SUSTAINABILITY REPORT

2016

Terna
TERNA GROUP

Transmitting energy

SUSTAINABILITY REPORT

2016

Terna
TERNA GROUP

Contents

Letter of the Chairwoman and the Chief Executive Officer

The Sustainability Report that we are presenting provides further information about the positive results achieved by the Terna Group in 2016 in terms of sustainability and displayed in the Group's Integrated Report. In line with the last years, the contents of this Letter are similar to those which introduce the Financial Statements, in the belief that performance in sustainability, as well as in operations and financial and economic aspects is central for stakeholders in understanding and evaluating Terna's progress and prospects.

We are proud to present you solid results for 2016, confirming that Terna is well on track to achieve 2017-2021 Strategic Plan targets.

As you know, the electricity market is changing rapidly driven by new challenges such as decarbonisation, market efficiency and security of supply, which have been included into specific targets by the European Commission to ensure that Europe will have secure, affordable and climate-friendly energy.

Terna, thanks to its positioning at the heart of the Italian electricity market, can play a strategic role, facilitating the energy transition towards a more efficient and cleaner energy production and guarantying security of supply at the lowest price for families and enterprises.

We have planned €4bn of investments in the next five years on the national electricity grid to enable this energy transition with an annual average increase of 30% vs the old plan. The new capex plan has been developed according to the new cost-benefit analysis (CBA 2.0) which includes significant Environmental and Social KPIs thus granting higher sharing of value creation with relevant stakeholders.
As a consequence, our regulated asset base (RAB) will continue to show a positive trend, with 2% annual growth, reaching €15.6bn in 2021.

Innovation will be crucial on this path and is becoming more and more significant within our business plan targets. Our commitment is taking up this challenge through the adoption of a model based on partnerships with start-ups & small enterprises, academy & research centres, and our suppliers.

We aim to turn these new market trends into strategic initiatives with a strong commitment to a sustainable approach and always leveraging on our core competencies and talents.

We are also enhancing our commitment to Non-Regulated Activities, where the annual EBITDA contribution will increase by 40% on average vs the old plan, for a cumulated target of €350mn in 5 years.

With regard to dividends, the policy presented in the previous Plan has been confirmed and extended to the broader 2017-2021 period, with an annual 3% dividend growth, in line with the expected earnings' evolution.

Those targets are based on solid results, as the past growth trend was confirmed also in 2016.
Indeed Revenues were up by 1% year on year - at €2.1bn and EBITDA and Group Net Income increased reaching €1,545mn and €633mn respectively.
Thanks to the strong cash flow generation, Net Debt decreased vs last year, and is now just below 8€bn. This is the first net debt reduction year-on-year since the IPO.

Financial performance is well supported by ESG results, which are strategic for our business model.
In 2016, Terna further improved its environmental and social performance. Most notably, the leakage rate of the greenhouse gas SF_6 dropped to an unprecedented 0.39%, contributing to a 7.2% reduction in the Group's direct CO_2 emissions. Grid development made it possible to remove 290 km of old lines (904 km since 2010) with positive effects on land use and improved visual impact. Investment in human capital is well represented by the level of employee training, which increased to 61 hours per capita (56 in 2015), well above the average for FTSE MIB listed companies. As for integrity in business conduct, Terna has become the first Italian company to be ISO37001 certified for its sound anticorruption practices.

We are perfectly aware of the impacts of our decisions on communities. With its pivotal role in the Electricity System, Terna has to guarantee quality of service for final consumers at the lowest price. Our commitment is to reach this objective while improving our environmental and social performance as well, in line with our participation in the UN Global Compact. We communicate with all stakeholders, such as national authorities, municipalities, unions and associations, in order to align the interests of the Company to social needs. This is essential to drive long-term sustainable value creation for shareholders as well as growth and prosperity for all stakeholders.

The Chairwoman
CATIA BASTIOLI

The Chief Executive Officer
MATTEO DEL FANTE

2016 REPORT - SUMMARY

2016 Report - Summary

About Terna

The Terna Group has its headquarters in Rome and is the owner of the Italian National Transmission Grid (NTG), with 66,366 km of electricity lines (more than 72,000 km of circuits), 855 transformer substations, and 25 lines interconnecting with foreign grids (data at 31 December 2016). In its roles as the Italian TSO (Transmission System Operator), Terna is responsible for transmitting and managing electricity flows on the high-voltage and very-high-voltage grid throughout the whole of Italy to maintain balance between the demand and supply (dispatching), as well as for developing, maintaining and integrating the national transmission grid within the European grid.
It acts as the Italian TSO with a monopoly under a government licence in accordance with the regulations of the Italian Regulatory Authority for Electricity, Gas and Water (AEEGSI) and the guidelines of the Ministry of Economic Development (MED).
In addition to this, Terna develops initiatives within the business areas that it operates, under market competition, by leveraging the technical competencies of its core business and innovation.
Terna manages its business by placing great importance on possible economic, social and environmental consequences and adopts a sustainable approach in order to create, maintain and strengthen a relationship of mutual trust with its stakeholders, in order to create value for the business and for the stakeholders themselves.
The Terna S.p.A. holding company is listed on the Borsa Italiana electronic market and, with approximately € 9 billion, is one of the leading Italian companies in terms of stock-market capitalisation.

Highlights

Operating performance

ASA 99.99%

This figure - just under 100% as in past years - represents 100% completion and confirms the high quality level of the services provided by Terna.

34% of Italian requirements covered by renewable sources

In line with the 2015 figure and the 2020 European target, also due to grid development carried out by Terna

Interconnection capacity: 8.9%

Up from the 8% seen in 2015. Moving forward towards the 10% objective set by the European Community for 2020.

Main new lines in operation

Sorgente – Rizziconi

Villanova -Gissi

Environmental performance

Demolished Lines: 290 km

904 kilometres of lines removed since 2010

SF_6 leakage rate:

0,39%

Leakage of the greenhouse gas SF_6, relative to the quantity of the gas installed, constitutes the main direct source of CO_2 by Terna, and saw its lowest value ever.

Carbon intensity:

65.0 tonnes of CO_2 per € /million

Down with respect to both 2015 (65.9) and 2014 (72)

Waste reuse/recycling:

93%

Up with respect to both 2015 (92%) and 2014 (81%)

Social performance

Training:

61 hours per capita

Up with respect to 2015 (56 hours per capita) and well above the average of the 40 companies on the FTSE MIB, which in recent years has hovered around 30 (30.2 in 2015, the most recent available figure)

Occupational injuries:

no serious or fatal injuries

Continuing the results seen in the previous two years

Staff turnover:

1.5%

In line with the trend prior to 2015 - a year which involved an extraordinary generational turnover project (13.8%) - and lower than the average for other companies included in the comparison group.

Economic-financial performance

Revenue	EBITDA	Group net income	Investments	Net payables
2,103.2 €/mln +1.0%	**1,544.7 €/mln** +0.4%	**633.1 €/mln** +6.3%	**854.3 €/mln** (-22.6%)	**7,958.9 €/mln** (-0.5%)

Stock performance and shareholder return

Total Shareholder Return:

429%

of the listing

Dividends

0.07 €/share

Advance 2016

0.13 €/share

2016 balance proposed to the Shareholders' Meeting

Significant Events

January

22 In keeping with its recognition as "Industry Leader" in the Electric Utilities sector of the Dow Jones Sustainability Index, Terna was included in the **Gold Class of "RobecoSAM – Sustainability Yearbook 2016".**

February

127 As part of the electrical grid reorganisation in the Florentine area, works began to **remove 17 pylons** from an old line that crosses the Florentine hills of Pian dei Giullari, Arcetri and Monte alle Croci, an area of remarkable landscape and cultural importance.

March

20 The Terna Board of Directors approved the results as at 31/12/2015. The Report on Operations also constitutes the Group's **Integrated Report**. The **Board simultaneously approved the Sustainability Report**, which has now reached its eleventh edition.

117 Terna established the **Strategy and Development Division** tasked with analysing the development of the electricity system, assessing impacts and opportunities for the Group, developing international business and Non-Regulated Activities within Italy, coordinating the Group's Regulated and Non-Regulated Activities, drafting the Development Plan of the NTG and the Security Plan for the National Electricity System, as well as managing relationships with domestic regulatory bodies and authorities.

April

55 The new **"Public Contracts Code"** came into force, which introduces new principles aimed at strengthening respect for the law, transparency, simplification and consideration for sustainability issues, both when assigning public tenders and identifying suppliers. The Code applies to Terna.

May

106 The new **Sorgente-Rizziconi** undersea electricity line connecting Sicily to the continent became operational, with benefits expected in terms of a reduction in the price spread between Sicily and South Italy, in CO_2 emissions in the atmosphere (-700,000 tonnes/equivalent per year) and visual impact thanks to the dismantling of 114 km of obsolete lines.

91 **NEXT ENERGY** began, a project created by Terna in partnership with the Fondazione Cariplo and implemented by Cariplo Factory to enhance young talent and support innovative development projects in the electrical field.

June

82 **Partnerships with Legambiente, WWF Italia and Greenpeace** were renewed and extended in order to continuously improve environmental sustainability of the National Transmission Grid and promote a culture of sustainability.

23 Terna confirmed in the **FTSE4Good** sustainability indices.

July

164 Terna wins Confindustria and INAIL's **"Companies Safety Prize"**: awarded based on the level of maturity in adopting international best practices in regards to safety.

47 IMQ, the independent body for **Quality, Environment and Occupational Health and Safety Certification**, successfully concluded its audit on a sample basis of Terna S.p.A., Terna Rete Italia S.p.A. and Terna Gora, in order to evaluate compliance of the business activities with requirements per the standards of Quality, Environment and Safety and the activities of the Terna Group with third parties.

August

91 Panels worked to evaluate more than 200 applications received from engineering graduates and teams of innovators via the two calls of **NEXT ENERGY**.

September

22 For the eighth consecutive year, Terna was included on the **Dow Jones Sustainability Index**. With a score of 97/100 Terna was placed at the top of the Electric Utilities sector within the environmental component. Only 6 Italian companies are present within the index.

23 Terna's presence on the **STOXX® ESG** indices was confirmed for the sixth consecutive year.

123 The first edition of **NEXT ENERGY** officially began with the "**Innovation Days**" at Cariplo Factory, which selected 10 teams of innovators for the accelerated 6-month course. At the beginning of October, CEO Matteo Del Fante welcomed the 15 engineering graduates selected for a 6-month internship at the company.

October

50 A year on from the launch, the new extended version of the **"Open, Transparent Works"** web space went on-line, which can be accessed from any device. In November the integrated communications campaign for this initiative obtained the Assorel Award (Associazione italiana delle Agenzie di Relazioni Pubbliche - Italian Association of Public Relations Agencies).

75 New **Terna – Italian Finance Police agreement** that reinforces and extends the agreement signed in 2009, introducing **"Grid security"**, a joint programme based on new integrated security solutions.

November

116 The **Codrongianos electricity hub** (SS), the largest battery site on the continent and the storage plant with the most technology worldwide, was inaugurated.

22 The fifth consecutive inclusion in the **Euronext** sustainability indices, created in 2012 by the Vigeo Eiris sustainability rating agency.

December

145 Confirmed certification of the Corporate Energy Management System in accordance with the UNI CEI EN ISO/IEC 50001:2011 standard.

Start of 2017

50 On the 31 January 2017 Terna was the first Italian company to obtain certification for its anti-corruption management system in line with the new international ISO 37001:2016 standard - Anti-bribery management systems.

Results and Objectives

The results obtained by the Terna Group in 2016, which are described in this Report, are based on the guidelines of the Strategic Plan, the multi-year planning document that is approved by the Board of Directors every year and presented to analysts as part of a dedicated event. The Strategic Plan has been supported by additional tools, including the Sustainability Plan and the three-year Innovation, Research and Development Plan, which was published for the first time in 2015 and extended in 2016 (for details see the relevant box on page 117).
Sustainability is the common denominator that represents a crucial driver, especially for medium and long-term objectives.
The Sustainability Plan contains the Terna Group's biannual objectives on environmental, social and relational issues concerning stakeholders.
The Plan identifies the relevant activities in order to systematise business growth from a sustainability perspective, with the aim of:

- Ensuring a gradual and continuous long-term improvement of Terna Group sustainability performance to integrate and support the business objectives set forth in its Strategic Plan
- Protecting and consolidating the reputational capital of the Group, with specific reference to investors attentive to aspects of sustainability and, more generally speaking, in line with Model 231 and Italian Law 262

The sustainability plan 2015–2016 also invokes the main objectives stated in other documents, particularly the Plan of Engagement, which collects the initiatives to be achieved in order to structure awareness of stakeholders' opinions and expectations, assess the fulfilment thereof and maintain an appropriate level of dialogue (see page 62).
The 2015–2016 Sustainability Plan is divided into four sections: main objectives, supporting projects (annual activities that respond to specific purposes, for example, improvements that emerged from examining sustainability rating agencies' questionnaires), improved reporting and internal awareness raising.
In relation to the targets of the Sustainability Plan for 2016, the following results were achieved:

- the review of the materiality matrix, the creation of the first annual monitoring of the state of relations with stakeholders
- the identification of KPIs that are in line with the materiality analysis, already used in this report and in the Integrated Report. Some of these KPIs will also form the foundation of the new Sustainability Plan
- the creation of a cycle of four seminars for senior managers and a selection of Terna junior executives on the main problems concerning social (inequality) and environmental sustainability (climate change, loss of biodiversity)
- the creation of the NEXT ENERGY project with the Cariplo Fondazione, as part of the Cariplo Factor, which uses innovation topics to support youth employability and entrepreneurship

In addition to these main results, we also note the definition and adoption of the guidelines and operating instructions:

- "Recommendations for the energy efficiency of Terna buildings" (LG029)
- "Organisation of Occupational Health and Safety within Terna Group activities abroad" (LG055)
- "Selection of projects and methods of implementation" for the installation of artificial nesting boxes as part of biodiversity protection activities (IO106SR)

Lastly, active participation in the International Integrated Reporting Council Business Network continued, to consolidate and refine the experience gained in preparing the Integrated Report.
The table below shows the degree of achievement of the objectives published in the 2015 Sustainability Report.

AREA OF RESPONSIBILITY	2016 OBJECTIVES	2016 RESULTS	2017 OBJECTIVES
Governance and general considerations	The first annual monitoring of the state of relations with stakeholders.	●●●	Execution of annual stakeholder monitoring.
	Review of the Materiality Matrix.	●●●	Drafting of a new Sustainability Plan.
	Definition of a standard of involvement for local communities affected by grid development projects and its first implementation.	●●○	Adoption of the standard in grid development work.
	Review of the matrix used to identify significant areas for ESG purposes.	●●○	Update of the matrix.
Environmental responsibility	Definition of targets for key environmental impact KPIs.	●●●	Maintain SF_6 leaks below 0.6%.
	Conclusion of the LCA study on overhead power lines.	●●●	LCA study on direct-current transformer substations.
	Construction of the Turin site with high standards of energy performance.	●●●	Increase in energy efficiency: 70% of the main buildings (cubage) in classes A-C by 2020.
Social responsibility	Implementation of social project with Fondazione Cariplo.	●●●	Continuation of cooperation with Fondazione Cariplo.
	Conclusion of training/ awareness-raising campaign on environmental near misses and safety.	●●○	At least 50 hours of training per capita per year on average 2016-2017.
	Series of seminars on sustainability aimed at senior managers and an on-line course on sustainability.	●●●	Training campaign on the Code of Ethics, Anti-Corruption and Whistleblowing.

Key

Objective achieved	●●●
Partly achieved	●●○
Postponed or suspended	●○○

Sustainability Indices

Terna's constant commitment to improving its ESG (Environmental, Social and Governance) performance shows in its sustainability ratings as reported by specialist companies, its inclusion in the main international stock exchange sustainability indexes and the appreciation of socially responsible investors.
During the course of 2016, Terna's membership of all the main international, quoted sustainability indices was confirmed.
In January 2017 RobecoSAM, the international rating agency that conducts assessments annually to determine the composition of the Dow Jones Sustainability Index, published its "Sustainability Yearbook 2017", which listed Terna amongst its Silver Class, due to its score that was close to the industry leader in the Electric Utilities sector.
The evaluation obtained from sustainability ratings offers important indications on areas of improvement and strengths, which are particularly important as they are the result of comparative analysis conducted by independent agencies.

