of offering a service capable of bringing quality area-based products to the table of households every day, solving the widespread problem of lack of time necessary for making purchases of this type. It therefore encourages the consumption of organic and local products, thanks to an alternative and widespread distribution method.

The main activities involve the delivery of products from the area to the end consumer, directly and easily care of the workplace. The user will make reference to the Alòrto website which will make it possible to discover which are the spending formulas conceived for the various types of need (singles, couples, families). Alòrto particularly addresses those who work in companies in the Valtiberina and Aretino area.

### THE 2017 RESTARTALP AWARD WINNERS

### 1st prize - "Preskige" by Eugenio Marsaglia, Rome (RM)

Eugenio Marsaglia's project addresses expert skiers who wish to perfect their style and technique with the use of latest generation technologies and under the careful eye of highly qualified professionals. The Preskige project is based on a virtual platform which will permit the user to create their own made-to-measure ski lesson, choosing the place, date and instructor in keeping with their needs. The use of the video of the lesson as a feedback and self-assessment tool is innovative.

The objective is to create a recognised and reliable brand which, via social skiing, breathes life into a global network of keen skiers, permitting the same to enjoy as fully as possible and safely their free time on the snow.

### 2<sup>nd</sup> prize - "Bútega Valtellina" by Giorgio Gobetti, Grosotto (SO)

Bútega Valtellina wishes to be a model for turning to account the local excellences based on the promotion of the unique nature of the area and on the development of transversal synergies aimed at mutual growth. The objective of Giorgio Gobetti's project is to intervene in the agro-industrial sector supporting and protecting the small producers who find themselves having to face the challenges posed by the market. Bútega Valtellina's ambitious project involves the start-up of the same name and a network of companies which combines agricultural businesses and traders or caterers. The role of the Start-up is therefore to aggregate and further the dealings between producers and professionals in the agro-industrial sector, thereby facilitating the distribution of the area excellences and the establishment of a sector of recognised quality.

### 3rd prize - "Altura" by Lorenzo Quaccia, Hône, (AO)

Lorenzo Quaccia and Edoardo Zanuttini wish to create, via Altura, entrepreneurial activities involving the smoking and transformation of trout, a fish variety widespread in Valle d'Aosta. The project originates from the ascertainment, based on global indicators, that the consumption of fish from aquaculture is destined to increase. The Valdostana mountain region is also a favourable area for this type of breeding, since it is rich in spring water and strong in traditional fish smoking methods. Trout will be the flagship product of the Start-up, which aims to develop other varieties of fish such as carp, tench and whitefish further on. Altura, based in Hône, has the aim of transforming the fish creating a network of certified suppliers, so as to ensure a healthy product, with a short industry linked to the mountain area.

GOVERNANCE

### **2017 RESTARTAPP**

### FREE POST-CAMPUS ADVICE FOR 12 MONTHS

### "Azienda Agricola Colle Berardino", by Alice Liguori, Rocca Sinibalda (RI)

The organic farm Colle Berardino officially came into being in January 2017, in the heart of the Lazio Apennines, in the Municipality of Rocca Sinibalda (Province of Rieti). The farm, which covers around 2.5 hectares of owned land and nearly 1 hectare of sowable land which is rented, currently produces: extra virgin olive oil, honey, fruit, vegetables and cereals. This is joined by beekeeping and the related production of honey.

The challenge for the future is that of consolidating this production (by means of the improvement of the machine fleet and the creation of a multi-functional transformation workshop) and specialising in the production of old pulses and cereals, typical of this area: lupin, grass-pea, pea-bean (future Slow Food Presidia), chickpeas, Rieti1 wheat and more still. Besides the expansion and consolidation of the production, the company intends to extend its market on the one hand focusing on strengthening the local and regional B2B distribution channels (catering and retail) and on the other hand addressing individuals with particular dietary needs: vegetarians, vegans, and those with celiac disease.

### "Centro Ippico II Quadrifoglio" by Elisa Veri, Città di Castello (PG)

The project is based on the passion of the creators for horses and proposes to unite horse tourism, equine therapy and the breeding of horses for sport. The idea is to create a stable for the breeding of horses intended for tourism activities and sporting practices (for example dressage). This is joined by the desire to become an internationally recognised equestrian centre for the breeding and sale of foals and horses for sporting purposes, by means of the achievement of internationally renowned auctions (following the by now consolidated model of many other European countries). The project has come about with the purpose of redeeming the Italian production of sporting parties, creating a network of contacts among the various Italian breeders and at the same time enhancing and extending the cultural tourism offer in the area.

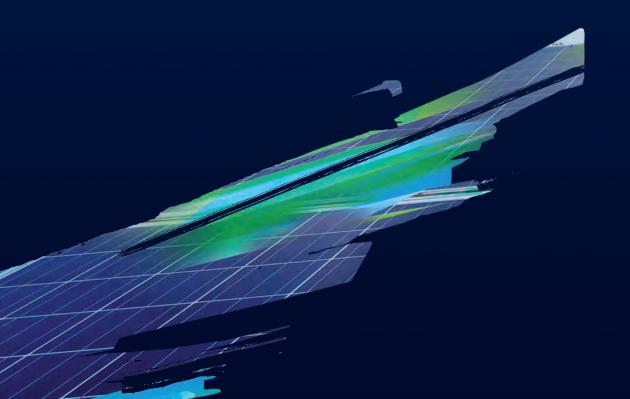
### **2017 RESTARTALP**

FREE POST-CAMPUS ADVICE FOR 12 MONTHS

### "TempoReale" of Gioele Zaccheo, Trontano (VCO)

Gioele Zaccheo's farm was established in June 2016 in Val d'Ossola and today has one hectare of land used for the cultivation of old cereals, 10 thousands saffron bulbs, one hectare of vines and seven donkeys which support the activities for the recovery of uncultivated land. The aim of the project is to further sustainable forms of agriculture in the area. TempoReale also wishes to facilitate the return of the agricultural micro-industries in the Alps, creating local and efficient business networks. In Gioele's vision, quality, biodiversity and business network take on the form of a space for social interaction by means of recovery projects, shared work and voluntary services.

# 5 DATA AND INDICATORS



# **DATA AND INDICATORS**

### **ECONOMIC AND FINANCIAL RESULTS**

		2017	2016	2015
Revenues from ordinary operations	million EUR	1,056	1,025	944
EBITDA at replacement cost	million EUR	472	455	350
EBIT at replacement cost	million EUR	220	202	179
Net Profit of which Group Net Profit Group net profit (loss) at adjusted replacement cost (1)	million EUR million EUR million EUR	207 207 142	125 122 107	24 21 96
Cash flow from operations	million EUR	400	402	192
Total net financial indebtedness	million EUR	1,233	1,557	1,448
Net invested capital	million EUR	3,110	3,286	3,124
Investments <sup>[2]</sup>	million EUR	54	60	106
Financial leverage		40%	47%	46%

Total revenues in 2017 include 100 thousand EUR in grants from Public Administration or the European Community for employee training. ERG Group does not donate to political parties.

### **ERG SHARES**

		2017	2016	2015
Year-end reference price	EUR	15.40	10.20	12.47
Maximum price	EUR	16.50	(1) 12.45	13.65
Minimum price	EUR	9.96	(1) 8.88	8.91
Average price	EUR	12.62	10.61	11.79
Average volume	no.	249,533	244,424	251,434
Market capitalization	million EUR	2,315	1,535	1,874

<sup>(1)</sup> Maximum price recorded on 12 December 2017, lowest price recorded on 9 January 2017.

### **OPERATING DATA AND INDICATORS**

		2017	2016	2015
Total electricity production	GWh	7,210	7,552	5,330
of which from renewable energy sources	GWh	4,757	4,859	2,698
Market share of power generation in Italy		1.8%	2.7%	2.0%
Sales of electricity	GWh	11,747	12,303	10,113
Market share of power sales in Italy		3.3%	3.9%	3.2%

<sup>[1]</sup> Does not include inventory gains (losses) of TotalErg, non-recurring items and related applicable theoretical taxes.
[2] In investments in tangible and intangible fixed assets. Not including M&A investments for 39.5 million EUR in 2017 for the acquisition of the companies of the DIF Group in Germany and the M&A investments for 306 million EUR made in 2016.