TERNA'S PRESENCE IN SUSTAINABILITY INDICES (AS OF 31.12.2016)

INDEX	INDEX FEATURES
DOW JONES SUSTAINABILITY INDEX	The DJSI indices select the companies with the best sustainability performance among those most highly capitalised (approximately the top 300 out of 2,500 in the world for the index) according to the ratings calculated by the RobecoSAM agency. This index was considered the most reliable by the "Rate the raters" survey conducted in 2013 by GlobeSCAN SustainAbility on a group of around 700 qualified sustainability experts representing 70 countries.Terna has been included in the DJSI World since 2009.
ECPI	Carried out by ECPI – an Italian agency founded in 1997 specialising in ratings, sustainability indices and research for integrating non-financial information into investment processes – based on its own analyses of the sustainability performance of European companies. Terna has been included since 2007.
ETHIBEL SUSTAINABILITY INDEX (ESI)	The indices are calculated on the basis of ratings provided by the Vigeo agency. Inclusion is subject to approval by the Ethibel Forum, a panel of independent experts on the different aspects of sustainability. Terna has been included in the ESI since 2009.
EURONEXT VIGEO	Calculated by the Vigeo rating agency, these indices are made up of companies listed in the North American, Asian and European markets and included in the STOXX® 1800 benchmark. Vigeo's new ESG indices are prepared on the basis of a methodology using more than 330 key indicators and 38 sustainability criteria. Terna is present in the World 120, Eurozone 120 and Europe 120 baskets. Terna has been included on the indices since 2012, the year they were introduced.

INDEX	INDEX FEATURES
FTSE ECPI	Introduced in 2010, and based on the analyses of ECPI, these are the only sustainability indices that include solely companies listed on the Italian Stock Exchange. Terna has been present on the FTSE ECPI since 2010.
FTSE4Good	The FTSE4Good indices include the best companies in terms of sustainability performance on the basis of FTSE analyses. The index is reviewed twice per year, in March and September. This index was considered among the most reliable by the "Rate the raters" survey conducted in 2013 by GlobeSCAN SustainAbility. Terna has been continually present on the index (Global and Europe baskets) since 2005.
MSCI GLOBAL SRI GLOBAL SUSTAINABILITY	MSCI has integrated the original KLD indices – which were among the first to trace the non-financial performances of companies and still constitute one of the most highly regarded references in the United States – with other sustainability indices. Terna stock has been continually present on the index since 2007.
STOXX® ESG	Launched in 2011, these indices are calculated on the basis of the assessments of the rating agency Sustainalytics and select the best stocks for ESG performance (around 350) from among the 1,800 present in the general STOXX® Global index. To be included in the Global ESG Leaders Index, it is necessary to be included in at least one of the 3 specialised indices (Global Environmental Leaders, Global Social Leaders and Global Governance Leaders). Terna is the only Italian utility company included in all three. Terna has been present on the index since 2011.
STOXX® LOW CARBON	Launched in February 2016, the STOXX® Low Carbon Indices aim to provide a selection of firms characterised by low CO_2 emissions. The selection of firms is based on data collected by CDP (Carbon Disclosure Project). The Index components are selected from the STOXX® Global 1800 basket based on their carbon intensity data (Scope 1 and Scope 2 of the GHG Protocol on revenue).
UNITED NATIONS GLOBAL COMPACT ("GC100")	Established in 2013 from the United Nations Global Compact in partnership with the research firm Sustainalytics, this index includes 100 companies that have distinguished themselves on the world stage for their focus on sustainability issues and their performance in the financial sector and which adhere to the ten fundamental principles of the United Nations on human rights, labour, the environment and anti-corruption issues. Terna has been present on the index since 2013.

Terna was also selected in some "Investment registers" based on selective sustainability criteria; especially when public, these act as a reference for investors concerned with ESG performance. These registers include those compiled by: Ethibel, ASN Bank, TRIODOS Bank and Storebrand.

Structure of the Report

The arrangement of the 2016 Report – although in compliance with GRI-G4 guidelines – departs from previous editions to adopt a thematic layout that is more coherent with the one used in the Integrated Report, inspired by the framework implemented by the IIRC in 2013.
The first chapter, "2016 Report - Summary" acts more and more like an executive summary of the entire Report and, as such, contains the highlights, significant events and results and objectives of the year in order to offer a clear and comprehensive view of the year in question in just a few pages.
The "Terna Company Profile", in line with the "Integrated Report", has been enhanced with elements from the electricity context and introduces large cross-cutting issues for the entire Group. In addition to sustainability, it also includes innovation, governance, risk management, protection of the law, corruption prevention and, lastly, the supply chain.
The content of the "Relations with stakeholders" chapter has been extended with respect to previous reports. For each individual category of stakeholder the economic components that characterise the relationship are highlighted, next to a description of the most relevant activities that year. This was previously given in a separate chapter ("Economic Responsibility") which has been removed.
The Report includes five chapters dedicated to the "Electricity Service", the "Environment" and "Personnel". In order to make the Report easier to read, the information regarding the GRI-G4 indicators is signalled by the related code in the margin of the text, next to the relevant passages or next to the title if the entire section is considered relevant.
As in the 2015 edition, environmental data (consumption of electricity, natural gas, water and fuel) and social statistics (injuries) regarding the Tamini Group are published separately. The data are shown in the "Key indicator tables" on page 209.
The Report concludes with an "Annex" section that includes the "Key indicator tables" with a summary of the GRI-G4 indicators supplemented by additional indicators, the "GRI Content Index" with two tables including the GRI-G4 indicators and the Global Compact indicators in the first and the SDG's targets and GRI-G4 indicators in the second, as well as the "methodological note"; for the meaning of technical terms specific to the electricity industry, see the Glossary on the website www.terna.it on the "Tools" page using the following link: http://www.terna.it/en-gb/sostenibilità/strumenti.aspx.

Reading Approaches

This year, once again, the interests of the various Terna stakeholders regarding the passages in the Report that concern them most directly has guided some editorial choices, the most important information being found in the information boxes and comparisons. Sections, or in some cases, entire chapters dedicated to stakeholder issues permit an alternative layout compared to the normal division of the Report. In particular, we note:

Stakeholder

Capital

Global Compact Principles

Information Boxes

Comparisons

Webography

The links for the main corporate documents referred to in the Report can be found below.

- Development Plan:
  http://www.terna.it/default/Home/SISTEMA_ELETTRICO/piano_sviluppo_rete.aspx
- Grid Code:
  http://www.terna.it/default/Home/SISTEMA_ELETTRICO/codice_rete.aspx
- European Network Codes:
  http://www.terna.it/default/Home/SISTEMA_ELETTRICO/codice_rete/Codici_rete_europei.aspx
- Strategic Environmental Assessment (SEA):
  http://www.terna.it/default/Home/SISTEMA_ELETTRICO/valutazione_ambientale_strategica.aspx

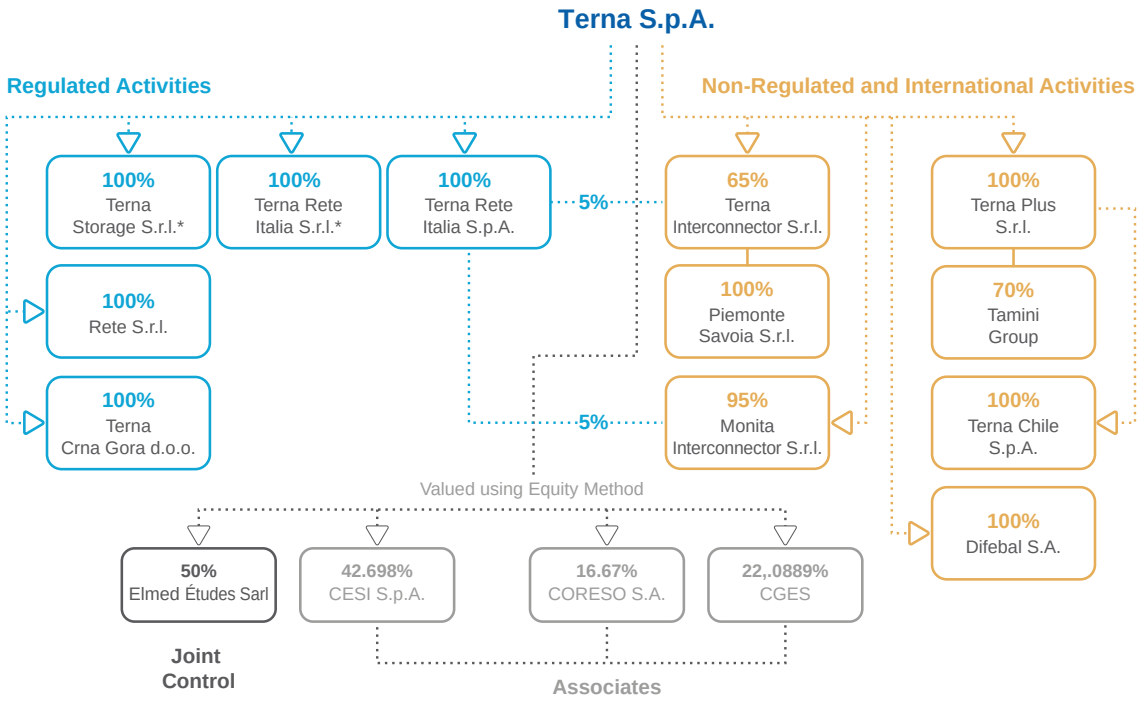
TERNA COMPANY PROFILE

TERNA COMPANY PROFILE

The Terna Group: Structure and Business

Corporate Structure

The Group's corporate organisation is mainly made up of the holding, Terna S.p.A., which owns two wholly-controlled operational companies: Terna Rete Italia S.p.A. and Terna Plus S.r.l.. The full details of the organisational structure at 31 December 2016 are provided below.



* On 15 December 2016, the Board of Directors of Terna S.p.A. resolved the merger by incorporation into TERNA.

With respect to 31 December 2015, the changes to the Group's organisational structure regard the acquisition by the parent company Terna of the Uruguayan company, "Difebal S.A.", with a share capital of $U 140,000.00 (Uruguayan pesos), on 13 October 2016. With reference to associate companies, it should be noted that as at 28 October 2016, following the Spanish TSO REE's entry into the shareholding structure of CORESO S.A., Terna reduced its stake to 16.67%, in proportion to the other shareholders by transferring a share of the stock held.
It should be noted that, as part of the programme for corporate simplification of the Group, on 15 December 2016, the Board of Directors of Terna S.p.A. resolved the merger by incorporation into Terna S.p.A. of the companies Terna Rete Italia S.r.l. and Terna Storage S.r.l. by the approval of the Merger Project drafted by the Board of Directors of Terna S.p.A. on 12 October 2016. The objective of the merger is to improve the operations of the Terna Group companies, increasing their synergies, through a reorganisation aimed at simplifying the shareholding chain and at pursuing greater management efficiency and reducing administrative costs. The merger is expected to be completed by the end of the next financial year.
The parent company Terna S.p.A. holds the government concession for the transmission and dispatching of electricity and 80.13% of the NTG (considering the portions held by the subsidiaries Terna Rete Italia S.r.l. and Rete S.r.l., detailed below, the Group holds 99.59% of the NTG). It is responsible for defining the NTG Development Plan and its Defence Plan.
As regards the other companies:

- four Italian full subsidiaries and one foreign full subsidiary operate in Regulated Activities
- seven direct or indirect subsidiaries operate in Non-Regulated Activities
- four associates or companies under joint control provide services and studies or other strategic activities

ASSOCIATES OPERATING IN REGULATED ACTIVITIES

Company	Business/Characteristics
Terna Rete Italia S.p.A.	Conducts all regulated operating activities, ordinary and extraordinary maintenance, the management and performance of work on developing the NTG.
Terna Rete Italia S.r.l.	Owns approximately 10.75% of the NTG infrastructures.
Rete S.r.l.	Acquired during 2015 from Gruppo Ferrovie dello Stato Italiane, it owns 8.71% of the NTG infrastructures.
Terna Storage S.r.l.	Designs and creates diffused energy storage systems.
Terna Crna Gora d.o.o.	Montenegrin company that is engaged in constructing the Italy-Montenegro electricity interconnection on the Montenegrin side.

ASSOCIATES OPERATING IN NON-REGULATED ACTIVITIES

Company	Business/Characteristics
Terna Interconnector S.r.l.	Develops and constructs private infrastructures for interconnections with enterprises abroad.
Piemonte Savoia S.r.l.	Owner of the private Italy-France interconnection under construction, to be operated under the Interconnector system (Italian Law 99/2009).
Monita Interconnector S.r.l.	Constructs and manages the Italy-Balkans Interconnection within the Interconnector Project.
Terna Plus S.r.l.	Develops new activities and business opportunities on the Italian non-regulated market and the construction and management of High-Voltage infrastructures in Italy and abroad.
Tamini Group	The Group operates in the production and sale of industrial and power electricity transformers using six manufacturing facilities, all situated in Italy, in Legnano, Melegnano, Novara, Valdagno, Ospitaletto and Rodengo.
Terna Chile S.p.A.	Chilean company that manages the planning, construction and maintenance activities of electrical infrastructures, including those for interconnection.
Difebal S.A.	Uruguayan company that manages the planning, construction and maintenance activities of electrical infrastructures.

ASSOCIATE OR COMPANY UNDER JOINT CONTROL

Company	Business/Characteristics
CESI S.p.A.	Pure and applied research for progress in the electrotechnical, energy, electronic and information technology sectors.
CORESO S.A.*	Belgian company that manages the preparation of daily forecasts and real-time analyses of energy flows in Central and Western Europe, identifying possible critical issues and duly informing the TSOs concerned in a timely manner.
CGES**	TSO of the Montenegro electricity market. Investment purchased under the scope of the Italy-Balkans Interconnection project.

Company	Business/Characteristics
Elmed Etudes Sarl* **	Entity under joint control of Terna, together with the Tunisian company STEG for the creation of studies preparatory to the construction of the works necessary for connection between the Tunisian electricity grid and the Italian one.

* Belgian service company. The shareholding structure includes Terna, the operators of France (RTE), Belgium (Elia) and Great Britain (National Grid), with 20% each, and the German operator, 50Hertz Transmission, with 10%.
** Crnogorsk Elektroprenosmi Sistem AD.
*** Subject to joint control together with the Tunisian company STEG.

STAFF AND REVENUE ACCORDING TO COMPANY (AS AT 31.12.2016)

REGULATED ACTIVITIES

Company	Employees	Revenue (€ million)
Terna S.p.A.	465	1,779.6
Terna Rete Italia S.p.A.	2,986	405
Terna Rete Italia S.r.l.	0	184.3
Rete S.r.l.	0	54.8
Terna Storage S.r.l.	0	0.8
Terna Crna Gora d.o.o.	5	0

NON-REGULATED ACTIVITIES

Company	Employees	Revenue (€ million)
Terna Interconnector S.r.l.	0	37.6
Piemonte Savoia S.r.l.	0	0
Monita Interconnector S.r.l.	0	0.1
Terna Plus S.r.l.	17	17.3
Tamini Group	396	111.9
Terna Chile S.p.A.	0	2.2
Difebal S.A.	0	0

ASSOCIATES			
Company		Employees	Revenue (€ million)
CESI S.p.A. *	▷	653	119.0
CORESO S.A.	▷	35	9.2
Elmed Études	▷	0	0
CGES	▷	329	30.2

* Figures for financial year 2015

Taxes Paid Abroad

With regard to the taxes paid abroad by the subsidiaries of the Group in 2016, we note the following:

- **Terna S.p.A.**: with reference to the Greek branch of the parent company, income taxes were paid in Greece totalling € 2,868,658
- **Terna Plus**: in the context of the foreign initiatives carried out by the Group subsidiary dedicated to non-regulated activities, note the withholdings carried out at the source by Terna Plus in 2016 (€ 17,333), at the time the price adjustment envisaged upon connection of the line was received, relative to the work order transferred by the subsidiary in 2014
- Investments carried out by **Terna Crna Gora** in 2016 in Montenegro territory amounted to € 43,139,131 for design, supplies and labour, in line with forecasts of the construction contracts for the implementation of the project. Specifically, during 2016 the second portion of undersea cable was lain in Nexans, and laying of terrestrial cables began. Note also that a building permit was received for the cables, and documentation for the substation building permit was delivered (received in January 2017)
  Relative to the income statement for financial year 2016, the company did not record any revenue and posted losses of € 666,436. Therefore, no income taxes were paid to the Montenegro state on Montenegro territory. Relative to other taxes, in 2016 the company paid property taxes totalling € 29,668 (of which € 25,989 in the municipality of Kotor with reference to lands owned, and the remaining portion in the municipality of Podgorica with reference to the property used as the company's offices)
- **Tamini Group:** € 3,494,443 was recognised, mainly for import duties (€ 1,136,735), value added tax (€ 1,395,578) and excise duties (€ 492,837)
- **Terna Chile:** in April 2016, the Chilean subsidiary of the Group paid valued added tax totalling 16,501,901 Chilean pesos.

Corporate Governance System

Terna's corporate governance system aims to create value for its shareholders. This objective is pursued while being aware of the social and environmental importance of the activities carried out by the Group and the subsequent requirement to adequately consider all the interests involved when performing said activities.
In this regard, the most authoritative reference concerning sustainability is the Code of Ethics.
The governance system is essentially in line with the principles found in the Corporate Governance Code[1,2] of listed companies which Terna has adopted, with the recommendations drawn up by CONSOB on the subject and, more generally, with international best practices that the Company adheres to.