GOVERNANCE

### PERSONNEL, ORGANISATION OF WORK AND INDUSTRIAL RELATIONS

		2017	2016	2015
Employees at 31/12	no.	714	715	666
Executives at Genoa site	no.	37 59%	40 70%	39 74%
Middle managers	no.	169	161	155
Administrative staff	no.	331	344	308
Workers	no.	177	170	164
Other external collaborators	no.	[4] 32	35	21
Part time employees (Italy)	%	4.1%	3.8%	3.9%
Percentage of overtime (Italy)	%	4.8%	4.9%	(2) 5.0%
Unionisation rate	%	31.0%	26.9%	30.6%
Ongoing labour disputes	no.	2	(1) 4	2
Strike <sup>(3)</sup>	hours	0	272	(2) 48
Turnover (5) (inbound staff + outbound staff)/headcount at 31/12	%	10.2%	6.8%	11.9%
Inbound turnover	%	5.0%	9.9%	17.7%
Outbound turnover	%	5.2%	3.2%	8.4%

### **TRAINING**

		2017	2016	2015
Total training	hours	37,950	31,787	27,584
Average training per employee	days/emp	6.6	5.6	5.7

		2017			2016		
	Men hours	Women hours		Men hours	Women hours	Total	
Executives	2,003	171	2,174	1,092	164	1,256	
Middle managers	7,533	2,578	10,111	6,166	1,557	7,723	
Administrative staff	14,600	4,455	19,055	11,438	4,310	15,748	
Workers	6,348	262	6,610	7,023	37	7,060	
Total	30,484	7,466	37,950	25,719	6,068	31,787	

	2017		201	6
	Men h/emp	Women h/emp	Men h/emp	Women h/emp
Executives	57.2	85.5	29.5	54.6
Middle managers	60.8	57.3	52.2	36.2
Administrative staff	62.9	45.0	47.5	41.8
Workers	36.5	87.3	41.6	37.0

<sup>[1]</sup> Two acquired by ERG Hydro. [2] The figure does not include ERG Hydro. [3] Hours of Italy-wide strikes.
[4] The 2017 figure includes 22 men and 10 women, the 2016 figure includes 24 men and 11 women. [5] The indicator does not count the staff that have joined/left the Group as a result of acquisitions/disposals of companies, so as to show the real change in staff during the year.

### **DETAILED ANALYSIS OF PERSONNEL** (NO. OF EMPLOYEES)

COLLECTIVE LABOUR AGREEMENTS APPLIED	20	17	2016	
	Number	%	Number	%
Energy and Oil	372	52%	378	53%
Metalworking and Mechanical Engineering	151	21%	147	20%
Electric	112	16%	105	15%
Foreign contracts	42	6%	45	6%
Industrial executives	37	5%	40	6%
Total	714	100%	715	100%

ECONOMIC RESPONSABILITY

LOCATION OF PERSONNEL	2017			2016		
LUCATION OF PERSONNEL	Men	Women	Total	Men	Women	Total
Genoa	127	94	221	139	99	238
Siracusa	122	7	129	135	9	144
Rome	37	12	49	15	9	24
Terni (various neighbouring sites)	93	13	106	91	15	106
Abroad	34	14	48	37	11	48
Other Italian locations	152	9	161	148	7	155

TVDF OF CONTRACT	2017			2016		
TYPE OF CONTRACT	Men	Women	Total	Men	Women	Total
Fixed-term contract - Full time	1	2	3	4	2	6
Fixed-term contract - Part-time	-	_	_	-	_	-
Permanent contract - Full time	564	118	682	561	121	682
Permanent contract - Part-time	-	29	29	-	27	27
Group Total	565	149	714	565	150	715

		2017			2016		
JOB CLASSIFICATION	Employee	Protected category	Total	Employee	Protected category	Total	
Executives	37	-	37	40	-	40	
Middle managers	164	5	169	157	4	161	
Administrative staff	313	18	331	324	20	344	
Workers	176	1	177	169	1	170	
Group Total	690	24	714	690	25	715	

GOVERNANCE

BREAKDOWN BY	2017			2016		
PROFESSIONAL CATEGORY AND GENDER	Men	Women	Total	Men	Women	Total
Executives	35	2	37	37	3	40
Middle managers	124	45	169	118	43	161
Administrative staff	232	99	331	241	103	344
Workers	174	3	177	169	1	170
Group Total	565	149	714	565	150	715

BREAKDOWN BY	2017			2016		
BY AGE BRACKET AND GENDER	Men	Women	Total	Men	Women	Total
<30 years	32	4	36	39	5	44
30 - 49 years	371	115	486	369	116	485
>= 50 years	162	30	192	157	29	186
Group Total	565	149	714	565	150	715

DADENTAL LEAVE		2017				
PARENTAL LEAVE	Men	Women	Total	Men	Women	Total
Employees that used parental leaves during the year	19	33	52	2	24	26
Persons returning from parental leave by 31 December 2017	19	33	52	2	24	26
Personnel resigning due to maternity	-	-	-	-	-	-

EMPLOYEES ELIGIBLE FOR RETIREMENT IN ITALY	20	2016	
EMPLOYEES ELIGIBLE FOR RETIREMENT IN ITALY	In the next 5 years	In the next 10 years	
Executives	0%	8.1%	n/a
Middle managers	0%	3.1%	n/a
Administrative staff	0%	6.0%	n/a
Workers	0%	2.4%	n/a
Total	0%	4.4%	2.9%

<sup>[1]</sup> Figure referring to Italian employees: employees [male or female] are considered pensionable at age 70 regardless of the date of their first employment [a simplified application of the Fornero - old-age pension insurance reform]. Abroad, just one employee is eligible for retirement within 10 years.

OTHER INDICATORS	2017	2016	2015
Female employment (%) of which: female employment at Genoa site (%)	20.9% 42.5%	21.0% 41.6%	20.6% 42.4%
Average time at company (years)	9.8	8.9	8.8
Average employee age (years)	43.6	43.8	43.4

### **DETAILED ANALYSIS OF TURNOVER - ITALY** (NO. OF EMPLOYEES)

PERSONNEL EMPLOYED BY AGE AND GENDER	2017			
Age	Men	Women	Total	Turnover rate
< 30 years	9	1	10	35.7%
between 30 and 49 years	14	1	15	8.0%
>= 50 years	1	0	1	0.2%
Total	24	2	26	
Inbound turnover rate	4.5%	1.5%	3.9%	

PERSONNEL EMPLOYED BY AGE AND GENDER	2016			
Age	Men	Women	Total	Turnover rate
< 30 years	10	1	11	31.4%
between 30 and 49 years	8	6	14	3.1%
>= 50 years	7	3	10	5.5%
Total	25	10	35	
Inbound turnover rate	4.7%	7.2%	5.2%	

OUTBOUND EMPLOYEES BY AGE AND GENDER	2017				
Age	Men	Women	Total	Turnover rate	
< 30 years	1	1	2	7.1%	
between 30 and 49 years	8	3	11	5.9%	
>= 50 years	10	2	12	2.7%	
Total	19	6	25		
Outbound turnover rate	3.6%	4.4%	3.8%		

OUTBOUND EMPLOYEES BY AGE AND GENDER	2016				
Age	Men	Women	Total	Turnover rate	
< 30 years	1	0	1	2.9%	
between 30 and 49 years	9	4	13	2.9%	
>= 50 years	9	0	9	5.0%	
Total	19	4	23		
Outbound turnover rate	3.6%	2.9%	3.4%		

### DETAILED ANALYSIS OF TURNOVER - ABROAD (NO. OF EMPLOYEES)

PERSONNEL EMPLOYED BY AGE AND GENDER	2017			
Age	Men	Women	Total	Turnover rate
< 30 years	5	0	5	62.5%
between 30 and 49 years	5	0	5	125.0%
>= 50 years	0	0	0	0.0%
Total	10	0	10	20.8%
Inbound turnover rate	29.4%	0.0%	20.8%	

PERSONNEL EMPLOYED BY AGE AND GENDER	2016			
Age	Men	Women	Total	Turnover rate
< 30 years	6	2	8	35.7%
between 30 and 49 years	18	5	23	8.0%
>= 50 years	5	0	5	0.2%
Total	29	7	36	
Inbound turnover rate	4.5%	1.5%	3.9%	

OUTBOUND EMPLOYEES BY AGE AND GENDER	2017			
Age	Men	Women	Total	Turnover rate
< 30 years	1	0	1	12.5%
between 30 and 49 years	7	2	9	225.0%
>= 50 years	2	0	2	5.6%
Total	10	2	12	
Outbound turnover rate	29.4%	14.3%	25.0%	

OUTBOUND EMPLOYEES BY AGE AND GENDER	2016			
Age	Men	Women	Total	Turnover rate
< 30 years	0	0	0	0.0%
between 30 and 49 years	0	0	0	0.0%
>= 50 years	0	0	0	0.0%
Total	0	0	0	
Outbound turnover rate	0.0%	0.0%	0.0%	

# SAFETY\*

INJURIES IN THE WORKPLACE (NO.)	Men	Women	Total 2017	Total 2016	Total 2015
Genoa	-	-	-	1	-
Siracusa	2	-	2	-	-
Rome	-	-	-	-	-
Terni	-	-	-	-	-
Abroad	2	-	2	-	-
Other locations	2	_	2	1	3
Total	6	_	6	2	3

FREQUENCY INDEX	Men	Women	Total 2017	Total 2016	Total 2015
Italy	4.31	-	3.53	n/a	n/a
Abroad	28.18	-	20.03	n/a	n/a
Total	6.01	-	4.87	1.74	2.90

Frequency index calculated as (no. of injuries x 1,000,000)/no. hours worked

SEVERITY INDEX	Men	Women	Total 2017	Total 2016	Total 2015
Italy	0.30	-	0.24	n/a	n/a
Abroad	0.34	-	0.24	n/a	n/a
Total	0.30	-	0.24	0.03	0.12

Severity index calculated as (no. of days lost x 1,000)/no. hours worked

OTHER SAFETY INDICATORS	Men	Women	Total 2017	Total 2016	Total 2015
Sick leave rate [1] [%]	1.5%	1.8%	1.6%	1.9%	2.2%
Working days lost due to injuries in the workplace (no.)	300	-	300	40	121
Cases of occupational disease (no.)	-	-	-	-	-
Rate of occupational disease (%)	-	-	-	-	-
Work-related deaths (no.)	-	-	-	-	-

The safety indicators do not count the "other external collaborators". The figures relating to the hours worked by foreign employees have been estimated on the basis of the workable days [260], number of employees [48 - including office and 0&M personnel], and daily working hours [8]. The breakdown by gender was made on the basis of managerial estimates.

1) Sick leave rate refers to just the Italian employees (no. of days absence/days workable).

# **SAFETY**

THIRD-PARTY COMPANY INJURIES		2017	2016	2015
Third-party company injuries	no.	4	1	3
Frequency index – third party companies - Total Frequency index – third party companies - Italy Frequency index – third party companies - Abroad		7.28 2.47 20.67	2.14 n/a n/a	6.56 n/a n/a
Severity index – third party companies - Total Severity index – third party companies - Italy Severity index – third party companies - Abroad		0.05 0.06 0.03	0.06 n/a n/a	0.30 n/a n/a

METHOD FOR ESTIMATING HOURS WORKED - THIRD PARTY COMPANIES

The hours worked by the employees of third party companies have been estimated differently according to the technology involved.

Hydro plants, Power, Wind Italy and Office: manual recording of the hours worked.

Wind Farms abroad: the estimate of the hours worked, given the technical impossibility of recording the presence of the O&M contractors with global service agreements, is based on a hypothesis that one FTE can service 15 MW, moltiplied by workable days (260) and by 8 hours.

METHOD FOR CALCULATING DAYS LOST DUE TO INJURIES - THIRD PARTY COMPANIES

Report sent by the company of the injured worker.

# **SUPPLIERS**

		2017	2016	2015
Active suppliers (transactions with at least one order)	no.	1,564	1,553	1,454
with registered offices or a billing address in Italy	%	71%	86%	89%
with registered offices or a billing address in the regions where our plants are located	%	35%	33%	32%
% expenditure local suppliers (Italy/total)	%	74%	59%	93%
Qualified suppliers on Vendor List	no.	920	1,147	1,042
of which: qualified based on HSE parameters	no.	226	313	248
Newly qualified suppliers in the year	no.	61	51	41
of which: newly qualified based on HSE parameters in 2017	no.	31	28	39
Average qualification time	days	103	110	114
% of tenders (of total value of purchases) $^{\mbox{\tiny (1)}}$	%	41%	-	-
% of tenders (of total value of purchases)	%	-	52%	45%
$\%$ of tenders [of total number of purchases] $^{[1]}$	%	31%	-	-
% of tenders (of total number of purchases)	%	-	29%	24%

<sup>1)</sup> The 2017 indicators have been calculated following a different method with respect to the previous years of reporting, or rather respectively considering the tender value/total value of orders issued and the number of tenders/total orders issued which does not permit a comparison with the figures for the previous years. Accordingly, the indicators are represented separately.

# **CUSTOMERS**

		2017	2016
Intercompany customers	no.	21	20
Industrial customers	no.	9	3
Site customers	no.	11	11

# WIND - ENVIRONMENT AND COMMUNITY

		2017	2016	2015
Production	GWh	3,613	3,501	2,614
Load factor		23%	23%	21%
Indirect energy consumption (1)	GWh	11.1	10.9	10.0
CO <sub>2</sub> avoided	kt	2,270	2,217	947
Indirect CO <sub>2</sub> emissions <sup>(2)</sup>	kt	1.4	5.5	<sup>[3]</sup> 6.1
$\mathrm{SF}_{\scriptscriptstyle{6}}$ present in the electrical equipment	kg	924	896	896
SF <sub>6</sub> in stock	kg	1,333	n/a	n/a
${\rm SF_s}$ top ups equivalent to tons of CO,	kg t	3.2 76	n/a n/a	n/a n/a
F-GAS present in air conditioning systems	kg	80	90	n/a
Waste produced	t	56	50	58
of which sent to recycling	%	60.9%	n/a	n/a
Waste hazardous produced	t	35	21	37
of which sent to recycling	t	16	n/a	n/a
of which sent to recycling	%	45.7%	n/a	n/a
of which sent to disposal	t	19	n/a	n/a
of which sent to disposal	%	54.3%	n/a	n/a
Waste non-hazardous produced	t	21	29	21
of which sent to recycling	t %	18	n/a	n/a
of which sent to dispense	/0	85.7%	n/a	n/a
of which sent to disposal of which sent to disposal	\ %	14.3%	n/a n/a	n/a n/a
or willou selle to disposal	/0	14.5%	II/a	11/a

<sup>[1]</sup> The increase in consumption is caused by the increase in the plants running.

# **OFFICES IN ITALY**

		2017	2016	2015
Indirect energy consumption (1)	MWh	1,154	1,280	1,265
Indirect CO <sub>2</sub> emissions	t	363	607	697

<sup>[1]</sup> The 2016 and 2017 figures take into consideration the supplies of electricity from renewable production which does not generate emissions; the indirect emissions are calculated on the basis of the conversion factors relating to the gross thermoelectric production of each country published by Terna on its website (Source: Terna, 2015 international comparisons) according to a Location Based approach.

 $Wastes: wastes \ produced \ in \ offices \ are \ disposed \ of \ as \ municipal \ waste \ and \ therefore \ quantities \ are \ not \ accounted \ for.$ 

Water consumptions: the consumptions of water in the offices refers exclusively to uses for sanitary purposes and are part of the condominium services, therefore are not accounted. They are non-material with respect to the business.

<sup>(2)</sup> The 2016 and 2017 figures take into consideration the supplies of electricity from renewable production which does not generate emissions; the indirect emissions are calculated on the basis of the conversion factors relating to the gross thermoelectric production of each country published by Terna on its website (Source: Terna, 2015 international comparisons) according to a Location Based approach.

<sup>[3]</sup> Value recalculated with respect to that indicated in the 2016 Sustainability Report using the CO2 emission factor of each country and based on the gross thermoelectric production [Source: Terna, 2015 international comparisons].