(1) December 2011 edition, updated in July 2015 and accessible on the Borsa Italiana S.p.A. website at http://www.borsaitaliana.it/comitato-corporate-governance/codice/2015clean.pdf.
(2) The Code was drawn up by the Corporate Governance Committee of the listed companies promoted by ABI, ANIA, Assonime, Assogestioni, Borsa Italiana and Confindustria, last updated in July 2015).

The current structure of the Board of Directors provides for a sole Chief Executive Officer to whom the Board attributed the mandates in a resolution on 27 May 2014 defining their content, limitations and any specific methods.
The activities of the Board of Directors are co-ordinated by the Chairman/Chairwoman. In its resolution on 27 May 2014, the Board of Directors assigned the Chairwoman, Catia Bastioli, the official role of representing the Company, guiding and directing the activities of the Board, and promoting and acting as advisor for CSR (corporate social responsibility), as well as supervising the activities relative to the holding in "CESI - Centro Elettrotecnico Sperimentale Italiano Giacinto Motta S.p.A.", jointly with its Chief Executive Officer.
The Board of Directors is comprised of nine members, whose mandate will end upon approval of the budget for the 2016 financial year.

BOARD OF DIRECTORS

SHAREHOLDERS' MEETING

Board of Directors

CHAIRWOMAN
Catia Bastioli

CHIEF EXECUTIVE OFFICER
Matteo Del Fante

SECRETARY
Filomena Passeggio

DIRECTORS

Cesare Calari		●		
Carlo Cerami	●	○	○	
Fabio Corsico	○			○
Luca Dal Fabbro		○	●	
Yunpeng He				
Gabriella Porcelli	○			○
Stefano Saglia			○	●

● Remuneration Committee - Chairman
● Audit and Risk, Corporate Governance and Sustainability Committee - Chairman
● Appointments Committee - Chairman
● Related-Party Transactions Committee - Chairman
○ Members of the Committees

Board of Statutory Auditors

CHAIRMAN
Riccardo Enrico Maria Schioppo

STANDING AUDITORS
Vincenzo Simone
Maria Alessandra Zunino de Pignier

ALTERNATE AUDITORS
Raffaella Annamaria Pagani
Cesare Felice Mantegazza
Renata Maria Ricotti

Audit Company

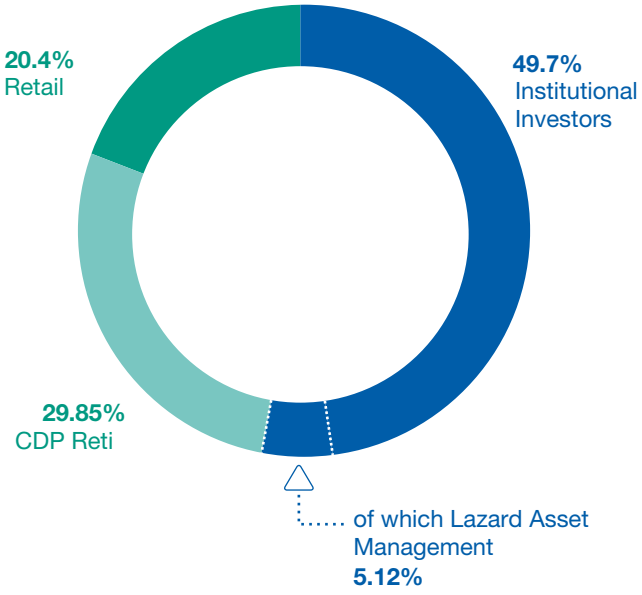
PricewaterhouseCoopers S.p.A.

Further information on Terna's corporate governance can be found in the "Report on Corporate Governance and Ownership Structures", which was approved by the Board of Directors on 15/03/2017 and is available on the Company's website www.terna.it in the "Investor Relations" section.

Ownership Structure

As of reporting date, Terna S.p.A.'s share capital amounted to € 442,198,240, represented by 2,009,992,000 ordinary shares, with a par value of € 0.22 each fully paid-up.
On the basis of the shareholder register and other information gathered, ownership of Terna S.p.A. is shown in the graph below.

SHAREHOLDING STRUCTURE BY TYPE



MAJOR SHAREHOLDERS*

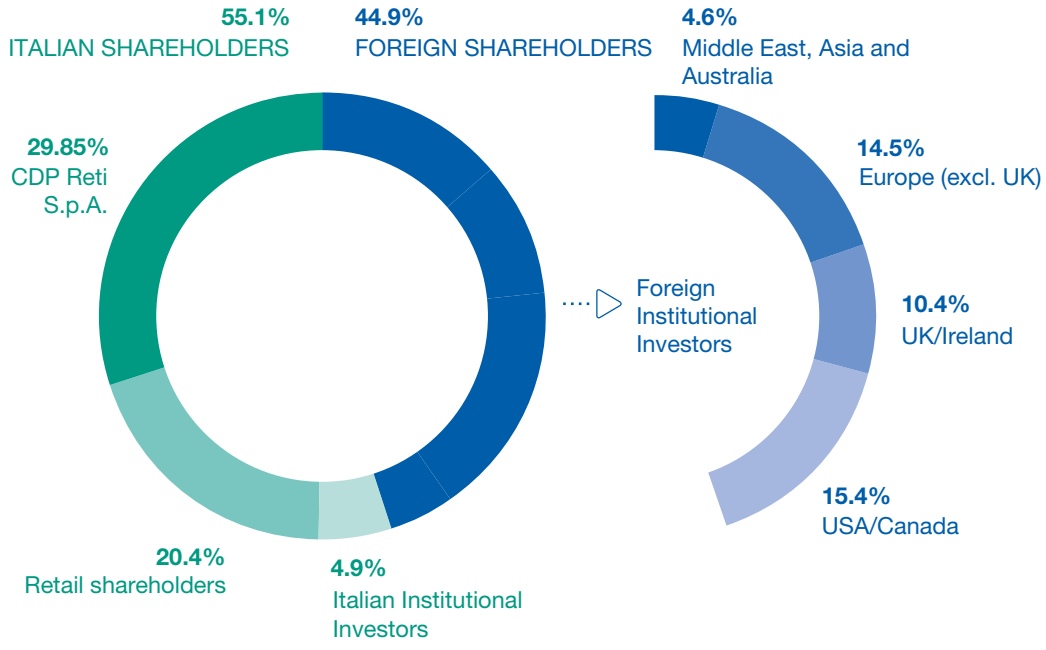
CDP RETI S.p.A. (subsidiary of Cassa Depositi e Prestiti S.p.A.): 29.851%
LAZARD ASSET MANAGEMENT LLC (as discretionary asset management): 5.122%

* These shareholders have a stake in the Terna S.p.A. share capital above the significance thresholds indicated in CONSOB Resolution no. 11971/99, based on the information available, and communications from CONSOB.

Shareholders' Agreement. On 27 November 2014, a shareholders' agreement was signed by Cassa Depositi e Prestiti S.p.A. (CDP), on the one hand, and State Grid Europe Limited (SGEL) and State Grid International Development Limited (SGID), on the other, in relation to CDP RETI S.p.A., SNAM S.p.A. e TERNA S.p.A.; this was subsequently amended and supplemented to extend its provisions also in relation to Italgas S.p.A..

On the basis of the periodic surveys carried out by Terna, it is believed that 55.1% of Terna shares are held by Italian investors and the remaining 44.9% by foreign institutional investors, primarily in the United States and in Europe.

SHAREHOLDING STRUCTURE BY GEOGRAPHIC AREA AND TYPE

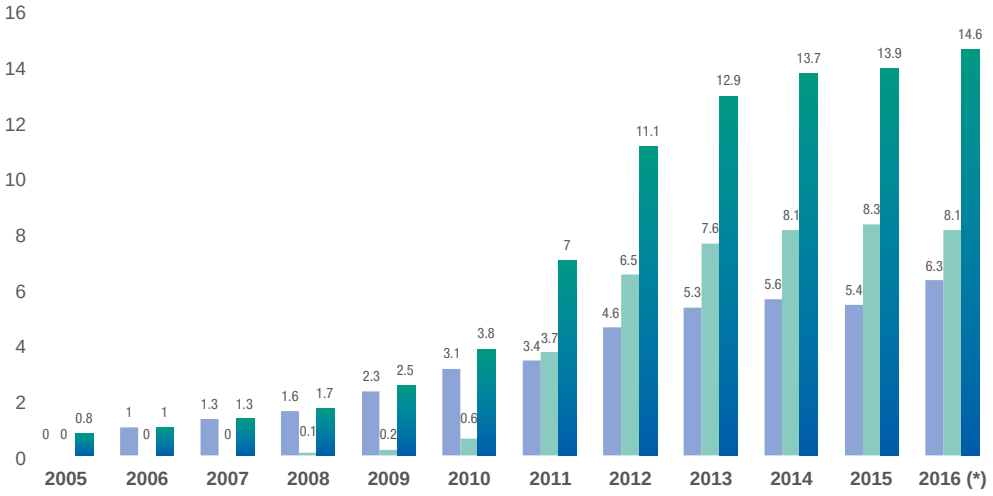


At the end of 2016, there were 113 SRI (Socially Responsible Investors) who invested in Terna with a sustainable approach in mind, based on the consideration of ESG (Environmental, Social and Governance) aspects, of whom 30 asset owners (33 at the end of 2015), i.e. pension funds, sovereign funds and other institutional investors, representing the vast majority of SRI investment in Terna and 83 mutual investment funds (67 at the end of 2015). As a whole, at end 2016, SRI investors accounted for 6.35% of Terna (6.24% at end 2015) and around 10% of the capital held by identified institutional investors, substantially in line with the figures of 2015.
Information on ownership structure, restrictions on share transfer and shares granting special powers and restrictions on voting rights, as well as on shareholder agreements, is given in the “Report on Corporate Governance and Ownership Structures” relative to FY 2016, published jointly with the Terna and Terna Group Annual Financial Report. This is available on the Terna website in the Investor Relations section.

Industry Context

In recent years the energy industry has seen a significant paradigm shift in the entire electricity system with a sharp penetration of Non-Programmable Renewable Sources (NPRS) combined with fragmentation of production points. The following sections focus on electricity demand and production in Italy. To get an overall view of the international electricity context, see the 2016 Integrated Report.

2005-2016 WIND AND SOLAR PRODUCTION (% OF TOTAL)



(*) 2016 data is provisional.

Demand for Electricity in Italy

In 2016, the demand for electrical energy in Italy was 310,251 million kWh (provisional data), reporting a fall of 2.1% in comparison with 2015, which, conversely, ended with an increase compared to 2014. The electricity demand recorded this year takes us back to the same level as 2014.
Temperatures were slightly higher than 2015 during the winter months and lower during the summer months of that year, leading to an overall reduction in demand. With regard to the 2016 calendar, the two fewer working days were almost compensated for by the extra day provided by the leap year.
Production from renewable sources covered 34% of national requirements.

ELECTRICITY BALANCE SHEET FOR ITALY

	2016*	2015**	2014
GWh			
Net domestic production	275,649	272,428	269,148
From foreign suppliers (imports)	43,181	50,848	46,747
Sold to foreign clients (exports)	-6,155	-4,470	-3,031
Sold to foreign clients (exports)	-2,424	-1,909	-2,329
Total demand in Italy	**310,251**	**316,897**	**310,535**

(*) Provisional data.
(**) Definitive data; in the 2015 Sustainability Report, the data published was still provisional.

Electricity Generation in Italy

In 2016, national net production was 275,649 million kWh (provisional data), showing an increase of +1.2% from the previous year.
The data, divided according to source, shows that, in comparison with 2015, there was an increase in thermal energy production, an increase in production from renewable sources[3], including wind (+0.7%) and geothermoelectric (+0.7%) and substantially unchanged photovoltaic production (-0.2%). Hydroelectric production fell in 2016 (-8.9%).

ELECTRICITY PRODUCTION IN ITALY

	2016*	2015**	2014
GWh			
Net hydroelectric production	42,323	46,450	59,575
Net thermal production	169,396	164,932	149,567
Renewable production ***	63,930	61,046	60,006
Total net production	**275,649**	**272,428**	**269,148**

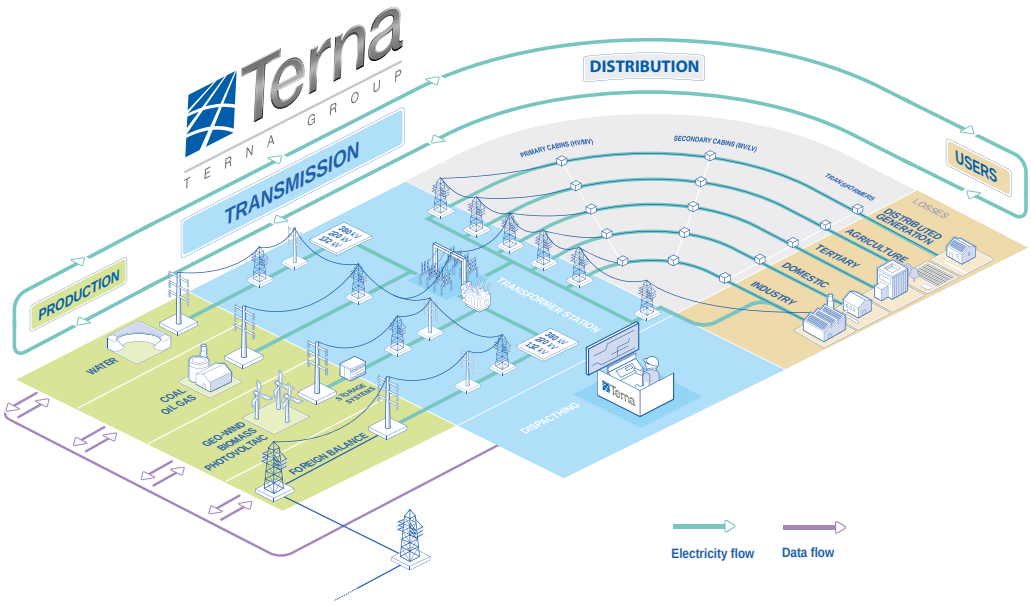
(*) Provisional data.
(**) Definitive data; in the 2015 Sustainability Report, the data published was still provisional.
(***) Renewable production includes wind, solar, geothermal and biomass sources that were included within Thermal in previous editions of the Sustainability Report.

Electricity Transmission

Although the end users of the electricity service are not direct customers of Terna, but rather are companies that distribute and sell electricity, the essential role it performs in the electricity system makes Terna ethically responsible for the service with regard to Italian society. In Terna's view, business and sustainability matters are closely linked, which is substantiated by the adoption of a responsible approach to management of the NTG.
The main business of the Terna Group is the transmission and dispatching of electricity in Italy (Regulated Activities), playing the role of the Italian TSO (Transmission System Operator), in a monopoly position through government concession.
The Italian electricity system consists of four stages: producing, transmitting, distributing and selling electricity.

(3) Renewable production can be defined as total production from wind, solar, geothermoelectric, biomass (included in the table under thermal production) and hydroelectric power net of pumping plant production.

TERNA'S ROLE IN THE ITALIAN ELECTRICITY SYSTEM



Terna is responsible for transmitting, or rather managing the electricity system by:

- operating the high-voltage grid
- maintaining infrastructure
- planning grid development
- constructing the grid

The management of electricity transmission is divided into the activities listed below.

Grid Operation and Dispatching

The **dispatching** activity is performed by the "National Dispatching" Department at Terna Rete Italia and entails ensuring the **balance between input and output** at all times, i.e. between the supply and consumption of energy. The complexity of this activity has increased over time, also due to the major development of renewable sources, which has made greater flexibility in managing dispatching resources necessary, particularly in situations where the supply of renewables is very high and the need for energy low. Preparation for real-time operation includes **planning unavailability** (of the grid and of production plants) with different time horizons, forecasting national electricity demand, comparing demand for consistency with the production plan determined as the result of the free energy market (Electricity Market and contracts outside of the Electricity Market), acquisition of resources for dispatching and checks on the power transits for all the grid lines.

During the **real-time control** stage, the National Control Centre, which coordinates other centres around the country, monitors the system and dispatches electricity, intervening, by communicating commands to producers and Remote-Control Centres, in order to vary grid supply and distribution. To avoid the risk of grid degeneration and prolonged power outages, it may also intervene in an emergency to reduce the demand.

Terna also manages the Dispatching Services Market (DSM) through which it acquires resources for the dispatching services. For details, please see page 99, "Service quality and continuity".

Maintaining Infrastructure

The **maintenance of the power lines, of substations and storage systems** is carried out by Terna Rete Italia through three area offices structured into eight Operational Transmission Areas, which employ more than 55% of the Group's human resources. Technological oversight of the maintenance and renewal criteria and standards for assets is carried out by the Engineering and Asset Management Department. For details, please see page 111, "Plant maintenance".