# HYDROELECTRIC POWER - ENVIRONMENT AND COMMUNITY

		2017	2016	2015
Production	GWh	1,144	1,358	84
Technical availability plants		96.63%	96.52%	n/a
Energy consumption from primary sources - Diesel fuel [1]	litres	17,000	28,700	18,033
Indirect energy consumption	GWh	13.9	7.7	n/a
CO <sub>2</sub> avoided	kt	631	775	31
Indirect CO <sub>2</sub> emissions <sup>(2)</sup>	kt	0.3	0	n/a
SF <sub>6</sub> present in the electrical equipment	kg	894	894	894
SF <sub>6</sub> in stock	kg	323	326	326
$\mathrm{SF}_{\mathrm{g}}$ top ups equivalent to tons of $\mathrm{CO}_{\mathrm{g}}$	kg t	2.9 68	n/a n/a	n/a n/a
F-GAS present in air conditioning systems	kg	179	174	173
Total releases from concession (MVF)	million m <sup>3</sup>	1,057	970	n/a
Waste produced of which sent to recycling	t %	2,866 99.0%	2,747 74.0%	n/a n/a
Waste hazardous produced of which sent to recycling	t t	12 11 91.7%	3.0 2.4	n/a n/a
of which sent to recycling of which sent to disposal of which sent to disposal	% t %	91.7% 1 8.3%	80.0% 0.6 20.0%	n/a n/a n/a
Waste non-hazardous produced of which sent to recycling	t t	2,854 2,827	2,744 2,036	n/a n/a
of which sent to recycling of which sent to disposal	% t %	99.1%	74.2% 708	n/a n/a
of which sent to disposal	70	0.9%	25.8%	n/a
of which waste removed from rivers and water basins (wood and grate cleaning residues) [8] of which sent for recycling	t	2,525 100%	2,610 <sup>(4)</sup> 77%	n/a n/a

<sup>[1]</sup> The diesel fuel is used to fuel power supply continuity systems and for office heating; emissions are not calculated for this consumption, as the figure represents the purchases and not the consumption, furthermore no final balance is drawn up.

<sup>[2]</sup> The 2016 and 2017 figures take into consideration the supplies of electricity from renewable production which does not generate emissions; the indirect emissions are calculated on the basis of the conversion factors relating to the gross thermoelectric production of each country published by Terna on its website (Source: Terna, 2015 international comparisons) and according to the Location Based approach.

<sup>[3]</sup> Wood and grate cleaning residues removed from the rivers represent a portion of the total waste produced. They are reported separately to point out the contribution given by the activities for the territory and the hydro-geological safety of river-beds.

[4] Transfer activities to the recycling facility started in May 2016.

# THERMOELECTRIC POWER - ENVIRONMENT AND COMMUNITY

GOVERNANCE

		2017	2016	2015
Production	GWh	2,453	2,693	2,632
ERG Power performance index <sup>[1]</sup>		63.2%	62.4%	61.8%
Energy consumption (primary sources) of which natural gas of which natural gas of which other primary sources	TOE TOE thousand m³ TOE	472,468 472,468 550,876	507,738 507,738 592,765	513,486 494,148 575,913 19,339
Indirect energy consumption (2)	GWh	1.6	1.6	1.7
Direct CO <sub>2</sub> emissions (3)	kt	1,130	1,216	1,230
Indirect CO <sub>2</sub> emissions <sup>(2)</sup>	kt	0.8	0.8	<sup>(4)</sup> 1.0
$NO_{\chi}$ emissions $^{(3)}$	t	364	394	386
CO emissions	t	44	46	44
SF <sub>6</sub> present in the electrical equipment	kg	13,061	13,061	13,061
$SF_6$ in stock	kg	370	n/a	n/a
${\rm SF_8}$ top ups equivalent to tons of ${\rm CO_2}$	kg t	16 376	5 117	n/a n/a
F-GAS present in air conditioning systems	kg	823	10	n/a
F-GAS top ups equivalent to tons of ${\rm CO_2}$	kg t	132 220	n/a n/a	n/a n/a
Thermoelectric CO <sub>2</sub> index	kt/GWheq	0.408	0.404	0.418
Thermoelectric $\mathrm{NO}_{\mathrm{x}}$ index	t/GWheq	0.13	0.13	0.11
Thermoelectric CO index	t/GWheq	0.016	0.015	0.015
Seawater withdrawals for plant cooling systems	million m <sup>3</sup>	200	217	226
Well water withdrawals	million m <sup>3</sup>	5	6	8
Water returned to the natural cycle	% of withdrawals	97.1%	97.1%	96.8%
Cooling water returned to the natural cycle	million m <sup>3</sup>	200	217	226
Water resource use index demineralised water plant	% water produced/ inbound water	63.8%	64.2%	n/a
Waste produced	t	2,079	3,715	1,856
of which sent to recycling	%	65.3%	n/a	n/a
Waste hazardous produced	t	291	351	121
of which sent to recycling of which sent to recycling of which sent to disposal of which sent to disposal	t % t %	110 37.8% 181 62.2%	n/a n/a n/a n/a	n/a n/a n/a n/a
Waste non-hazardous produced	t	1,788	3,364	1,735
of which sent to recycling of which sent to recycling of which sent to disposal of which sent to disposal	t % t %	1,247 69.7% 541 30.3%	n/a n/a n/a n/a	n/a n/a n/a n/a

<sup>[1]</sup> Index of \*f" principle overall performance" calculated in accordance with the procedures laid down by Ministerial Decree of 5 September 2011 [CAR].

<sup>[2]</sup> The 2016 and 2017 figures take into consideration the supplies of electricity from renewable production which does not generate emissions; the indirect emissions are calculated on the basis of the conversion factors relating to the thermoelectric production of each country published by Terna on its website (Source: Terna, 2015

are calculated on the basis of the conversion factors relating to the thermoelectric production of each country published by Terria on its website (Source: Terria, 2015 international comparisons) according to a Location Based approach.

[3] The figures relating to the atmospheric emissions are consistent with the annual data reported for the purposes of the E-PRTR Register and with the EU-ETS declarations.

[4] Value recalculated with respect to that indicated in the 2016 Sustainability Report using the CO<sub>2</sub> emission factor of each country and based on the gross thermoelectric production (Source: Terna, 2015 international comparisons).

# WIND - HSE ECONOMIC AND ADMINISTRATIVE RESOURCES

		2017	2016	2015
Total HSE expenditure	thousands of Euro	1,177	1,100	1,222
Level of ISO 14001 and OHSAS 18001 certification of the Italian companies		100%	100%	100%
On-site safety checks and HSE audits	no.	537	271	366
HSE Audit	no.	17	71	35

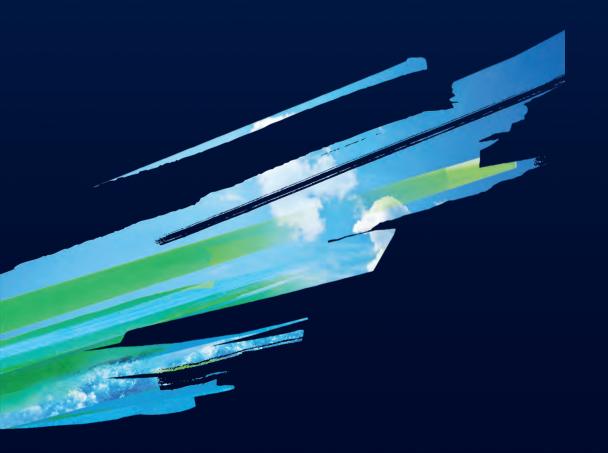
# HYDROELECTRIC POWER - HSE ECONOMIC AND ADMINISTRATIVE RESOURCES

		2017	2016	2015
Total HSE expenditure	thousands EUR	1,667	892	n/a
of which investments of which current expenses	thousands EUR thousands EUR	972 695	444 448	n/a n/a
Level of ISO 14001 and OHSAS 18001 certification		100%	100%	n/a
On-site safety checks and HSE audits	no.	51	28	n/a

# THERMOELECTRIC POWER - HSE ECONOMIC AND ADMINISTRATIVE RESOURCES

		2017	2016	2015
Total HSE expenditure	million EUR	10.5	13.0	11.0
of which investments	million EUR	1.9	3.0	3.0
of which current expenses	million EUR	8.6	10.0	8.0
Level of ISO 14001 and OHSAS 18001 certification		100%	100%	100%
On-site safety checks and HSE audits	no.	53	125	142

# AUDIT REPORT



# **Deloitte**

Deloitte & Touche S.p.A. Via Tortona, 25 20144 Milano

Tel: +39 02 83322111 Fax: +39 02 83322112 www.deloitte.it

# INDEPENDENT AUDITOR'S REPORT ON THE CONSOLIDATED NON-FINANCIAL STATEMENT PURSUANT TO ARTICLE 3, PARAGRAPH 10 OF LEGISLATIVE DECREE NO. 254 OF DECEMBER 30, 2016 AND ART. 5 OF CONSOB REGULATION N. 20267

To the Board of Directors of ERG S.p.A.