Grid Development Planning

Analysing electricity flows in the grid and producing supply and demand projections allow Terna to **identify the critical points and, consequently, schedule the new work to be carried out in order to ensure that the system is adequate**, including in the medium (+5 years) and long-term (+10 years) in terms of: meeting demand, safety of operations, reducing congestion, and improving service quality and continuity. The growth of electricity production from renewable sources makes it indispensable to have all the existing regulatory resources available (including exchanges with other countries) together with generation control tools. Grid planning must be consistent with the aim of maximising the integration of renewable sources in safe conditions. New work to be carried out is detailed in the NTG Development Plan, which is presented annually to the Ministry of Economic Development for approval. Terna follows its complex authorisation process. For details, please see page 104, "Grid development".

Carrying Out Development Projects

Terna sets out the requirements for external resources and project budgets, as well as the working methods and technical specifications for the components and materials that will be used.
New plants are generally constructed through outsourcing agreements, maintaining close control over the social and environmental aspects assigned to contractors.
Finally, by analysing them, Terna also identifies the best ways of connecting to the transmission grid for all operators who make an application.
Terna sets the engineering standards for plants connected to the grid, particularly construction standards and the performance required from equipment, machinery, and station and power line components. For details, please see page 106, “Completed work”.

Other Activities

The service and electricity system security objectives established for Terna by the government concession are integrated with financial performance objectives and are reflected in operating efficiency and new opportunities for growth.
The management of the electricity transmission by way of a monopoly in Italy makes revenue growth possible only through the timely implementation of investments planned for in the Development Plan and the optimisation of operational efficiency and capital structure.
In line with the guidelines of the Strategic Plan, the Group is pursuing new business opportunities in Italy and abroad. The Group’s Regulated Activities abroad are focused within Chile, Peru, Colombia, Panama, Uruguay and Brazil, countries which have been selected for their political stability, credit standing and positive rates of economic growth.
The best growth opportunities predominately arise from the diversification of activities (NRA- Non-Regulated Activities) initiated in Italy and abroad that focus on:

- Initiatives abroad (EPC, Technical Assistance, BOOT, Concessions)
- Private Interconnectors
- Transformers - Tamini Group
- Services for third parties in the Italian market (Third-party plant management, Telecommunications and Engineering)

Non-Regulated Activities 2016	Description
Initiatives Abroad	In line with the company strategy, activities abroad have progressed. Specifically, the commissioned plants have become operational in Chile (two substations and a 220 kV line), as well as other origination activities in the area. Terna participated in tenders for transmission infrastructure in the Balkans and in Eastern Europe (Kosovo, Ukraine, Slovakia, and Moldavia). In September, Terna won a tender in **Uruguay** to create a 213 km 500 kV electrical line from Melo to Tacuarembo, and two other lines connecting with the pre-existing transmission system totalling 10.5 km. The total value of the contract, calculated on a thirty-year basis, is estimated at US$ 230 million. In December Terna signed the agreement with the Uruguay company, UTE, and the company Difebal was incorporated to manage the administrative, accountant and study activities prior to the commencement of works, which are scheduled for the first half of 2017. Terna's role will consist in designing the line and overseeing the project management of the construction, which will be assigned to third parties. Technical assistance activities for authorities and local operators in Kenya and Turkey were also consolidated, and are still in progress. Through its subsidiary Terna Plus, in February 2017 Terna signed an agreement with Planova, a Brazilian company that constructs civil works and infrastructure, aimed at the acquisition of two concessions to operate a total of around 500 km of electricity infrastructure in **Brazil**. The two concessions, which will last for thirty years, will involve the construction of 158 km of new lines in the state of Rio Grande do Sul and 350 km in the state of Mato Grosso. The total value of the contract is around $ 180 million. Lastly, the business relationship with several industry partners was developed through partnerships and targeted agreements. The Memorandum of Understanding with ENI, which aims to develop sustainable energy systems and support renewable energy production is of particular importance. The agreement concerns a wide range of potential collaborations, including the study of electricity systems, more specifically those associated with Gas to Power development opportunities, Access to Energy initiatives, the planning and construction of renewable energy plants and their connection and integration with the electricity network, Smart Grid solutions, Energy Storage projects, research and development activities and energy projects with reduced environmental impact.

Non-Regulated Activities 2016	Description
Private Interconnectors	In order to support the development of a single electricity market by expanding the infrastructure for interconnection with other countries, a community law was introduced which laid down guidelines for the creation of interconnections with other countries by subjects other than grid operators. Italian legislation transposed the European indications in Law 99/2009, which assigned Terna the task of carrying out public tenders to select the subjects willing to finance specific interconnections, in exchange for the benefits deriving from the allocation of transfer capacity for a pre-established number of years. Five Interconnectors are planned in total with the borders of France, Switzerland, Montenegro, Austria and Slovenia, two of which are at an advanced construction stage. Among the interconnections which may be financed by the Selected Subjects, the one regarding the Italy-France border is the one in the most advanced stage of development, followed by the Italy-Montenegro interconnection. For details see page 112.
Tamini	In 2016, Tamini entered the PST sector (Phase Shifting Transformer – equipment to control energy flows on the high-voltage and very-high-voltage grid) at a European level, delivering the PST units generated at its Legnano plant to the Czech Republic. Again at the Legnano facility, the approval test was carried out successfully on the 500 MVA transformer with transformation ratio 400/220 kV for ESB; this is the largest transformer installed in Ireland, for dimensions and weight. Sales of transformers in 2016 fell compared to the previous year (-20%). At the end of August work began on reclaiming and making safe the Melegnano Facility, which will therefore remain out of operation for the duration of the work.
Services for Third Parties	In Italy, Terna continued to perform activities for third parties in the area of telecommunications (housing of telecommunication equipment and maintenance services involving fibre optic networks), engineering (developing technical solutions and supplying innovative services) and operating third-party plants (operating and maintaining high-voltage and very-high-voltage plants). In particular: **Telecommunications** The purchase of the high voltage grid of Gruppo Ferrovie dello Stato, completed in December 2015, entailed the transfer of a contract for the passage of the fibre-optic cables owned by Basictel, which generated € 5.6 million in revenue in 2016. In 2016 contracts were signed with the main telecommunications operators for the granting of indefeasible rights of use (IRU) and maintenance services on stretches of optical fibre. In regards to the Italian project on the ultra-broadband network, on 23 June 2016, Terna obtained the pre-qualification to participate in the future tender for the construction of fibre optic backhaul networks.

Engineering

The main orders of 2016 include the refurbishment of a 150 kV electricity substation in Sicily, the construction of a cogeneration plant at an industrial site in Tuscany and the connection of a biomass plant in Apulia. Construction works for a 132 kV substation serving a manufacturing plant in Emilia-Romagna have also progressed and construction has begun on two new substations in Lombardy, as well as the connection of a photovoltaic plant in the Lazio region.

Third-Party Plant Management

In 2016 this included the multi-year contract for the maintenance of an undersea cable and contracts for the maintenance of third-party user substations, power lines and renewable production substations.

TERNA - RFI AGREEMENT TO DEVELOP RENEWABLE ENERGY PROJECTS

In November, Terna and Rete Ferroviaria Italiana signed a Letter of Intent with the aim of working together to identify and carry out initiatives of shared interest relative to renewables in Italy. In particular, the agreement foresees the development of a joint project to create photovoltaic plants that will power RFI's electricity consumption with clean energy.
Based on the agreement, areas will be identified on which photovoltaic plants can be constructed for up to a maximum of 200 MW. This will guarantee Rete Ferroviaria Italiana clean energy production of up to 300 GWh per year.
The project being examined by Terna and RFI could be the first large operation in the photovoltaic energy sector in Italy to be carried out in a situation of "grid parity", meaning with no government incentives and, in contrast with the past, without additional charges falling to households and businesses.

Strategic Plan

On 20 February 2017, Terna approved the Strategic Plan for the 2017–2021 period, which provides for acceleration of investments on the NTG (National Transmission Grid) to facilitate the energy transition in progress. In particular, the reference scenario of the electrical sector in Italy and in Europe, characterised by the continual growth of non-programmable renewable production sources and at the same time by the gradual decommissioning of traditional generation plants, makes appropriate development of the electricity grids necessary. This has led to undertaking strategic initiatives aimed at:

- encouraging the integration of renewable sources and improving the security of the system
- expanding interconnections to reduce local congestions
- using cutting-edge technologies, with ever-increasing attention to environmental and sustainability aspects

In addition, the 2017–2021 Strategic Plan includes consolidation in Non-Regulated Activities of an industrial approach, positioning Terna increasingly as an Energy Solution Provider, and an international strategy that goes to support growth and value creation over the long term.
Maintaining a solid capital structure thanks to robust cash generation will contribute, finally, to sustaining an attractive dividend policy.

2017–2021 STRATEGIC PLAN – MAIN TARGETS

Regulated Activities

Over the next 5 years the Terna Group plans investments of approximately € 4 billion, approximately 30% more than in the previous Strategic Plan. Among the main electrical infrastructures being constructed are the interconnections with Montenegro and France, which should both be operational by 2019. The new SACOI3 (Sardinia, Corsica and Italy connection) project and the Italy-Austria interconnection will be launched over the course of the Plan. In addition, several projects are planned with the aim of increasing the exchange capacity between the various zones of the Italian electricity market. The value of the regulated assets (RAB) will reach approximately € 15.6 billion in 2021, with an annual average growth rate (CAGR) of approximately 2%.

Non-Regulated Activities

The Plan provides for the development of services for third parties (EPC, TLC, O&M); and the creation of the interconnectors, which will be financed with third-party resources. In addition, after the acquisition of the high-voltage electricity grid of Ferrovie dello Stato, the Group signed an agreement with Rete Ferroviaria Italiana (RFI) aimed at creating and selling photovoltaic plants for power of up to a maximum of 200 MW to RFI, without additional expense for households and businesses.
It is expected that these activities will contribute to the Group's EBITDA for approximately € 350 million accumulated over the period of the Plan, with an annual average approximately 40% more compared to the previous Plan.

International Development

In line with the past year, the 2017–2021 Strategic Plan provides for a capital commitment of up to approximately € 250 million for regulated activities abroad. These initiatives will be selected through assessment processes that can guarantee a low risk profile and an optimisation of the industrial role played by Terna and may also be developed as part of a partnership. We can note the tender awarded for the construction of more than 200 km of power lines in Uruguay (investment of approximately € 70 million) and the agreement for the acquisition of concessions for the construction and operation of two power lines in Brazil, for a total length of more than 500 km (investment of approximately € 180 million).

Consolidated results

The Plan foresees an increase in the Group's revenue to approximately € 2.3 billion and in EBITDA to approximately € 1.7 billion in 2021, with annual average growth of approximately 2% for both indicators starting from 2016, and an improvement in net profit, with annual average growth of approximately 3%. These results will guarantee a Free Cash Flow of around € 2 billion over the course of the Plan, which will provide the flexibility necessary to support an attractive dividends policy. Terna's financial structure will remain solid and the net payables/RAB ratio will remain below 60%.

Dividends Policy

With reference to the dividend policy the assumptions of the previous Plan were confirmed and extended to the longer period 2017–2021, with annual growth in the dividend of approximately 3% aligned with the expected evolution of profit and of the main equity parameters. This policy reflects an overall payout that, during the Plan period, will remain below 70%.

Sustainability, Innovation, Risk Management and Integrity

This section covers some aspects concerned with conducting the business of Terna, distinguished by a transversal approach that affects and influences all Group activities. It regards sustainability, the subject of this entire report, yet in this instance some more significant themes and values are discussed, as well as innovation, which has become a driver for business development in recent years and in 2016 especially, and also regards the application of the best and most advanced technology for transmission grid management, risk management and integrity, which is particularly significant in preventing corruption. The section concludes with reference to two focus areas – human rights and supply chain sustainability – which distinguish Terna's approach to stakeholder relations in general and to suppliers in particular.

Terna's Sustainability Values and Themes

Terna's main business is the provision of a service which is indispensable for the operation of the entire Italian electricity system and to ensure electricity for everyone. Commitment to this service is therefore also our main reference point, even when approaching sustainability matters. This has been confirmed by the results of the materiality analysis, which was revised in 2016, and is described in the methodological note on page 170.
This analysis revealed relevant aspects, including:

- alignment of Corporate Governance with best practices
- careful risk management, respect for economic – financial objectives and operating performance (continuity, quality, transmission service costs)
- good stakeholder management, especially concerning local stakeholders
- integrity in conducting business
- issues related to the environment, visual impact on the landscape in particular
- issues relative to human resources, such as the development of personnel and worker health and safety

The relevance of the aforementioned issues is a result of their correlation with Terna's capacity to create value in the medium-to-long term.
The construction and development of relationships of trust with stakeholders, useful in creating value for the company and for the stakeholders, is a fundamental theme of sustainability in Terna, enshrined in its Code of Ethics. This leads to concern upstream of the possible environmental and social impacts of Terna's activities and advocates taking all necessary measures to prevent and minimise such impacts.
For Terna, respect for the environment and for local communities is a rule of conduct which can trigger a virtuous cycle: it allows biodiversity and the richness of the landscape and local culture to be preserved, and facilitates acceptance and creation of new infrastructure, generating financial benefits for shareholders and for society, which can enjoy a more secure, more efficient and less costly service. Focus on the community is also demonstrated by the creation of initiatives of social, humanitarian and cultural value, which serve as a concrete sign of participation in the growth of civil society.
For stakeholders, investment in this attention translates into the social and relational capital growth necessary for the sustainability of the Terna business model. More generally, investment in intangible capital is another central theme in Terna's sustainability approach and is also critical to its ability to create value in the long run. In particular, the role of human capital is important to Terna.
Renewing specific technical skills of human resources, which are often rare or unique in the electricity industry, constitutes an important part of Terna's sustainability approach. Another element, which is just as important, is occupational safety. This is especially relevant due to the fact that many operational tasks are associated with particular risks, such as work high above ground and maintenance work on live lines.

Terna's sustainability policies and management systems make reference to the Code of Ethics[4], approved by the Board of Directors on 21 December 2006, which requires the company to provide evidence in the Sustainability Report each year of the implementation of sustainability policies and the objectives and results achieved.

G4-HR4

G4-HR5

G4-HR6

The reference in the Code of Ethics to the principles of Global Compact, the United Nations' multi-stakeholder network, was substantiated in 2009 with Terna's formal adherence, which thereby further strengthened its commitment to the ten principles on human rights, labour, the environment and the prevention of corruption.
In recent years the transition towards a decarbonised economy has become a reference of increasing importance, both in terms of Terna's sustainability policies and initiatives and its strategic orientation. The international decisions of the COP 21 in Paris and the subsequent COP 22 in Marrakesh, combined with European Directives and guidelines, have led to even greater focus on renewable sources in Terna's programmes.
These programmes only partly concern controlling its greenhouse gas emissions, while business opportunities are of much greater significance: grid development investments meet a need to aid energy transition by strengthening transmission capacity and interconnections with foreign countries and research and innovation are also focused on identifying sustainable smart solutions that can be proposed to non-regulated activity customers.
Other Community guidelines, such as those related to the development of a circular economy, may offer opportunities if they are transformed into operational methods that are recognised by the Regulator.
Both the Strategic Plan (see page 43), the Grid Development Plan (page 105) and the Innovation Plan (see page 117) consider decarbonisation and the integration of renewable sources as essential inputs.

Sustainability Governance

Terna's sustainability policies and themes are managed in accordance with a structured governance system, which includes:

- the **Audit, Risk and Corporate Governance Committee**, made up of independent members of the Board of Directors tasked with supporting the Board of Directors when making evaluations and decisions concerning the Internal Audit and Risk Management System (IARMS). It performs periodic checks to ensure the adequacy of the system relative to the company's characteristics and risk profile. Since January 2016 the duties of the Committee have also included the Sustainability Plan and policies, the examination of the Sustainability Report and the monitoring of sustainability indices
- the **Sustainability Steering Committee**, the members of which are the Chairwoman of Terna S.p.A. – to whom the Board of Directors on 27 May 2014 gave, in addition to institutional duties, the role of promoting and advising on CSR – the CEOs of Terna Rete Italia S.p.A. and Terna Plus S.r.l.; and a number of Directors who share the responsibility for determining strategic guidelines and sustainability objectives for the Terna Group, and for monitoring their progress and implementation. The Group's CSR Manager is the Secretary of the Steering Committee, which also decides on the Group's Sustainability plan, to support and add to the Strategic Plan. It supervises company activities related to sustainability
- the **Corporate Social Responsibility Unit** within the External Relations and CSR Department, which, in collaboration with all departments and with reference to best practices, helps define the company's sustainability objectives from an ethical, social, environmental and sustainability-governance viewpoint, and communicate the objectives and results of Corporate Social Responsibility. Moreover, the Unit constantly monitors the risks connected with sustainability, which entail potential negative repercussions for the company's reputation and its intangible value, by analysing the ratings of the main agencies (such as RobecoSAM, Vigeo and Eiris), which regularly assess sustainability
- the **Sustainability Team**, a permanent working group that guarantees application of the guidelines and achievement of the objectives defined by the Sustainability Steering Committee, and serves as the "drive belt" between the Steering Committee and the various company departments responsible for implementing its decisions

(4) The Code of Ethics is published in the "Investor Relations" and "Sustainability" sections of Terna's website under "Corporate governance".