Pursuant to article 3, paragraph 10, of the Legislative Decree no. 254 of December 30, 2016 (hereinafter the "Decree") and to article 5 of the CONSOB Regulation n. 20267, we have carried out a limited assurance engagement on the Consolidated Non-Financial Statement of ERG S.p.A. and its subsidiaries (hereinafter the "ERG Group" or the "Group") as of December 31, 2017 prepared on the basis of article 4 of the Decree, and approved by the Board of Directors on March 7, 2018 (hereinafter the "NFS").

Responsibility of the Directors and the Board of Statutory Auditors for the NFS

The Directors are responsible for the preparation of the NFS in accordance with articles 3 and 4 of the Decree and with the "Sustainability Reporting Guidelines" version G4, including the "Electric Utilities Sector Disclosures", established in 2013 by GRI — Global Reporting Initiative (hereinafter the "GRI G4 Guidelines"), which they have identified as reporting framework.

The Directors are also responsible, within the terms established by law, for such internal control as they determine is necessary to enable the preparation of NFS that is free from material misstatement, whether due to fraud or error.

The Directors are moreover responsible for defining the contents of the NFS, within the topics specified in article 3, paragraph 1, of the Decree, taking into account the activities and characteristics of the Group, and to the extent necessary in order to ensure the understanding of the Group's activities, its trends, performance and the related impacts.

Finally, the Directors are responsible for defining the business management model and the organisation of the Group's activities as well as, with reference to the topics detected and reported in the NFS, for the policies pursued by the Group and for identifying and managing the risks generated or undertaken by the Group.

The Board of Statutory Auditors is responsible for overseeing, within the terms established by law, the compliance with the provisions set out in the Decree.

Auditor's Independence and quality control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour. Our auditing firm applies International Standard on Quality Control 1 (ISQC Italia 1) and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Ancona Bart Bergamo Bologna Bresca Cagliari Frenze Genova Milano Napoli Padrose Parma Roma Tomno Treviso Usine Vernna Sede Legate Wa Tennona, 25 - 20144 Milano I, Capitale Sociale Funo 10.328.200,001 V. Codice Poscia-Pegistro delle morbe Milano ni 0300450166 - 8.E.A. Milano ni 170079 ji Parisa Mw Ti 03048560166

Il nome Delocte si riferiore a una o più delle segueni eredà: Delocte Touche Tohmasu Limited una società inglese a respunsabilità imissia ("DTIL"), le member firmi adirentia all'isonomiori e le erettà a esse correline. DTIL e i laccuma delle sue remittee firmi sono erentà gui endicamente regione e indiperiori tia form DTIL formamenta ample Telebiti o Gobally min Comoie; servilli al tiere. Si mina e reggire findromiatri compiletà relativa alla descrizione della struttura logiliti di Delotte Touche Tohmasu Limited a dirie suemember firmi all'indri (20 min delibiti) e removale.

© Delotte & Touche 5.p.A.

## Auditor's responsibility

Our responsibility is to express our conclusion based on the procedures performed about the compliance of the NFS with the Decree and with the GRI G4 Guidelines. We conducted our work in accordance with the criteria established in the "International Standard on Assurance Engagements ISAE 3000 (Revised) - Assurance Engagements Other than Audits or Reviews of Historical Financial Information" (hereinafter "ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and perform the engagement to obtain limited assurance whether the NFS is free from material misstatement. Therefore, the procedures performed in a limited assurance engagement are less than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not enable us to obtain assurance that we would become aware of all significant matters and events that might be identified in a reasonable assurance engagement.

The procedures performed on NFS are based on our professional judgement and included inquiries, primarily with company personnel responsible for the preparation of information included in the NFS, analysis of documents, recalculations and other procedures aimed to obtain evidence as appropriate.

Specifically we carried out the following procedures:

- Analysis of relevant topics with reference to the Group's activities and characteristics disclosed in the NFS, in order to assess the reasonableness of the selection process in place in light of the provisions of article 3 of the Decree and taking into account the adopted reporting standard.
- Analysis and assessment of the identification criteria of the consolidation area, in order to assess its compliance with the Decree.
- Comparison between the financial data and information included in the NFS with those included in the consolidated financial statements of the ERG Group.
- 4. Understanding of the following matters:
  - business management model of the Group's activities, with reference to the management of the topics specified by article 3 of the Decree;
  - policies adopted by the entity in connection with the topics specified by article 3 of the Decree, achieved results and related fundamental performance indicators;
  - main risks, generated and/or undertaken, in connection with the topics specified by article 3 of the Decree.

Moreover, with reference to these matters, we carried out a comparison with the information contained in the NFS and the verifications described in the subsequent point 5, letter a).

Understanding of the processes underlying the origination, recording and management of qualitative and quantitative material information included in the NFS.

In particular, we carried out interviews and discussions with the management of ERG S.p.A. and with the employees of ERG Power Generation S.p.A. and its main subsidiaries and we carried out limited documentary verifications, in order to gather information about the processes and procedures which support the collection, aggregation, elaboration and transmittal of non-financial data and information to the department responsible for the preparation of the NFS.

In addition, for material information, taking into consideration the Group's activities and characteristics:

- · at the parent company's and subsidiaries' level:
  - a) with regards to qualitative information included in the NFS, and specifically with reference to the business management model, policies applied and main risks, we carried out interviews and gathered supporting documentation in order to verify its consistency with the available evidence;
  - with regards to quantitative information, we carried out both analytical procedures and limited verifications in order to ensure, on a sample basis, the correct aggregation of data.
- for the following companies, divisions and sites, ERG S.p.A. and Priolo Gargallo industrial site for ERG
  Power s.r.I., which we selected based on their activities, their contribution to the performance
  indicators at the consolidated level and their location, we carried out site visits, during which we have
  met their management and have gathered supporting documentation with reference to the correct
  application of procedures and calculation methods used for the indicators.

## Conclusion

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of the ERG Group as of December 31, 2017 is not prepared, in all material aspects, in accordance with article 3 and 4 of the Decree and with the GRI G4 Guidelines.

#### Other Matter

With reference to the year ended December 31, 2016, the Group prepared a Sustainability Report, whose data were used for comparative purposes within the NFS. This Sustainability Report was voluntarily examined with a limited assurance engagement in accordance with ISAE 3000 Revised and we expressed an unmodified conclusion on April 12, 2017.

DELOTTE & TOUCHE S.p.A.

Signed by Franco Amelio Partner

Milan, Italy March 27, 2018

# **GRI-G4 CONTENT INDEX**

	GRI-G4 Indicator	References	Notes	Omission
GENERAL	STANDARD DISCLOSURE			
STRATEGY A	ND ANALYSIS			
G4 - 1	Statement from the most senior decision maker of the organisation regarding the importance of sustainability for the organisation and its strategy	4, 5		
G4 - 2	Key impacts, risks and opportunities	43-49		
ORGANISATI	ON PROFILE			
G4 - 3	Name of the organisation	28-31		
G4 - 4	Primary brands, products and/or services	8-10		
G4 - 5	Main office	6		
G4 - 6	Countries of operation	11		
G4 - 7	Nature of ownership and legal form	39, 40	For further details relating to the ownership structures and the legal form, see the matters indicated in the Report on Corporate Governance and Ownership Structures.	
G4 - 8	Markets served	11		
G4 - 9	Scale of reporting organisation	12, 174		
G4 + EU - 10	Characteristics of the workforce	138, 139, 175, 176, 177		
G4 + EU - 11	Percentage of employees covered by collective bargaining agreements	176		
G4 - 12	Description of the organisation supply chain	87-89		
G4 - 13	Significant changes in the size, organisation or company structure during the reporting period	8	No significant changes are indicated relating to the scope and the ownership structures during the reporting period. In any event, for further details with reference to these two aspects, see the matters indicated in the Consolidated Financial Statements of the ERG Group at 31 December 2017 and in the Report on Corporate Governance and Ownership Structures.	
G4 - 14	Application of the prudential approach to risk management	47-49		
G4 - 15	Externally developed economic, social and environmental charters, principles, or other initiatives to which the organisation subscribes or endorses	20, 41		
G4 - 16	Membership in associations and/or advocacy organisations	21		
G4 – EU1	Installed capacity	11, 61		
G4 - EU2	Net energy produced	61, 174, 182-184		
G4 - EU3	Number of residential, industrial, institutional and commercial customers	181		
G4 - EU5	Allocation regime for CO <sub>2</sub> emission quotas	61		

GOVERNANCE

	GRI-G4 Indicator	References	Notes	Omission
REPORT MA	ATERIALITY AND SCOPE			
G4 - 17	List of the entities included in the consolidated financial statements and of those not included in the Sustainability Report	29		
G4 - 18	Process for defining the Sustainability Report content	28, 29		
G4 - 19	Material aspects identified	30		
G4 - 20	Material aspects within the organisation	30		
G4 - 21	Material aspects outside the organisation	30		
G4 - 22	Changes of information from the previous Sustainability Report	28-31		
G4 - 23	Significant changes in terms of objectives and scope from the previous Sustainability Report	28-31		
STAKEHOLI	DER ENGAGEMENT			
G4 - 24	Stakeholder categories and groups engaged by the organisation	19		
G4 - 25	Stakeholder identification basis	19, 20		
G4 - 26	Approach to the stakeholder engagement, including frequency and types of engagement	20-27		
G4 - 27	Key topics raised by stakeholder engagement	28-31		
REPORT PR	ROFILE			
G4 - 28	Reporting period of the Sustainability Report	28-31		
G4 - 29	Date of publication of the previous Sustainability Report	28-31	The 2016 Sustainability Report was published in March 2017.	
G4 - 30	Reporting cycle	28-31		
G4 - 31	Contact persons and addresses	28-31	For any information relating to this document, see the "Contacts" section of the corporate website www.erg.eu.	
G4 - 32	GRI content index	190-196		
G4 - 33	Policy and practice concerning external assurance	186-189		
GOVERNAN	CE			
G4 - 34	Governance structure of the organisation	38-42		
G4 - 38	Composition of the highest governance body and its committees	38, 40		
G4 - 40	Processes to ensure conflicts of interest are avoided	38, 39,41	For further details relating to the appointment and selection process for the highest governance bodies and the respective committees, see the matters indicated in the Report on Corporate Governance and Ownership Structures.	
G4 - 41	Processes to ensure conflicts of interest are avoided	43		
G4 - 46	The highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics	13-15, 49		

	GRI-G4 Indicator	References	Notes	Omission
G4 - 48	The highest committee or position that formally reviews and approves the organisation's sustainability report	14		
G4 - 51	The remuneration policies for the highest governance bodies and senior executives	151-152	For further details relating to the remuneration policies, see the matters indicated in the Report on Corporate Governance and Ownership Structures.	
ETHICS				
G4 - 56	The organisation's values, principles, standards and norms of behaviour	36, 37, 50, 54		
G4 - 58	The internal and external mechanisms for reporting concerns about unethical or unlawful behaviour, and matters related to organisational integrity	54, 55		
ECONOMIC IN	NDICATORS			
Material asp	ect: Economic performance			
G4 - DMA	Generic disclosure on management approach	58		
G4 - EC1	Direct economic value generated and distributed	58		
G4 - EC4	Significant financial assistance received from government	174		
Material asp	ect: market presence			
G4 - DMA	Generic disclosure on management approach	8-11		
G4 - EC5	Ratios of standard entry level wage by gender compared to local minimum wage in most significant sites	148	Analysis carried out excluding the employees covered by the National Collective Labour Agreements (NCLA) for Metalworking and Mechanical Engineering.	
Aspect: indir	ect economic impacts			
G4 - EC7	Development and impact of infrastructure investments and services provided primarily for public benefit	107-109		
Material asp	ect: procurement practices			
G4 - DMA	Generic disclosure on management approach	87-89		
G4 - EC9	Proportion of spending on local suppliers in most significant sites	181		
Material asp	ect: research & development			
G4 - EU - DMA	Generic disclosure on management approach	86		
Aspect: avail	ability and reliability			
G4 - EU10	Planned capacity	61		
Aspect: syste	em efficiency			
G4 - EU11	Average generation efficiency of thermal plants	184		
ENVIRONMEN	NTAL INDICATORS			
Aspect: raw i	materials			
G4+EU - EN1	Raw materials used	184		-

ECONOMIC RESPONSABILITY

	GRI-G4 Indicator	References	Notes	Omission
Makadalaa				
Material asp	ect: energy			
G4 - DMA	Generic disclosure on management approach	98		
G4 – EN3	Energy consumption within the organisation	182-184		
G4 – EN6	Reduction of energy consumption	105, 183, 184		
Material asp	ect: water			
G4 – DMA	Generic disclosure on management approach	99		
G4+EU – EN8	Water withdrawal	184		
G4 - EN9	Water sources significantly affected by water withdrawal	99, 112-114, 184		
Material asp	ect: biodiversity			
G4 - DMA	Generic disclosure on management approach	100, 117		
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	100, 117		
Material asp	ect: emissions			
G4 - DMA	Generic disclosure on management approach	98, 104		
G4+EU - EN15	Direct greenhouse gas emissions (Scope 1)	184		
G4+EU - EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	105, 182-184		
G4 - EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	105		
G4 - EN18	Greenhouse gas (GHG) emissions intensity ratio	184		
G4 - EN19	Reduction of greenhouse gas emissions	105, 182, 184		
G4 - EN20	Emissions of ozone-depleting substances (ODS) by weight	182-184		
G4+EU - EN21	NOx, SOx, and other significant emissions	184		
Material asp	ect: discharges and waste			
G4 - DMA	Generic disclosure on management approach	101, 115, 116		
G4+EU - EN22	Water discharge	184		
G4 – EN23	Total weight of waste produced, by kind and way of disposal	182-184		
G4 – EN24	Significant spills	182-184		
G4 - EN25	Hazardous waste	182-184	All the hazardous waste is disposed of in duly authorised plants, not owned by the Group.	
Material asp	ect: products and services			
G4 - DMA	Generic disclosure on management approach	98-101		
G4 - EN27	Mitigation of environmental impacts of products and services	98-101		