Activities concerning quality, the environment, occupational safety, energy, anti-corruption activities and security of information – crucial in Terna's vision of sustainability – are coordinated and guided in the Integrated Management System for Quality, Environment, Occupational Safety, Energy Management, Anti-Corruption, Information Security and Quality of Test Laboratories and Calibration, which has the following certifications: ISO 9001:2015, ISO 14001:2004, ISO 50001:2011, ISO 37001:2016, ISO 27001:2013, ISO 17025:2005 and BS OHSAS 18001:2007.
The integrated system covers 100% of Terna's activities in Italy and abroad[5], except the Tamini Group, which is controlled by Terna Plus. However, in 2015 the Tamini Group initiated a process of environmental certification of its production sites.

Type	Scope	1st year issued	Issue year	Expiry year
ISO 9001:2015	Terna Group	2001	2016	2019
ISO 14001:2004	Terna Group (*)	2007	2016	2019
BS OHSAS 18001:2007	Terna Group (*)	2007	2016	2019
UNI CEI EN ISO 50001:2011	Terna Group (*)	2015	2015	2018
ISO 9001:9008	Tamini Group - All manufacturing plants	1993	2015	2018
ISO 14001:2004	Tamini Group – Legnano plant and TES (Ospitaletto plant)	2015	2015	2018
BS OHSAS 18001:2007	Tamini Group – TES (Ospitaletto plant)	2015	2015	2018
ISO 27001:2013	Terna S.p.A only for TIMM applications (Amended Text on the Monitoring of the Electricity System)	2011	2015	2017
ISO/IEC 17025:2005	Terna Rete Italia for multi-site testing laboratories in Viverone (Biella), Civitavecchia (Rome) and Frattamaggiore (Naples)	2014	2014	2018
Established in Legislative Decree 105/15 (the "Seveso Directive)	Terna Rete Italia – SANC sites (**)	=	=	=
ISO 37001:2016	Terna Group	2017	2017	2020

(*) Excluding the Tamini Group, a subsidiary of Terna Plus.
(**) Related to regulatory compliance; unlike the certifications there are no dates of issue and expiry.

Company activities are monitored and controlled with a Balanced Scorecard (BSC) system, a control panel of indicators used to evaluate, at quarterly intervals, the progress made in achieving the objectives, including those related to sustainability, linked to the Strategic Plan.
Terna also makes use of **SDM (Sustainability Data Manager)** software to manage the sustainability IT system, which currently collects more than 1,500 indicators corresponding to more than 350,000 items, over 10 years, including textual information, data, conversion factors and formulas for monitoring Terna's environmental and social performance.

(5) With the exception of ISO 27001, ISO 37001 and ISO 17025.

Innovation

The great changes that are occurring in the sector are redesigning electricity networks and require significant technological upgrades to support environmental policies and increase the efficiency of the system as a whole. With a view to addressing the challenge of innovation, Terna created, within its new Strategy and Development Division, a structure that focuses on researching sustainable and innovative solutions for the energy market. In the five-year Innovation, Research and Development Plan, environmental sustainability is a fundamental driver for:

- reducing the impact of company assets on the environment and measuring Terna's environmental footprint by conducting analysis (for example, Life Cycle Assessment on cables and conductors) and assessing alternative tools (for example, Product Environmental Declarations and Ecolabels), capitalising on the results in terms of social legitimacy and experience that can be used to develop new business
- consolidating the grid to support the move to greater use of renewables and more efficient and rational consumption
- anticipate and correct the impact of climate changes on grid assets, so as to its best future developments

More detailed information on research projects that are already under way is given in the "Electricity Service" section on page 120.

Risk Management

Over the last decade Terna has developed an interpretation and adaptation of Risk Management theory, inspired by international best practice, to represent, describe and analyse risk scenarios that could damage or threaten the attainment of company objectives. Recognising the risk, measuring it and, above all, studying the appropriate sustainable actions for containing it, in the various forms in which it can arise for critical infrastructure of national and European importance such as that managed by Terna, are Group priorities.
The monitoring and effective treatment of corporate risks have been implemented through the adoption of general organisational measures and specific safeguards.
From an organisational perspective, for some time now the Group has been structured in such a way so as to guarantee the widespread management and monitoring of activities and their related risks, as well as a clear assignment of roles and responsibilities.
The Terna Board of Directors appoints the Head of the Internal Audit Department, who is responsible for checking that the Internal Audit and Risk Management System (IARMS) is functional, operational and adequate. The Audit and Risk, Corporate Governance and Sustainability Committee is present within the BoD, which supports top management in making evaluations and decisions concerning IARMS. This Committee gives its opinion on the Chief Risk Officer (CRO) appointment by the Director in Charge of the IARMS. The CRO, whose duties and responsibilities are governed by a specific company policy, supports top management in the effective management of the Risk Management process at a Group level, draws up policies for the analysis, management and control of all business risks and coordinates all subjects involved in IARMS, in order to maximise their efficiency and reduce any overlapping of activities.
In line with this arrangement, the Risk Management department of the Security and Services Division is tasked with implementing the risk management policies and guidelines drawn up by the CRO and pursues the goal of continuous improvement and value creation. To this end, it adopts the Enterprise Risk management (ERM) approach, suitably tailored to Terna, which integrates and systematises risk management with structural tools and prevention measures and makes use of a Governance, Risk and Compliance IT tool (eGRC), which provides an integrated view of risk management results. For more details on the managed risks and related safeguards, please refer to the Integrated Report.

The risk analysis conducted by Terna showed that the Group is exposed not to common price- and market-related risks (or is so only to a limited extent in regard to Non-Regulated Activities), but to a regulatory and legislative risk. This is also due to the fact that electricity transmission is the core business of Terna, which is regulated primarily through government concession and by the provisions established by the Regulatory Authority for Electricity, Gas and Water (AEEGSI), which include the definition of remuneration of the Terna service and of the corresponding tariff system.
The regulatory risk derives from potential changes in the parameters used to determine regulated revenue (in 2016 amounting to around 90.0% of total Group revenue), particularly following the multi-year review of the regulatory framework, as occurred last year. The normative risk is related to possible changes in Italian and European tax laws, as well as those related to environmental themes, in relation to environmental, energy and social (work and contract) matters.
Risk analysis not only places particular attention on short-term risks, but also emerging medium-long-term risks. Assessing the impact of the electricity system on climate change is an issue that is addressed by operational risk management, but which also affects the Company's strategic risks. To this end, Terna participates, together with other energy infrastructure operators, in recognising and analysing the governance methods of the risks associated with climate change, run by the Fondazione ENI Enrico Mattei, in order to share strategies and processes and establish possible synergies between Companies. Furthermore, in recent years there has been a growing opposition to the construction of Terna infrastructures which, at times, actually threatens the attainment of strategic and/or regulatory objectives. In order to counter this phenomenon, on the one hand a permanent safeguarding body, the Risk Observatory was created to monitor critical environmental, political and social issues. On the other, meetings with local communities and authorities were established, which aim to define shared design solutions and gain agreement to works from stakeholders within the local community.
Finally, Terna constantly monitors risks associated with aspects of sustainability which may have a negative impact on its reputation and its intangible value, including through ratings analyses by the main agencies which periodically conduct sustainability assessments (such as RobecoSAM, Vigeo and Eiris).

Integrity, Respecting the Law and Preventing Corruption

G4-SO8

Legality and honesty are two of the general principles on which the Code of Ethics and the conduct of the Company's business are based.

Penalties

Respect for norms is the foundation on which any voluntary improvement initiative must be based. The management policies and systems that Terna uses to ensure compliance with norms and rules are described in this Report with reference to the various issues in question. In this paragraph, we focus on summary indicators, represented by administrative or judicial sanction or significant penalty proceedings to which Terna has been subjected. Considering the structure of the indications contained in the GRI-G4 Guidelines, compliance with the law by Terna is illustrated by the following points:

- no significant definitive administrative or judicial proceedings were recorded in 2016 or in the two years prior that imposed on Terna fines or obligations to "do/not do" (e.g. prohibitions), or that criminally convicted its employees — G4-EN29
- in particular, the accounting records show that no fines exceeding € 10,000 regarding the environment were received in 2016 — G4-PR9
- there are no pending judicial proceedings against Terna related to bribery, anti-trust, monopolistic practices, nor were there any sentences condemning Terna in relation to the same issues in 2016 or the previous two years — G4-SO5
- there are no pending criminal proceedings for injuries caused to third parties by Terna's assets — G4-SO7

- no injuries were suffered by employees of contractors during work entrusted by Terna to the latter, which gave rise to definitive judicial proceedings, sentencing Terna to compensate for damages, or resulting in criminal convictions of Terna's employees
- no fines relative to cases of harassment or occupational injuries for employees or former employees were applied in 2016 or the previous two years for which definitive responsibility was assigned to Terna

Preventing Corruption

Terna's strategy in this regard focuses on three major areas: Organisational Model 231, fraud management and staff training.
The safeguards and systems in the company have enabled the attribution since 2013 of legality ratings to the parent company, with maximum points awarded by the Italian Competition Authority (ICA).

G4-SO5

In 2016, there was no pending litigation, nor were any penal cases concluded in regards to corruption.
Since 2014 Terna has been associated with Transparency International, the largest worldwide organisation concerned with preventing and combating corruption (see also page 54 and page 82).
As part of the initiatives promoted by the Association, in early 2016 the Terna Group joined the Business Integrity Forum (BIF) together with 11 other major Italian companies already active on issues of integrity and transparency and committed to supporting the fight against corruption in business practices by collaborating with the network on joint projects of cultural dissemination, communication and the adoption of counteraction tools.
In October 2016 Terna renewed "Open, Transparent Works", the web space launched the previous year (see: Terna's "Open, Transparent Works" on-line, 2015 Sustainability Report, page 35), making it accessible on any device. Currently the site contains over 10,000 pieces of information concerning 176 open works and the 353 companies that are working on them. In January 2017 Terna became the first Italian business to obtain the 37001 certification for its Anti-Corruption Management System, which covers the parent company and all subsidiaries (see the box bellow).

ANTI-CORRUPTION: THE TERNA GROUP, THE FIRST IN ITALY TO OBTAIN THE ISO 37001 CERTIFICATION

The Terna Group is the first in Italy to certify its anti-corruption management system in accordance with the new international regulation ISO 37001:2016 - Anti-Bribery Management Systems, published in October 2015 by ISO (the International Standard Organisation) to support organisations to fight corruption and promote ethics in their economic activities.

G4-SO3

The requirements of safety, quality, social responsibility and sustainability were verified by the IMQ Certifying Body, the most important Italian organisation for auditing and assessing the conformity and certification of products and company management and quality systems.
The Terna anti-corruption management model guarantees behaviour based on principles of fairness, transparency and integrity and is an additional element in the strategic integrated security project based on the implementation and synergic management of tools, such as risk-sharing with institutional partners and the police, the creation of transparent communication tools, the promotion of respect for the law and prevention on crucial issues, such as corruption, undeclared employment, unpaid contributions and the risk of criminal infiltration into the economic fabric, procurement and subcontracts.

Organisational Model 231

In 2002, Terna's Board of Directors resolved to adopt an Organisational and Management Model which met the requirements of Legislative Decree No. 231 of 8 June 2001, in order to ensure correctness and transparency in carrying out company business and activities in order to protect its position and image and the expectations of its stakeholders.
The current model is divided into 11 parts, 1 general and 10 special, which cover a series of topics in addition to the original one on corruption prevention, as well as the Compliance Regulation. The task of keeping the model up to date is assigned to the Project Coordination and Model 231 Monitoring Unit, within the Corporate Affairs Division.
Numerous training initiatives were carried out in 2016, which are covered in the "Employee Awareness" section. Further information on Terna's Organisational Model and those of the Group's other companies is available in the "Investor Relations" section under "Corporate Governance" on Terna's homepage http://www.terna.it.

Fraud Management

In its focus on corporate fraud, Terna adopts a constituent element of its approach to business management. An effective approach against fraud has three primary goals: prevention, detection and reaction.
Terna has sought to protect its reputation and image by adopting a Fraud Management structure in order to ensure that corporate assets (tangible and intangible resources, direct and upstream benefits) are protected with regard to all illegal events that could compromise them, through activity aimed at preventing and managing corporate fraud.
In order to identify potential internal vulnerabilities and then act to remove them, Terna has developed a reference methodological model based on the systematic analysis of preconditions that can be associated with fraudulent events, identifying "critical areas" in which fraudulent phenomena are more likely and tracing the triggers back to any organisational and operational problems in the processes.
This is accompanied by a constant monitoring of its internal regulations and their application, in order to assess and enhance the efficacy of the Internal Audit and Risk Management System with regard to fraud.

Employee Awareness

G4-SO4

G4-HR2

All new employees attend training courses which aim in part to ensure awareness and dissemination of the rules on conduct and procedures established to prevent crime at all levels of the company within their objectives. These courses also train and inform personnel about the areas at risk of criminal activity and about potential crime in relation to the work carried out.
A structured and multi-year Training Plan was drafted in 2016 on the issues regarding Organisational Model 231 and combating corruption.
Part of the plan has been carried out. Specifically, a classroom-based course that involved 40 employees of the Tamini Group and two editions of a workshop on Combating Corruption, Transparency and Market Abuse, which involved around 120 employees. An on-line training programme was also initiated at the end of 2016 on Organisational Model 231.
For the two-year period 2017-2018, the Plan envisages classroom-based courses aimed at specific target audiences, which will involve senior managers, junior executives, white-collar workers and a selection of blue-collar workers.

G4-HR1
G4-HR3
G4-HR5
G4-HR8
G4-HR9

Respect for Human Rights

The Terna Group operates in Italy, where the legal framework and the level of civil development largely guarantee respect for human rights, freedom of association and collective bargaining, thus making it non-critical for a company to take particular action on these issues with the implementation of specific management policies.
Since December 2009, Terna has been part of the Global Compact, adopting its principles as a formal point of reference, after already having cited them since 2006 in its Code of Ethics. In 2014 and 2016 the Audit Unit carried out two surveys to gauge the employees' perception on the application of human rights within the company and towards suppliers. The survey investigated observance of the principles of the Global Compact by the Group companies, following the indications of the United Nations Ruggie Report in regard to human rights (see also page 52 of the 2014 Sustainability Report).
Notwithstanding the above, Terna has set itself the objective of verifying the lack of any critical issues through systematic due diligence that, on the one hand, takes all company activities as its reference point and the stakeholders with rights on the other, with particular regard to the most vulnerable groups, in line with the guidelines of the United Nations' Ruggie Report.
The managerial responsibility for human rights rests, above all, with the Human Resource and Organisation, Procurement and Contracts, and Security and Services Departments for guaranteeing respect for human rights, and workers' protection in contracted and subcontracted activities (see the "Supply Chain Sustainability" section on page 53), and the Audit Unit for ensuring that Terna's Code of Ethics is correctly applied. The Corporate Social Responsibility Unit, finally, tracks changes in external references (e.g. international conventions).

TERNA, THE BEST ITALIAN COMPANY IN TERMS OF HUMAN RIGHTS

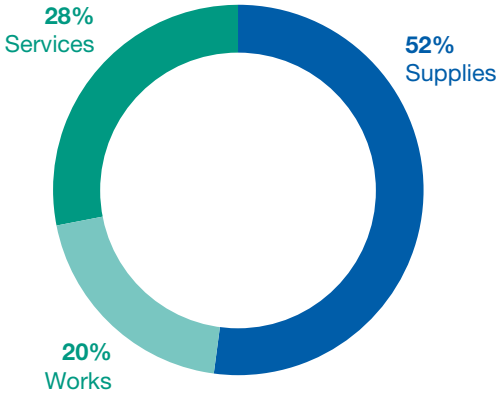
In February 2017 the French ratings and sustainability research agency Vigeo-Eiris released the results of its new research on the actions of corporations relative to human rights.
In "The human rights responsibilities of business in a changing world" study, conducted on over 3,000 companies in 35 countries and across 38 sectors, Terna ranked 14th overall, the top Italian company within the group of the best 30 worldwide.
Vigeo-Eiris considered how companies integrated respect for human rights into their policies, operating practices and the transparency of communications outlining results achieved. Assessment of these aspects provides a snapshot of the extent to which companies have effectively implemented the indications in the "UN Guiding Principles of Business and Human Rights", applying the three basic items indicated in the guidelines to human rights management: protect, respect, remedy. Terna was awarded 75 points in the French agency's analysis, above all thanks to excellent performance in the areas of labour rights and non-discrimination and integration of social factors in supply chain management.