ECONOMIC RESPONSABILITY

	GRI-G4 Indicator	References	Notes	Omission
Material as	pect: compliance			
G4 - DMA	Generic disclosure on management approach	97		
G4 - EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations		No significant monetary sanctions or non- monetary sanctions due to failure to observe environmental laws and regulations were recorded in 2017.	
Material as	pect: overall			
G4 - DMA	Generic disclosure on management approach	96		
G4 - EN31	Total environmental protection expenditures and investments by type	185		
Material as	pect: environmental assessment of suppliers			
G4 - DMA	Generic disclosure on management approach	88		
G4 - EN32	Percentage of new suppliers that were screened using environmental criteria	181		
Material as	pect: environmental grievance management mecha	inisms		
G4 - DMA	Generic disclosure on management approach	97		
G4 - EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms		No complaints were recorded in 2017 relating to environmental impacts.	
SOCIAL INDI	PATORS			
	ONIONO			
	RY: LABOUR PRACTICES AND WORKING CONDITIONS			
SUB-CATEGO!				
SUB-CATEGO!	RY: LABOUR PRACTICES AND WORKING CONDITIONS	132		
SUB-CATEGOR	RY: LABOUR PRACTICES AND WORKING CONDITIONS  pect: employment	132 178, 179		
SUB-CATEGOR Material as G4 - DMA	RY: LABOUR PRACTICES AND WORKING CONDITIONS  pect: employment  Generic disclosure on management approach  Total number and rates of new employee hires and			
SUB-CATEGOR Material as G4 - DMA G4+EU - LA1	PRY: LABOUR PRACTICES AND WORKING CONDITIONS  pect: employment  Generic disclosure on management approach  Total number and rates of new employee hires and employee turnover by age group, gender and region  Benefits provided to full-time employees that are not provided to temporary or part-time employees, by main	178, 179		
SUB-CATEGOR Material as G4 - DMA G4+EU - LA1 G4 - LA2 G4 - EU15	PRY: LABOUR PRACTICES AND WORKING CONDITIONS  pect: employment  Generic disclosure on management approach  Total number and rates of new employee hires and employee turnover by age group, gender and region  Benefits provided to full-time employees that are not provided to temporary or part-time employees, by main business area  Percentage of employees eligible to leave the	178, 179 148-150		
SUB-CATEGOR Material as G4 - DMA G4+EU - LA1 G4 - LA2 G4 - EU15	PRY: LABOUR PRACTICES AND WORKING CONDITIONS  pect: employment  Generic disclosure on management approach  Total number and rates of new employee hires and employee turnover by age group, gender and region  Benefits provided to full-time employees that are not provided to temporary or part-time employees, by main business area  Percentage of employees eligible to leave the organisation in the next five/ten years	178, 179 148-150		
Material as G4 - DMA G4+EU - LA1 G4 - LA2 G4 - EU15 Material as	Precentage of employees eligible to leave the organisation in the next five/ten years  Pect: industrial relations	178, 179 148-150 177	The minimum notice period for the operational changes adopted by ERG is compliant with the legislative provisions envisaged by national labour agreement for workers in Italy.	
SUB-CATEGOR Material as G4 - DMA G4+EU - LA1 G4 - LA2 G4 - EU15 Material as G4 - DMA G4 - LA4	Precentage of employees eligible to leave the organisation in the next five/ten years  Generic disclosure on management approach  Total number and rates of new employee hires and employee turnover by age group, gender and region  Benefits provided to full-time employees that are not provided to temporary or part-time employees, by main business area  Percentage of employees eligible to leave the organisation in the next five/ten years  pect: industrial relations  Generic disclosure on management approach  Minimum notice periods regarding operational changes (organisational changes), including whether these are	178, 179 148-150 177	changes adopted by ERG is compliant with the legislative provisions envisaged by national	
SUB-CATEGOR Material as G4 - DMA G4+EU - LA1 G4 - LA2 G4 - EU15 Material as G4 - DMA G4 - LA4	Pect: employment  Generic disclosure on management approach  Total number and rates of new employee hires and employee turnover by age group, gender and region  Benefits provided to full-time employees that are not provided to temporary or part-time employees, by main business area  Percentage of employees eligible to leave the organisation in the next five/ten years  pect: industrial relations  Generic disclosure on management approach  Minimum notice periods regarding operational changes (organisational changes), including whether these are specified in collective agreements	178, 179 148-150 177	changes adopted by ERG is compliant with the legislative provisions envisaged by national	

ECONOMIC RESPONSABILITY

	GRI-G4 Indicator	References	Notes	Omission
G4 - LA8	Health and safety topics covered in formal agreements with trade unions	121		
Material as	pect: training and education			
G4 - DMA	Generic disclosure on management approach	143-145		
G4 - LA9	Average hours of training per year per employee by gender and by professional category	175		
G4 - LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by professional category	151		
Material as	pect: diversity and equal opportunity			
G4 - DMA	Generic disclosure on management approach	130-132		
G4 - LA12	Composition of governance bodies and breakdown of employees by age and other indicators of diversity	39, 138, 139, 176, 177	For further details relating to the composition of the governance bodies, see the matters indicated in the Report on Corporate Governance and Ownership Structures.	
SUB-CATEGO	RY: HUMAN RIGHTS			
Investment	s			
G4 – HR1	Agreements and contracts that include human rights clauses or that underwent human rights screening	87		
G4 – HR2	Employee training on human rights relevant to operations	54	The e-learning training activities (course duration around 1 hour) on the Group's Code of Ethics and the 231 Models covered all the new recruits of the various Italian companies (26 individuals, equal to 100% of the new recruits, or 0.4% of the employees).	
Material as	pect: non-discrimination			
G4 - DMA	Generic disclosure on management approach	130, 131, 133		
G4 - HR3	Total number of incidents of discrimination and corrective actions taken		No episodes of discrimination were recorded in 2017.	
Material as	pect: Freedom of association and collective bargain	ning		
G4 - DMA	Generic disclosure on management approach	133, 153, 154		
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	133	Analysis was not carried out to identify, within the supply chain, situations which may highlight risks to the freedom of association and collective bargaining.	
Human righ	nts grievance mechanisms			
G4 – HR12	Grievances about human rights impacts filed, addressed, and resolved		No complaints were recorded in 2017 with regard to human rights.	
SUB-CATEGO	RY: COMPANY		<u> </u>	
Material as	pect: local communities			
G4 - DMA	Generic disclosure on management approach	107-109, 160-172		
G4 - S02	Operations with significant actual or potential negative impacts on local communities	108, 109, 160-166		

	GRI-G4 Indicator	References	Notes	Omission
Material asp	ect: anti-corruption			
G4 - DMA	Generic disclosure on management approach	50-55		
G4 - S03	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	50-55	In October 2017, the Group adopted the "Anti-Corruption System" and the "Anti-Corruption Policy" applicable to the Italian and foreign companies. The adoption by all the companies will be finalised during 2018. Each Italian company has also adopted, for anti-corruption purposes, their own Organisation and Management Model pursuant to Italian Leg. Decree No. 231/2001: 100% of the activities carried out in Italy are thus covered.	
G4 - S04	Percentage of employees that have received training on anti-corruption policies and procedures	54	The e-learning training activities (course duration around 1 hour) on the Group's Code of Ethics and the 231 Models covered all the new recruits of the various Italian companies (26 individuals, equal to 100% of the new recruits and 3.6% of the employees).	
G4 - S05	Actions undertaken in response to incidents of corruption		No cases of corruption were recorded in 2017.	
Aspect: polit	ical contributions			
G4 - S06	Value of political contributions	174		
Aspect: anti-	competitive behaviour			
G4 - S07	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes		No legal action was recorded in 2017 for anti-competitive behaviour.	
Material asp	ect: compliance			
G4 - DMA	Generic disclosure on management approach	43		
G4 - S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws or regulations		No significant monetary sanctions or non- monetary sanctions due to failure to observe laws and regulations were recorded in 2017.	
SUB-CATEGOR	Y: PRODUCT RESPONSIBILITY			
Material asp	ect: health and safety of consumers			
G4 - DMA	Generic disclosure on management approach	127-129		
G4 - PR2	Incidents of non-compliance with regulations concerning the health and safety impacts of products and services during their life cycle		No cases of non-compliance relating to the health and safety of the products and services were recorded in 2017.	

# **GLOSSARY**

# **ACCOUNTABILITY**

An organisation practices accountability when it periodically reports and discloses the results of its activities in a transparent manner.

# WIND TURBINE GENERATOR - WTG (Wind Turbine Generator)

Plant capable of transforming the kinetic energy of wind into mechanical energy, which is used in turn to generate electricity.

# **ALTERNATOR**

Electric machine that converts mechanical energy into electrical energy. Alternators are protected against malfunctions by special switchgear that connects it to the electricity grid.

# **ANEMOMETER**

Instrument for measuring wind speed. Anemometers are installed on measurement masts and measure wind speed in real time. They are also installed on the top of wind turbine's nacelles, so as to monitor the production of energy in relation to the amount of wind present on site.

# **PITCH ANGLE**

The angle between the blade of a wind turbine and the nacelle (which in turn should be parallel to the wind). As a result, it describes the angle of the blade relative to the wind, thus identifying the resistance it opposes and therefore the ability to exploit the wind to generate mechanical energy.

## **HSE AUDIT**

The set of activities carried out in order to systematically and objectively assess performance in terms of Health, Safety and Environment.

# **HUMAN CAPITAL**

The entire body of knowledge/skills and characteristics of the worker.

## UNDERGROUND CABLE

Power cable, with specific technical and constructive characteristics, used to transport electricity.

## **GREEN CERTIFICATES**

Certificates attributed on a yearly basis to energy produced from renewable sources by installations put into operation after 1 April 1999. The certificates are issued by the National Grid Operator, Gestore dei Servizi Elettrici S.p.A. (GSE) on the basis of production from renewable sources for the year (estimate based on expected or final production) and can be used to comply with the requirement to feed renewable energy to the grid in relation to the year to which it relates.

# 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.

# ISO 14001 CERTIFICATION FOR 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.

197 i

# 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. Electrical energy is also expressed as: 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.

# **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 electricity generation process using gas turbines.

# CODE OF ETHICS

GOVERNANCE

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 basis of corporate behaviour.

# **PENSTOCK**

Metal conduit that connects the load tank or the surge tank with the 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

# 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.

# **DERIVATION**

Flow diverted from a water flow to be used by a hydroelectric plant.

## **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, and the construction supports the thrust of the water with its weight and due to its specific trapezoid-shaped section.

## ARCH DAM

Barrage made of reinforced concrete, in which the forces 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.

## ALTITUDE DIFFERENCE

Height difference between the elevation of the water surface upstream and that of the downstream turbine, also called drop, measured in meters.

# **EMAS**

An Eco-Management and Audit Scheme is an instrument developed by the European Community for voluntary participation by organisations (companies, public institutions, etc.) to evaluate and improve their environmental performance and provide information to the public and other interested parties on their environmental management.

# **EUROSTAT**

Eurostat is 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.

Incentive mechanism that pays for electricity produced under an all-inclusive rate (which includes the incentive component and the component of development of electricity fed into the grid).

# **TUNNEL OR BY-PASS**

Open or closed conduit; a closed conduit can be under pressure, or open-surface such as open channels. Diversion 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

## **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 mounts.

## UNDERGROUND CABLE JOINT

The place where different sections of an underground cable are joined (reels hold between 300 and 500 meters of cable).

# GRI

# (Global Reporting Initiative)

A network/organization that has defined the world's most widely used standards for sustainability reporting. » look more in-depth on GRI website.

# **HSE**

# (Health, Safety, Environment)

An internationally recognised acronym for Health, Safety and Environment.

# IAS/IFRS

International Accounting Standards - International Financial Reporting Standards.

# **ENVIRONMENTAL IMPACT**

Any positive or negative, total or partial change to the environment as the result of the activities, products or services of an organisation.

## 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.

## SEVERITY INDEX

With reference to a given time period, it expresses the ratio between the number of days of short-term disability as a result of an injury and the number of hours worked.

# **KEY PERFORMANCE INDICATORS (KPI)**

Commonly known as KPIs, these are specific indicators to identify and measure the achievement of the company's key objectives.

# FINANCIAL LEVERAGE

Net financial debt/Net invested capital.

# 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.

# 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.

199 i

# DAM

GOVERNANCE

Day-Ahead Market - trading session on the IPEX (Italian Power Exchange) during which blocks of hours of electricity for the following day are traded.

# **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.

## **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.

## HUB

In a wind turbine, a hub is the component that connects the blades to the main shaft, to transmit the power taken from the wind. It is usually of made of steel and is protected by the nose cone.

#### 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).

# **NACELLE**

The main part of the wind turbine, located on the top of a wind tower. It contains the generator, the gearbox, brakes, the pitch control and yaw control actuators.

# **INTAKE STRUCTURE**

The location in which water is drawn upstream of a dam, from which the tunnel or derivation channel departs.

## OTC

Over the counter contracts. Contracts to buy/sell electricity agreed between parties outside the trading sessions.

## 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.

# PEOPLE FULL-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.

# HSE POLICY

A document that outlines 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 sets goals and targets.

# 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.

## FLOW RATE

Amount of water, normally expressed in m3/sec. [1,000 litres per second] used by a hydroelectric plant or by an individual turbine to generate power.

# NON-RECOURSE PROJECT FINANCING

The financing of a project where no guarantees are required from the shareholders of the company being financed.

# SUSTAINABILITY REPORT

A voluntary document that combines the financial reporting of an organization with environmental and social aspects.

## **ETHICAL RATING**

An ethical rating, or sustainability rating, is a qualitative measure attributed to an issuer and refers to topics other than financial aspects: it examines matters relating to governance, transparency, environmental impact, and other aspects of corporate social responsibility.

## REVAMPING

Significant work to modernise a facility in order to improve or change the technology used.

# DISCHARGE

Waterworks to return water to the receptor, after passing through a turbine.

## **SHAREHOLDER**

The owner of shares in a company.

# MANAGEMENT SYSTEM

The organisation, planning, responsibilities, procedures, operating practices, processes and resources to develop, implement, achieve, review and maintain control of all internal and external variables.

# 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.

# SM<sup>3</sup>

Standard cubic metres.

## SUSTAINABILITY

The ability of an organization to generate long-term value.

# **ESS**

Flectrical substation

## STAKEHOLDER

Each clearly identifiable subject who may influence or be influenced by an organisation.

# STAKEHOLDER ENGAGEMENT

The systematic involvement of stakeholders. Its goal is to discuss the organisation's mission with the various stakeholders in order to align the company's goals with their expectations.

# SUSTAINABLE DEVELOPMENT

The UN's Brundtland Report defined it as: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

# **CIP 6 FEED-IN TARIFF**

The rate paid by the GSE (Gestore dei Servizi Elettrici - National Grid Operator) to producers of electricity from sources similar to renewable sources that qualify under the provisions of CIP 6/92.

# REMOTE OPERATION

Remote management and control system of a hydroelectric plant; the remote operation room normally manages and controls all the company's plants.

# WIND TOWER

The structure that supports the mechanical parts of the wind turbine. Its purpose is purely static.

It can be a trellis or be tubular.

# **TRANSFORMER**

GOVERNANCE

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

A framework that links together financial, environmental and social performance, in order to measure the sustainable value produced by an organisation.

## ITALIAN CONSOLIDATED FINANCE ACT (T.U.F.)

The Italian Consolidated Finance Act.

## WATER TURBINE

A machine that converts the energy of water into mechanical rotation energy. A water turbine can be connected directly to machine tools, to pumps or to generators to produce electricity.

# 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 heads from 10 to 3-400 meters and medium flow rates.

# **KAPLAN TURBINE**

A water turbine which exploits small heads, up to a few tens of meters, but with large flow (from 200/300 m3/s up). Structurally, it is a propeller placed along the water flow, in which the angle of the blades can be adjusted to optimize the turbine's efficiency.

# **PELTON TURBINE**

An optimized turbine to generate power by harnessing big (over 300 m) and small (less than

50 m3/s) heads. It is typically used for power stations fed by Alpine hydroelectric reservoirs.

## LOAD TANK

A small basin at the end of the derivation 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.

## **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.

## EIA

# (Environmental Impact Assessment)

Preliminary procedure by means of which the environmental consequences of a project are assessed prior to implementation.

# 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.

# VISION

Highlights what and where an organisation wants to be in the future. The vision determines the criteria that inspire the entire strategic planning process of the company.

## YAW

Yaw angle: the angle between the direction of the wind and the direction of the wind turbine's nacelle. A zero-degree yaw angle denotes perfect alignment.

# ERG S.p.A. - March 2018

# Drafted by

Sustainability sustainability@erg.eu

Corporate Image communication@erg.eu

Graphic design Kulta - Genoa and Milan

Layout Type & Editing - Genoa

Copywriting Lundquist - Milan

Printed on FSC certified paper



ERG S.p.A.
Torre WTC
via De Marini, 1 - 16149 Genoa
Phone +39 010 24011

www.erg.eu

Share Capital EUR 15,032,000.00 fully paid F.C./Comp. Reg. Genoa 94040720107 VAT 10122410151