Supply Chain Sustainability

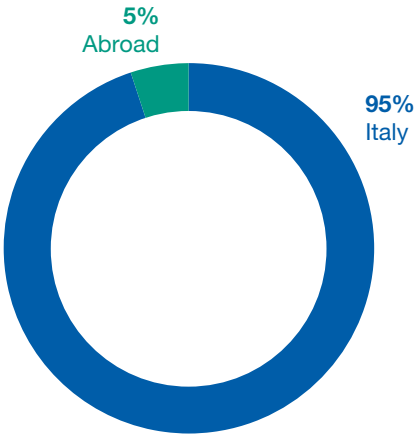
G4-EC9
G4-EN32
G4-EN33
G4-LA14
G4-LA15
G4-HR10
G4-HR11
G4-SO9
G4-SO10

As well as ensuring a service of general interest, Terna's business activities contribute to generating upstream activities of significant economic value and social impact.
In 2016, total spending to procure services, supplies and labour amounted to over € 529[6] million, distributed among 1,818 suppliers with whom contracts applied during the year.

Composition of procurement by type



Composition of procurement by origin



The predominance of national and local suppliers is a consequence of the specific nature of the business, and in particular of the need to perform fast maintenance work on plants to ensure the utmost security of the electrical system. Suppliers located in geographical proximity to the plants also guarantee more competitive transport costs for heavy and bulky supplies, contributing in this way also to reducing the related environmental impact.
With a view to expanding the supplier portfolio, the market is continuously scouted; this implies rigorous meetings with both Italian and overseas potential suppliers.
In the various stages of the procurement cycle, Terna analyses the suppliers' characteristics as regards legality, technical and organisational capacity, and environmental sustainability and social responsibility issues. As far as the latter are concerned, monitoring to guarantee correctness is based on various tools, which create more stringent conditions when the product categories are more significant for Terna or owing to the potential social and environmental impact of the suppliers' businesses.
All suppliers are required to commit contractually to behave in compliance with the provisions of Terna's Code of Ethics and Model 231; sanctions are imposed for any misconduct. Although a preponderant proportion of suppliers are Italian, in the other cases the supplier is always subject to screening in relation to country of origin. In cases of countries at risk as regards respect for human rights or corruption, specific further investigations are carried out.
For procurement that regards the performance of activities linked to Terna's core business (instrumental contracts), and which mainly comprise supplies of electrical materials and equipment, work contracts, and services in the sectors of electricity transmission, telecommunications and Information Technology, the legal regulations provided for in the Contracts Code apply. Numerous requirements for contractualisation involve environmental and social aspects (human rights, working conditions): among these, for example, checks on regular payment of contributions, no breaches of workplace safety laws and no environmental crimes. The Integrity Pact, validated in its most recent form in 2014 by Transparency International, entails commitments in relation to integrity and combating corruption. Finally, for certain sectors, specific social and environmental requirements are introduced at the qualification stage.

(6) The amount indicates refers to that ordered during the year. Ordered means the sum of amounts entrusted through all contracts (labour, supplies and services) signed during the course of the year.

SUPPLIERS ACTIVE IN 2016 AND APPLICATION OF ENVIRONMENTAL AND SOCIAL REQUIREMENTS

	Suppliers active in 2016				Amount procured from suppliers subject to specific requirements (% of respective total amount procured)			
	Number	% of total	Amount procured (€ millions)	% of total	Basic requirements[1]	Additional social and environmental requirements[2]	Social[3] and environmental[4] qualification requirements	Country risk assessment[5]
Total active suppliers	1,818	100	529.8	100	100	94.5	22.2	100
Core suppliers (instrumental contracts)	1,575	86.6	500.4	94.5	100	100	23.5	100
Suppliers of significant sectors for ESG purposes	229	12.6	288.4	54.4	100	99	30.5	100

(1) In observance of principles and conduct provided for in Terna's Code of Ethics and Model 231.
(2) Integrity Pact (validated by Transparency Italy), anti-Mafia certification, check on: national collective bargaining agreement used, regular contributions and tax payments, absence of environmental crimes, absence of serious breaches of workplace safety laws, compliance in the area of employment of protected categories, medical suitability certificate for the task issued by the assigned doctor (for work contracts), and the absence of impediment to public contracts.
(3) Work safety management system certified OHSAS 18001 or similar (required only of suppliers of specific qualification product categories).
(4) Environmental management system certified ISO 14001 or similar (required only of suppliers of specific qualification product categories).
(5) Assessment of risks of corruption and respect for human rights associated with the supplier's headquarters.

The table shows the coverage ensured by the different instruments, in terms of percentage of procurement, for significant groups of suppliers active in 2016.
The coverage is 100% or just a little less for most of the social and environmental requirements. Where there are the more stringent social and environmental requirements for qualification, the coverage is higher for suppliers belonging to significant sectors for ESG purposes. These latter are periodically identified on the basis of the product categories, of which we assess the significance for the business (amount procured, critical nature for the core business) and for social aspects (health and safety, and safety and working conditions) and the environmental aspects (significant environmental impacts in the supply chain, in use by Terna, and at the end of the useful life stage). This activity entails particular attention at the qualification stage and in finalising the technical specifications, and the commitment to adopt particular precautions in the case of sectors not subject to qualification. Finally, additional specific health and safety measures have been added to work contracts. For more information, please refer to the section "Monitoring of safety, the environment and human rights at contractor sites" on page 56. The table below is focused on new suppliers in 2016.

NEW CONTRACTED SUPPLIERS

	2016
% of new suppliers - checked for basic requirements*	100
% of new suppliers - checked for additional social and environmental requirements**	87

(*) In observance of principles and conduct provided for in Terna's Code of Ethics and Model 231.
(**) Integrity pact (validated by Transparency Italy), anti-mafia certification, check on: applicable collective bargaining agreement, regular contributions and tax payments, no environmental crimes, no serious breaches of workplace safety laws, compliance in the area of employment of protected categories, no impediment to public contracts.

THE NEW PUBLIC CONTRACTS CODE COMES INTO FORCE

In April 2016 the Italian government, by way of implementation of European Directive 23/24/25 of 2014, declared the new Public Contracts Code that introduced important changes related to sustainability and the environment.
In December 2016, Terna, in accordance with the new principles provided for by the Code, issued its new Regulation on Procurement, which is valid for the whole group.
Specifically, sustainability elements were introduced, such as qualitative measurement parameters in tender drafting according to the criteria of the most economically advantageous offer, applying them to both economic operators and the supplies offered. The following in particular were added:

- sustainability requirements (for example, functional and aesthetic aspects)
- accessibility for people with disabilities
- certifications on the health and safety of workers (OSHAS 18001)
- social and environmental features
- reduction of energy consumption and environmental resources used in the work or product
- possession of a European Union environmental quality brand (EU Ecolabel) related to the goods or services covered by the contract, in an amount equal or greater than 30% of the supply or services value of the same contract
- offsetting of greenhouse gas emissions related to the company's activities, calculated in accordance with the methods established based on recommendation No. 2013/179/EU of the Commission dated 9 April 2013, concerning the use of common methodologies to measure and communicate environmental performance throughout the life cycle of products and organisations

For tenders based solely on price, the economic value of the tender must also consider economic components related to use and maintenance costs, taking into consideration energy and natural resource consumption, polluting emissions and external costs for mitigating the costs of climate change referring to the entire life cycle of the work, good or service, with the strategic objective of a more efficient utilisation of resources and circular economy that promotes the environment and employment.
Lastly, Terna has created a training module for all the Group's buyers (more than 50 people), aimed at presenting all the changes introduced by the new Code and highlighting those that deal with sustainability.

Assessment of ESG Criteria in Qualifying Suppliers

Most of the product categories that are most significant for the core business from a technical and economic point of view are subject to qualification. Only companies with the requisites of legislative compliance in line with that of the Contracts Code, and of technical and organisational quality and financial solidity are admitted to the relevant register.
In areas at greater risk from the point of view of sustainability, an adequate level of environmental management and the ability to protect worker health and safety are also required. They are both represented by documented corporate procedures that outline the significant elements in accordance with the UNI EN ISO 14001 and BS OHSAS 18001 international standards.
Of all the qualified suppliers, **80%** have acquired or are acquiring BS OHSAS 18001:2007 safety certification, and **81%** possess or are acquiring ISO 14001:2004 environmental certification.

QUALIFIED COMPANIES

	2016
Number of suitable companies	392
- of which new suitable companies in the year	52
Companies required to have the Environment and Safety Management System	198

G4-HR4
G4-HR5
G4-HR6

Assessing ESG Risks in Foreign Supplies

Within the context of procurement activities, country risk is understood as the possibility of suffering damage on the occurrence of circumstances or events which can be linked to the economic, social and political context of the country in which the supplier normally operates. It is a much lower risk than that associated with environmental and health and safety matters and is currently negligible given the prevalence of domestic suppliers, but it could assume greater significance as the procurement markets expand and, more generally, because of Terna's foreign expansion strategy. To analyse and assess the most significant risk factors, which relate to the macro-areas of economic and political governance of the various countries, and to observance of the human rights established at the international level, objective elements are used, including ratification of the UN and ILO conventions, combined with the assessments expressed by the main international non-governmental organisations and by the most important ratings agencies working in the fields in question. These assessments are updated regularly and therefore constitute a source of constant monitoring of the effective evolution of the situation. These assessments are combined with reporting of the restrictive measures issued by the Italian and European authorities, which entail limitations on the free circulation of goods (trade embargoes) or rules of conduct in the case of transactions with countries offering tax advantages (tax havens).

Monitoring of Safety, the Environment and Human Rights at Contractors' Sites

The increase in workers employed by contractors and subcontractors in 2016 is linked to the increase in the number of construction sites.

EU17

CONTRACTORS AND SUBCONTRACTORS' EMPLOYEES (1)

	2016	2015	2014
Days worked	680,805	550,661	547,660
Full-time equivalent	3,095	2,503	2,489

(1) The data take into account the term of construction contracts and the variations in the workforce required, and relate to various types of Terna work contracts, from large construction sites to cutting vegetation under power lines. The days worked and the FTE units are estimated on the basis of the average daily presences at the largest construction sites and the amounts paid for contracted work on smaller sites. No further information is available on the types of contracts used by contractors.

Considering the significant use of external labour on Terna's construction sites, work contracts are subject to stricter rules regarding not only qualification, but also management, particularly with reference to occupational safety. The costs of eliminating or limiting the risks of interference are excluded from the downward price competition for awarding the contract.

During the qualification process, Terna requires that documented procedures for protecting the health and safety of workers be presented. For companies in categories considered most significant with regard to safety and the environment, an in-depth investigation of the management practices adopted is envisaged by means of a detailed questionnaire.
For contractor employees Terna requires additional certifications:

EU18

- that they understand Italian
- that all workers on overhead power line construction sites (mainly blue-collar) have examined and have been appropriately instructed on the use of personal protective equipment, the risks established in the Construction-site Safety Plan (CSP) and the Operating Safety Plan (OSP) prepared by Terna, and the environmental-protection measures as established in the relevant operating procedure "Management of the environmental aspects during plant construction", which is attached to each contract
- attendance at training courses, lasting between 24 and 32 hours for several specific roles (e.g. workers installing and maintaining overhead lines, workers cutting vegetation, site foremen, team leaders and safety managers)
- appointment of a Safety, Prevention and Protection Manager (RSPP), a construction-site safety representative, a crisis manager and substitute, and an assigned doctor
- a request in contracts drawn up with contractors to provide injury rates for the year

The actual training of personnel is verified through a web platform – the Qualified Company Personnel project.
To reduce to a minimum the risk of violations of human and labour rights to the detriment of contractor employees, in addition to the specific instrumental-contract documentation, Terna also requires a copy of an insurance policy covering damages to third parties, personal injuries and damage to property, including the contractor's, for the entire duration of the work and in an amount appropriate to the type of work performed, as well as a periodical copy of the payment of social-security and other contributions.

Activities in 2016

In line with previous years, in 2016, 17 construction sites for building lines and substations entrusted to contractors were checked across the country, with additional controls beyond those required by law. The construction sites were chosen on the basis of the duration of the work and the complexity of the activities to be undertaken. During the inspections not only aspects closely associated with workplace safety were analysed, but also those associated with environmental protection, such as water and waste management and interference with the surrounding environment.
In regards to integrated environmental-safety security and the continuous safety improvement plan, the "Near Miss: Safety and Environment" project continued to be extended with the aim of identifying and analysing all unusual events, near misses and environmental accidents that occurred during working activities and that, although they had the potential to do so, did not harm people or the environment.
In 2016 the activities of the "Inter-Company Environmental, Health and Safety Forum" continued, in which the leading Italian operators of network plants and infrastructure take part. The aim is to facilitate discussions, identify the best safety practices, discuss interpretations of laws and create a virtuous path of continuous improvement on the subjects of health, safety and the environment. In particular, two technical workshops on worker management abroad and site safety were organised.
Lastly, Terna contributed to the dissemination - through the supplier portal on the website www.terna.it - of a few governance tools (Code of Ethics, whistle blowing and the Integrity Pact) amongst small- and medium-sized suppliers, which they may choose to adopt. The project offers the option of downloading a governance kit for free from the websites of the member companies.
It the kit is used, the companies must only provide proof on their websites and promote the training of their employees and the information to their suppliers.

This is a cultural initiative that promotes and disseminates integrity and anti-corruption tools whereby a few large companies, including Terna, provide their small suppliers with certain pre-set policies, without requiring their mandatory use, but rather as an ideal sharing of best practice.

Equal Opportunities and Transparency in Contractual Relationships

Access to tender procedures is guaranteed for all suitable companies according to the principle of equal opportunities, and is governed by the "Regulation on Procurement". The regulation represents the corporate reference document for Terna's procurement activity and was prepared on the basis of the Contracts Code (Legislative Decree 50/2016) which, in turn, transposes the EU legislation on the subject. Another essential tool for guaranteeing transparency in procurement is the "Procurement Portal", the section of the institutional website based on criteria of simplicity, effectiveness and efficiency, through which it is possible to find out about competitive tenders and take part in on-line tenders, as well as to complete the qualification procedure for access to the register, moving towards paperless management. In 2016, approximately 1,300 requests for on-line assistance were received from suppliers, all of which were resolved in the times provided for in the corporate procedures.

CONTRACTED SUPPLIERS

	2016	2015	2014
Number of contracted suppliers	1,818	1,857	2,003
Tender awarding procedures adopted (% of amounts awarded)			
European tenders	61	75	62
Non-European tenders	22	13	17
Fixed	14	10	19
Atypical contracts (1)	3	2	1

(1) Atypical contracts include: sponsorships and donations, payments to public bodies, category associations and mandatory contracts for Terna Plus. In previous years the amount of atypical contracts was within the mandatory category.

Continual Improvement and Auditing Tools

A Supplier List was created in 2016, an integrated system of data collection and screening of information on selected suppliers within market areas not subject to qualification, aimed at defining lists of questions to be used to identify competitors in procedures to award work for contracts below European significance thresholds.

The new application is an important development in our relationship with suppliers. The integration with the tender platform allows for simplification, transparency and interactivity aspects to be further developed and, alongside the Qualification Portal - on which the selection process for core compartments takes place - it helps to guarantee greater monitoring of suppliers.

Dialogue with suppliers remains the most important tool to guide their growth, from the point of view of ethics, environmental sustainability and social responsibility.

In regards to qualified suppliers, the existence of the supplier's ESG requisites is verified over the three years for which the qualification is valid through constant checks, which during 2016 translated into 743 audits. If conduct is found to no longer be in line with the qualification requirements, the supplier may be warned or suspended temporarily from the register and, in the most serious cases, removed altogether.

QUALIFICATION MONITORING

	2016	2015	2014
Suppliers removed from the register	0	0	0
Suspensions	6	2	6
Warnings	4	8	14

The auditing system within the company also provides for other checks, according to the activities performed by the suppliers and the type of risks assessed as predominant in a certain segment:

- constant checks, ex ante, of requests for awarding consultancy services, professional appointments and IT services, and of procedures for awarding contracts to predetermined suppliers
- on-site checks at suppliers who are qualified/or seeking qualification during the year. In particular, in 2016 91% of these inspections were concentrated on companies that belong to the relevant segments from an ESG point of view
- inspections at construction sites of lines and substations managed by contractors, to check safety and environmental aspects

CHECKS

	2016
Qualification monitoring	743
On-site qualification checks	23
of which relevant segments for ESG	16
Ex-ante checks (assignments, IT, predetermined)	742
Environmental and safety inspections at contractors' sites	17

RELATIONS WITH STAKEHOLDERS

RELATIONS WITH STAKEHOLDERS

Relational Capital: Our Approach

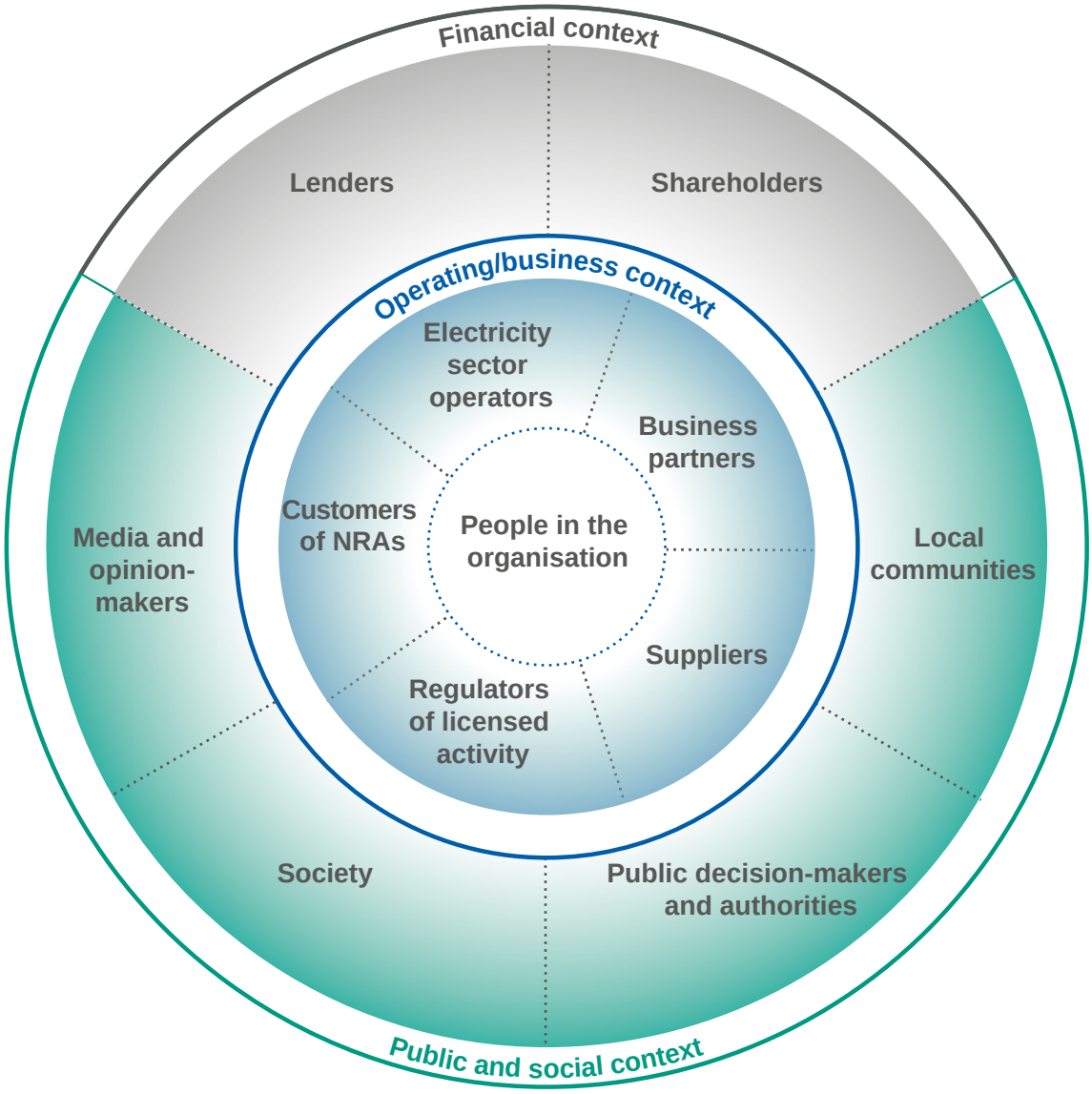
A relationship of mutual trust between Terna and its stakeholders is essential in order to achieve the Group's strategic objectives. The relevant criteria and means to achieve this are described in the specific "Stakeholders management model" guideline, which was drafted in 2015 and is in line with the AA1000 Stakeholder Engagement Standard (SES) developed by AccountAbility[7].
The model consists of a few basic parts that are regularly updated:

- stakeholder map
- the ranking of importance of stakeholders, which reflects the dependence and influence each of them hold with Terna
- the matrix of optimal relationship procedures that guides Terna's approach to stakeholder engagement
- the monitoring system that specifically implements engagement activities and allows for stakeholders' opinions and expectations and their degree of satisfaction in relation to Terna to be canvassed

Each year a specific engagement programme identifies the actions to be carried out, both in terms of bringing actual relationship procedures in line with optimal ones and regularly listening to the most influential stakeholders.
The first annual monitoring was conducted in 2016. This task involved all company departments and included several direct stakeholder engagement initiatives, such as the survey of non-regulated business customers.
Overall, the Stakeholders' Management Model is a set of tools designed to provide Terna with a way of measuring the evolution of its relational capital, in order to prevent the risk of Terna not becoming aware of possible problems in good time and to create value through the participatory contribution of stakeholders.
The categories of stakeholders identified within the map and the main activities that distinguished their relationship with Terna in 2016 are described below.

(7) The 2011 version of the AA1000SES standard was taken into account when drafting the model, because the most recent update to the standard was published in November 2015, when the Guideline had already been adopted.

STAKEHOLDER MAP



People in the Organisation

These are the internal stakeholders who make up the company and who make the business possible by carrying out their job.
Personnel play a crucial role, both as a group and as individuals, in relation to their position in the organisation and, in turn, they are also affected by Terna's business from an economic perspective, as well as in terms of personal and professional well-being and development. This category also includes employee representatives and Terna's own supervisory bodies.
When interacting with this category of stakeholders, the company uses the following engagement tools: direct surveys or on a sampling basis, internal communication initiatives and focus groups on specific issues. Specifically, in May 2016 it was conducted via a questionnaire. The biannual survey on the training effectiveness involved all employee managers and coordinators with the aim of gathering brief feedback on the quality of the training provided between 2015 and the first quarter of 2016. As with previous editions, the subjects investigated concerned – in order – the utilisation of the training by the respondent, the training taken by colleagues and the overall perception of the role played by training within the company. The survey, to which 61% of the managers involved responded, confirmed the positive assessment for all of the investigated subjects: 91% assessed the training provided directly as very effective/effective; the figure rises to 94% for the training provided to colleagues. Lastly, 95% of respondents gave a high/good level to the results achieved by colleagues in terms of skill development and consolidation.
Personnel management policies, human resource management and all aspects concerning their health and safety are discussed in the relative "Personnel" section on page 154.
Terna employees accounted for 23.7% of total value added in 2016. A breakdown of the value added during the year is available in the "key indicator tables" on page 197.

Industrial Relations

All Terna employees[8] are covered by the collective labour agreement adopted by companies in the electricity industry.

G4-LA8

The National Collective Employment Contract (CCNL) provides for the establishment of a bilateral body – at the electricity industry level – on "Health, safety and the environment", to make proposals, verify, monitor and coordinate training on environmental and safety matters.

G4-LA5

Employee involvement in matters of health, safety and the environment is currently regulated by law and by collective bargaining, which provide for the election of Employee Health, Safety and Environment Representatives (ESERs) by all the employees, thus representing 100% of the workforce.
The relations between Terna and the trade unions at the company level are governed by the "Protocol on the industrial relations system", which defines a system of relations divided into contract negotiation, discussions, consultation and advance and/or periodic information exchange.

G4-LA4

Trade union involvement in organisational changes is one of the central aspects of industrial relations: it is regulated both by legal provisions, industry-wide contracts and company agreements. In accordance with the union agreements in effect at Terna, in the event of significant organisational changes, preliminary discussions with the unions must take place, to be concluded within three months. In these discussions, the Company should make available the documentation necessary to ensure a complete overview of the organisational project, enabling observations and proposals to be formulated.
The rate of unionisation of Terna employees in 2016 was equal to 50.2%, up slightly compared to the previous year; union membership is concentrated in the biggest groups.
During the three-year period 2014-2016, negotiations with industry trade unions resulted in the signing of 58 written agreements.
In 2016, industrial relations work specifically involved industry-wide participation in negotiations for the renewal of the National Collective Employment Contract (CCNL) which expired at 31 December 2015.

(8) Employees of the subsidiary Terna Crna Gora d.o.o., operating in Montenegro, are covered by an individual secondment contract. For any matters not expressly covered, reference should be made to the CCNL [national collective bargaining agreement] for the electricity sector. The national collective bargaining agreement for the metalworkers sector applies to Tamini Group employees.

Regulation of Strikes Within the Electricity Service

G4-HR4

Relations with trade unions in the industry also give rise to the regulation of indispensable services that must be performed, in the event of a strike, to ensure service continuity. At Terna, the National Trade Union Agreement signed in February 2013 is applied. As workers responsible for NTG transmission and operating activities, the following shift workers are exempt from strikes:

- operators responsible for real-time control of the national electricity system, remote control of transmission plants, verifying production plans and procuring the production resources necessary for dispatching
- workers with the task of checking, coordinating and operating the computer systems, auxiliary services and infrastructure governing the dispatching of electricity nationwide
- Security Operations Centre workers

As for personnel on call, the agreement establishes that, although they have the right to suspend normal performance during the strike, they are obliged to be on call throughout the duration of said strike.

Electricity Service Operators

These are the parties that represent the various activities connected to the electricity service and with whom Terna maintains relations that are severely regulated and marked by mutual impact and influence on many levels. These stakeholders also have potential influence on regulatory authorities and public decision-makers.
Terna maintains relations with grid users and electricity industry operators through various communication channels. These relations are largely defined by the regulations that govern the processes of development and management of the electricity grid. Terna has also developed additional channels, such as the portals My Terna (the platform through which Terna manages contracted dispatching users, with an associated dedicated call centre) and GAUDÌ.
In addition to the information below, please see the section on “Regulators of licensed activities”, which deals with the public consultation process on the Development Plan managed by the AEEGSI that takes the form of an engagement activity between Terna and sector operators.

Consultation Committee

The Committee is a technical body, chaired by a Terna representative, that constitutes the permanent base for consultation with companies involved in the electricity industry and includes representatives from the various user categories, namely: distributors, producers (from both conventional and renewable sources), large industrial customers, wholesalers, and consumers. The Regulatory Authority for Electricity, Gas and Water and the Ministry of Economic Development participate as observers.
The Committee has an advisory role regarding the general criteria for the development of the grid and interconnections and amendments and additions to the Grid Code that become necessary based on operational experience acquired or following on from changes to the legal or regulatory framework.
The Committee may also advocate changes to current rules and may play a conciliatory role to facilitate the resolution of any disputes resulting from the application of the rules of the Grid Code.
In 2016, the Committee was involved in the consultation process for the update and revision of the Grid Code with regard to rules for dispatching, the unavailability protocol and the procedure for the connection of plants to the NTG.
The Committee was also provided with precise information concerning the progress of the activities referred to in previous Development Plans and the possible development of system scenarios and lines for developing the 2017 Development Plan. In 2016 the Consultation Committee met twice.

The GAUDÌ Portal

GAUDÌ is the Unique Plants Data Management system for the electricity generated by Terna at a national level, pursuant to the resolution of the AEEGSI ARG/elt 124/10, in order to streamline the flow of information and simplify the processes that affect companies in the electricity generation sector.
All production plants within Italy are identified within GAUDÌ, no matter their size or fuel source (conventional, renewable, cogeneration, etc.).
The system uses a unique code at national level to identify the production plants and individual units contained therein in order to facilitate the alignment of databases managed by institutional and systemic organisations within the sector (AEEGSI, Terna, GSE, distributors) and provide feedback concerning the stored data. The GAUDÌ also monitors the plant qualification process in the market. The development stage of each production plant can be followed, from the authorisation phase to connection to the grid and when it comes into commercial operation.
For regulatory reasons, the functions of GAUDÌ have been extended over time and, consequently, new modules have been developed on the platform: the GEDI (Distributed Generation) and the SSPC (Simple Production and Consumption Services), the Single Form (for managing the simplified connection process) and new functions that not only allow for plants to be activated, but for all the operations related to the entire life-cycle of the plant to be managed.
Specifically, during 2016 functions were developed that allow the transfer and application of connection requests and the decommissioning and conservation of plants to be managed via GAUDÌ.
The aforementioned functions were put into operation following on from two workshops with distributors.

Date	Registered office	Participants
11/11/2016	Utilitalia - Rome	Representatives of Utilitalia, GSE A-RETI, E-DISTRIBUZIONE, ASM TERNI, IRETI (IREN), DEVAL, A.E. GIGNON, ATENA (teleconferenced from Turin), RETI PIÙ (teleconferenced from Verona), A2A, MEGARETI, UNARETI (teleconferenced from Brescia), LINEARETI (teleconferenced from Cremona).
18/11/2016	AEIT - Trento	GSE, AEEGSI and around 120 electricity sector operators.

Participation in Industry Associations

Another opportunity for interaction and discussion in order to contribute to the general improvement of the electricity industry and its regulations and technical standards is provided by Terna's presence in the main national and international industry associations.

EUROPEAN ASSOCIATIONS

Stakeholder	Activities and Relations in 2016
EASE (European Association for Storage of Energy)	The European association that encourages research and industrial development in the field of storage systems, and promotes this technology for the transition towards a stable, flexible, eco-sustainable and less costly continental energy system.
RGI (Renewables Grid Initiative)	The association that combines several NGOs that focus on environmental issues and eight European grid operators (Terna, 50Hertz, Elia, National Grid, RTE, Statnett, Swissgrid, Tennet) with the objective of integrating renewable energy sources arising from distributed generation and plants connected to the transmission grid, by developing electricity networks.
CCE (Conseil de Coopération Economique)	A non-profit advisory body based in Paris, established in 2002 under the patronage of the governments of France, Italy, Portugal and Spain, with the aim of bringing the corporate world and European policy-makers together, thereby contributing to information and comparison activities with European Institutions.
CIGRE (Conseil International des Grands Réseaux Electriques)	An international non-profit organisation in the research sector relating to High Voltage grids, with the objective of disseminating and developing technical know-how in the field of electricity generation and transmission in the 57 member countries. The association conducts its work through technical committees, which carry out research and studies on the planning, operation and maintenance of High Voltage electricity lines. Terna holds the Chairmanship for the Italian Committee.

During 2016 Terna strengthened its presence within industry associations that are focused on the Mediterranean basin in particular. It also formed association relationships with organisations concerned with wider areas in order to monitor the socio-political and economic contexts in which it develops its business. Lastly, at a bilateral level, Terna and the French TSO, RTE, implemented the Memorandum of Understanding that was signed in 2015 concerning the mutual collaboration in grid development and non-regulated activities, technological innovation and research.

INTERNATIONAL ASSOCIATIONS

Stakeholder	Activities and Relations in 2016
CFR (Council on Foreign Relations)	Private American association based in New York and Washington, founded in 1921 to address the challenges in the field of foreign policy with its approximately 5000 members, including big business. During the year the company's top management took part in the 4th Summit of the association, which was held in New York on 22 February.
Council for Italy - USA relations	A private, non-profit and non-partisan bilateral association established in 1983 on the initiative of prominent Italian and American figures. The council aims to promote and implement useful activities for developing relationships – particularly economic ones – between Italy and the USA, as well as Europe and America more generally.
GO15 (Reliable and Sustainable Power Grids)	An international association that brings together the 18 largest transmission grid operators in the world. Terna contributes to the association's work by chairing Committee 2, which addresses the security and reliability of the electricity grid.
Med-TSO (Mediterranean Transmission System Operators)	The association of the electricity transmission system operators of 18 Mediterranean countries formed in April 2012 with the objective of creating a platform for multilateral cooperation among TSOs to promote the integration of electricity systems in the Mediterranean. Terna hosts the operational headquarters of the association in Rome and carries out the duties of General Secretary, as well as chairing Technical Committee 1, which deals with the planning of the Mediterranean electricity grid.
RES4MED (Renewable Energy Solutions for the Mediterranean)	Non-profit association that aims to share its expertise in the renewables sector in order to promote projects in the countries of the Mediterranean basin (North Africa, the Middle East and the Balkans). In 2016, RES4MED launched a new initiative, Renewable Energy Solutions for Africa (RES4Africa), a platform of stakeholders from the energy industry that aims to promote dialogue on the issue with the countries of Sub-Saharan Africa.
WEC (World Energy Council) Comitato Italiano (Italian Committee)	An international association that brings together the operators of more than 90 countries which adhere via their respective national committees. The main association event is the "World Energy Congress", a time of lively debate worldwide, which is held every 3 years. Terna is a member of the WEC Italian Committee. In 2016 it participated in the 3rd National Conference concerning the theme of Energy Cyber Security.

Relations with Consumer Associations

It continued its efforts to build and manage local consensus through the "Terna Information Campaign – Consumer Associations" project with Codici, Lega Consumatori, UNC, MDC, Assoutenti, Adoc and Movimento Consumatori. The campaign aims to achieve maximum information-sharing with the localities affected by the implementation of planned infrastructure in order to increase awareness of the usefulness and benefits of the new infrastructure. The project was implemented by focusing on the activities in the Campania region for the Montecorvino-Benevento work with one-to-one meetings and courses with key stakeholders. One of the latest proposals included creating a Campania Region Observatory to implement the supply of information and company responses to a particular work, with activities that are increasingly attentive to dialogue needs.

Economic Relations with Electricity Service Operators

Terna, in providing the various public services entrusted to it under concession, comes into contact with different categories of entity that may be summarised thus:

- dispatching users, i.e. parties (manufacturers, wholesalers or customers) to whom Terna supplies dispatching services
- manufacturers and customers to whom Terna supplies the NTG connection service
- distribution companies in close proximity to the transmission grid, to whom Terna delivers energy needed to meet customer demand

Terna has economic relations also with a further category of entity: represented by interruptible customers, i.e. customers willing to undergo sudden suspension of electricity supply of their plants.
Via the dispatching service, Terna guarantees that dispatching service users have access and use of the National Electricity System, also performing all the activities necessary at any time to ensure a balance between the consumption and production of electricity. To do this, Terna buys resources on a market in which it is the only operator: the so-called Dispatching Services Market (MSD).
On this market, Terna buys and sells electricity and other essential services such as the reserve, with the purpose of ensuring a moment-by-moment balance of the system. In 2016 the economic items related to the MSD amounted to about € 1.7 billion.
Terna also has the task of attributing to each dispatching service user the costs that the latter has generated for the system due to the imbalances caused, i.e. the difference between how much the user programmed and how much they imputted/withdrew from the grid. Such differences between the final programmes of operators (both producers and consumers) and their actual behaviour attract the invoicing of imbalance charges.
Most of the interactions with electricity operators are managed through the MyTerna portal, a platform created to optimise the commercial relationship with counterparts. This portal is the main access channel for services dedicated to operators, including management of the database for requests for connection to the NTG; stipulation of withdrawal contracts; management of contacts; and viewing of the main data for each operator.
In 2016, Terna procured resources for interruptibility and instant-load-reduction services, which aim to secure the functioning of the national electricity system in the event that resources procured on the market were found to be insufficient. In 2016, there were 286 assignees of the interruptibility and instant-load-reduction service for about 3,566 MW of power and the related economic liability amounted to about € 0.3 billion on an annual basis.

EU3

ELECTRICITY INDUSTRY OPERATORS COLLABORATING WITH TERNA – NUMBER OF USERS

	2016	2015	2014
USERS			
Interruptible users	286	275	290
Distributors directly connected to the NTG	25	25	25
Input dispatching users (Producers and Traders)	259	307	494
Withdrawal dispatching users (Traders and end customers, including the Single Buyer)*	291	286	256

* *The data refers to the total number of dispatching service contract holders. The data referring to years 2015 and 2014 have therefore been updated, which reported only the number of counterparties with which the economic regulation of the fees for imbalances was made.*

Suppliers

These are the parties whose products, services and skills Terna uses to support (directly or indirectly) the execution and development of its own business activity. In their relationship with Terna, they are affected economically and, simultaneously, exert operational or strategic influence, depending on their relevance to the supply business. This category also includes the trade associations representing the interests of similar groups of suppliers.

In 2016, total spending to procure services, supplies and labour amounted to over € 529 million, distributed among 1,818 suppliers with whom contracts applied during the year.

The usual point of contact for Terna and its suppliers is the "**Procurement Portal**", the section of the corporate website where it is possible to learn about tenders, participate in online tenders, and go through the qualification process for inclusion on the Supplier Register.

In 2014, Terna adopted the electronic platform for managing contract tenders. This tool ensures that the tender procedures are done digitally and that all the documentation produced is also digital.

The Procurement Department also maintains direct contact with suppliers to manage contractual relations and improve the Company's knowledge of specific problems with groups of suppliers. To that end, meetings are periodically organised with specialist companies or industrial associations to inform them about any updates to the requirements, or points of attention related to the ethical conduct to be followed in relations with Terna.

Terna presents and discusses its main investment projects and relative procurement plans with the **electromechanical companies in the energy industry** (mostly members of Confindustria ANIE) and organises meetings on specific issues with particular reference to safety. The important action programme requires an even greater effort on the part of suppliers, who are required to act not merely as simple contractors but as real technological partners. Terna plays an active role in key meetings with suppliers such as industry meetings, expos and conferences.

In order to expand its portfolio of suppliers, Terna continuously engages in "**procurement marketing**" by market scouting, benchmarking and monitoring the performance of suppliers. This involves constant meetings with both Italian and overseas supplier firms.

For details on the supplier qualification and evaluation process, as well as the monitoring of safety, the environment and human rights at sites, see the "Supply Chain Sustainability" section on page 53.

Terna, finally, promotes the settlement of any disputes that arise with suppliers.

DISPUTES WITH SUPPLIERS

	2016	2015	2014
Pending litigation	22	24	23
Existing litigation	0	3	2
Settled litigation	2	2	2

Regulators of Licensed Activities

These are the Italian and EU public bodies and institutions to which the law confers regulatory, guidance and control powers over Terna as the party licensed for the transmission and dispatching of electricity.
In performing its activities, Terna maintains continuous relationships with these organisations in order to develop, update and implement that which is provided for by sector law and regulations, also playing an advisory and technical support role for both Italian and EU institutions.

Main Activities in 2016

20 January 2016 – Following on from the launch of the public consultation process of the scheme of the 2015 National Transmission Grid Development Plan (DP)[9], Terna presented the findings of the comments received at a public meeting in Milan at AEEGSI headquarters. The consultation on the 2015 DP scheme was officially completed on 31 January 2016. The outcome of the consultation (comments on 11 issues received from 5 separate operators/trade associations and the relative analysis and evaluation conducted by Terna) was published on the AEEGSI website.
28 April 2016 – The AEEGSI began the public consultation process of the scheme of the 2016 National Transmission Grid Development Plan (DP)[10]. On 15 June 2016, during the consultation, Terna organised a public presentation of the 2016 DP scheme at the Authority's offices, to the benefit of interested representatives of the electricity system, such as operators and consumers and their associations. At the end of the consultation (30 June 2016), Terna analysed and evaluated the comments received (concerning 14 issues from comments received by 7 separate operators/trade associations). The outcome of the consultation was published by the AEEGSI on its website.
4 November 2016 – With Recommendation/2016/I/EEL, the AEEGSI submitted the findings of the 2015 DP and 2016 DP consultations and authorised the approval of the same by the Ministry of Economic Development.

Regulated revenue

The regulated revenue from transmission and dispatching activities amounts to around 90.0% of Terna's total revenue and is determined on the basis of the regulations of the Regulatory Authority for Electricity, Gas and Water (AEEGSI).
For details on transmission and dispatching service fees, please see the Integrated Report.
With reference to the multi-year regulatory periods, the Authority establishes the structure and parameters for determining revenue and every year intervenes to update the parameters, if necessary.

(9) Pursuant to article 13, paragraph 36 of Legislative Decree 93/2011.
(10) Idem.

THE THREE MAIN TYPES OF COSTS RECOGNISED

TO COVER CAPITAL REMUNERATION (RAB)

*In 2016, this represented approximately **50%** of the costs awarded to Terna.*

The **Regulated Asset Base** (RAB) which represents invested regulatory capital, is revalued annually in accordance with ISTAT data on the change in the deflator of gross fixed investments and is updated on the basis of investment and disposal trends.

The rate of remuneration of the RAB, known as the **Weighted Average Cost of Capital (WACC)**, is defined by the Authority. As of 2016, the Authority – with resolution 583/2015/R/com – introduced a specific WACC regulatory period of 6 years (PWACC), divided into two sub-periods of three-years. The PWACC sets the basic WACC parameter levels applied to all infrastructure services in the electricity and gas sectors, excluding the specific parameters that refer to an individual service. For the period 2016-2018 the WACC for the transmission service is set at 5.3% and an update is provided for, valid for the second three years (2019-2021), to take into account the change in specific parameters (e.g. risk-free rate, bonus for market risk, β parameter).

With regard to **incentivised investments**, Resolution 654/2015/R/eel confirmed the effects of the incentive regulations from prior regulatory periods for all investments that came into effect at 31 December 2015 and provided for a new "transitional incentive" mechanism for the 2016–2019 period. Under this mechanism, the Authority is expected to approve a list of "O-NPR1" development works (not included in the I3 investments approved by Resolution 40/13) and a list of "I-NPR1" development projects (previously included in the I3 investments) and to recognise a 1% increase in the WACC for 12 years subject to certain conditions set out in Annex A to Resolution 654/2015/R/eel. For the works that make up the I-NPR1s and for O-NPR1 development works, the above Resolution also provides for the possibility of applying an additional output-based bonus.

Additionally, as of 2016, with reference solely to remuneration of invested capital, the delay with which the tariff remunerates investments was reduced (the **time-lag**): the tariffs for the year "n" include the remuneration of investment capital up to year "n-1" and the recognition of depreciation of investments up to year "n-2". The 1% extra remuneration to offset the time lag, from the fifth regulatory period, is therefore limited to investments in the period 2012-2014, and abolished in relation to investments in subsequent years.

For 2017, the revenue recognised was set by the Authority – for the first time – approving a tariff proposal presented by Terna and prepared on the basis of data agreed with the Authority itself and with reference to the historical cost of Terna's investments.

TO COVER DEPRECIATION

*In 2016, this represented approximately **32%** of the costs awarded to Terna.*

Depreciation is adjusted in accordance with the regulatory useful life of assets and new investments that have come into operation. It is also, as with RAB, re-evaluated annually according to changes in the deflator of gross fixed investments.

TO COVER OPERATING EXPENSES

*In 2016, this represented approximately **18%** of the costs awarded to Terna.*

Recognised operating expenses represent operating costs (mainly external resource costs, the cost of personnel and material purchases). The recognised operating expenses are determined by the Authority at the beginning of the regulatory period and are based on the operating expenses reported for the reference year (which for NPR1 2016-2019 was 2014) supplemented by residual portions – temporarily left to Terna – of the extra-efficiency achieved in the two previous regulatory periods. The value obtained is revalued annually on the basis of inflation and reduced by an efficiency factor aimed at completing, over time, the transfer to the final users of the extra-efficiency achieved.

Pass-Through Items

With regard to dispatching operations, Terna manages cost and revenue items connected to the transactions, completed with electricity market operators, to buy and sell the energy: these are the "pass through" items, i.e. those which do not influence the profitability of the Terna Group, as revenue is equal to cost.
These items include payments such as the capacity payment which Terna collects from withdrawal dispatching users and passes on to the producers who make the capacity available on the market. It also includes the payment that Terna collects from the withdrawal dispatching users and passes on to the operators which supply the load interruption service.
A significant proportion of pass-through items consists of uplift, a tariff component which includes various system costs, including covering the net expenses incurred to procure resources on the Dispatching Service Market (DSM).
In 2016, pass-through revenue and costs for the Terna Group totalled € 5,598.5 million.

2016 Incentive Schemes

The current regulatory framework includes bonus and penalty incentive schemes aimed at encouraging service improvement, both in terms of technical reliability and cost. As is implicit in incentive mechanisms, upon reaching objectives, the benefit to service users will be a multiple of the incentive paid. The incentive schemes within the regulatory framework provided for the 2016-2019 period can be summarised into two types:

- the transmission service quality: non-tariff incentive scheme
- the selective promotion of significant strategic investments: tariff incentive schemes (as described above: extra WACC potential and output based incentive potential)

The bonuses/penalties connected to achievement of the objectives established in the incentive schemes are included in the total regulated revenue.

Customers (Non-Regulated Activities)

These are the parties who purchase the services offered by Terna in non-regulated sectors. They have an economic influence because they differentiate the company's revenue (financial influence) and are affected by Terna's activity in relation to the service provided.
In keeping with the features of the sectors in which it operates, Terna has developed a range of distinctive competencies that it intends to harness, within Italy and abroad, to develop its portfolio of services and solutions in the non-regulated field.
In Italy in particular, the parties that Terna focuses its offer on are typically energy-intensive companies that are directly connected to the National Transmission Grid, with whom consolidated and long-lasting relationships have been established over the years. Conversely, abroad, Terna proposes solutions based on its "core business", directly interfacing with institutional bodies, such as regulatory authorities, governmental entities and other TSOs.
In addition to this, Terna also offers TLC services to sector operators, thus utilising its infrastructure to the fullest, also with a view to implementing its Ultra-Broadband plan, which is crucial for the digital development of Italy.
In line with the initial phase that characterises the development of Non-Regulated Activities, the canvassing of stakeholder expectations and satisfaction is being defined for this category of stakeholders, referred to in the company through the new Business Development Department and by Terna Plus.
In 2016, revenue from Terna customers in the non-regulated sector amounted to € 186.6 million.

TERNA PRESENTS ITS ENERGY SOLUTIONS TO CLIENTS AND COMMERCIAL PARTNERS

In November, the Terna "Campus" training centre hosted "Energy Solutions Provider", the first event for customers and commercial partners presenting the Group's new role in Non-Regulated Activities (NRA).
To the 60 companies present, which came from all over Italy, Terna outlined the new business opportunities intrinsic to its expertise, its in-depth understanding of the energy scene and the timely monitoring of the changes that animate it, which can give partners the competitive advantage of predicting the crucial business trends of tomorrow.
Terna presented its offer with a focus on projects concerning the construction or renewal of transmission infrastructures; on grid construction and management in countries experiencing economic growth; on technical consultancy services for public, private and institutional customers; and storage systems and smart solutions.
The day was marked by much interaction and continued with working panels on specific subjects and concluded with a customer expectations and satisfaction questionnaire being compiled.

Business Partners

For Terna, the relationship with these stakeholders represents a chance to promote its regulated business or develop new non-regulated business activities. They have operational or strategic influence, depending on how relevant the partnership is for the business. They, in turn, are influenced by Terna in economic and/or operational terms.
The tools available for solidifying these relationships include partnership agreements, protocols, meetings for specific projects and structured collaborations.
During 2016 Terna signed important agreements and memorandum of understandings for Non-Regulated Activities with leading Italian and foreign innovation-oriented companies.

Specifically, in May 2016 a three-year collaboration agreement was signed with Tesla Motors to develop cutting-edge projects on the integration between electric cars and the transmission grid.
The second half of 2016 saw cooperation agreements formed with RFI and ENI to identify and implement initiatives of common interest related to projects that aim to develop sustainable energy systems and support renewable energy production.
Lastly – with reference to the Smart Island project, which includes interventions for the integration of renewable generation plants with advanced systems to manage the electricity grid on the smaller islands – in 2016 collaboration agreements were signed with the Municipality of Pantelleria and Vento di Venezia, a company that is pursuing the requalification of the island of Certosa in partnership with the Municipality of Venice.

TERNA-GUARDIA DI FINANZA AGREEMENT ON "GRID SECURITY"

Terna strengthens its commitment to promoting legality, security and environmental protection via a new agreement with the Italian Finance Police, which reinforces and extends the agreement signed in 2009, introducing "Grid Security", a joint programme based on new integrated security solutions.
The agreement – signed by Terna CEO, Matteo Del Fante and General Commander of the Guardia di Finanza, Giorgio Toschi, in the presence of Chairwoman Catia Bastioli and the Director of the Corporate Affairs Division, Giuseppe Lasco – involves the use of innovative software able to correlate and process thousands of pieces of data related to tenders, procedures to award work, employee training, management of production materials and the processing of waste.
With "Grid Security", the prevention of the risk of criminal infiltration into the economic fabric and legality in the creation of electrical infrastructures is further strengthened.
In addition to sharing the data collected in its 10 individual databases with the Italian Finance Police (GdF), Terna also created the "GdF Terna Construction Sites: Contracts and Subcontract" portal, a tool to be used exclusively by the Finance Police, which allows departments of the Corps to access information flows that are of the utmost importance for acquiring information on investigated activities within Italy.
The agreement also includes the launch of training courses by the Italian Finance Police to consolidate the awareness and competencies of Terna employees in all areas of the fight against corruption.

Shareholders

These are the parties that invest, in various ways and to varying extents, in the capital of the company. Through their investment/disposal decisions, they have financial influence or also – by exercising their right to vote – decision-making influence on the company and are impacted by the financial performance of the company itself. This category of stakeholder also includes parties that, due to their professional role, can influence stakeholders, first and foremost financial analysts and sustainability rating agencies.
Terna interacts with shareholders via road shows, conference calls, presentations, dedicated meetings and the website ("Investor Relations" Section of www.terna.it); contact numbers (for institutional investors: +39 06 8313 9281; for shareholders' details: + 39 06 8313.8136) and dedicated e-mail (for institutional investors: investor.relations@terna.it; for shareholders' details: azionisti.retail@terna.it) and sustainability ratings.

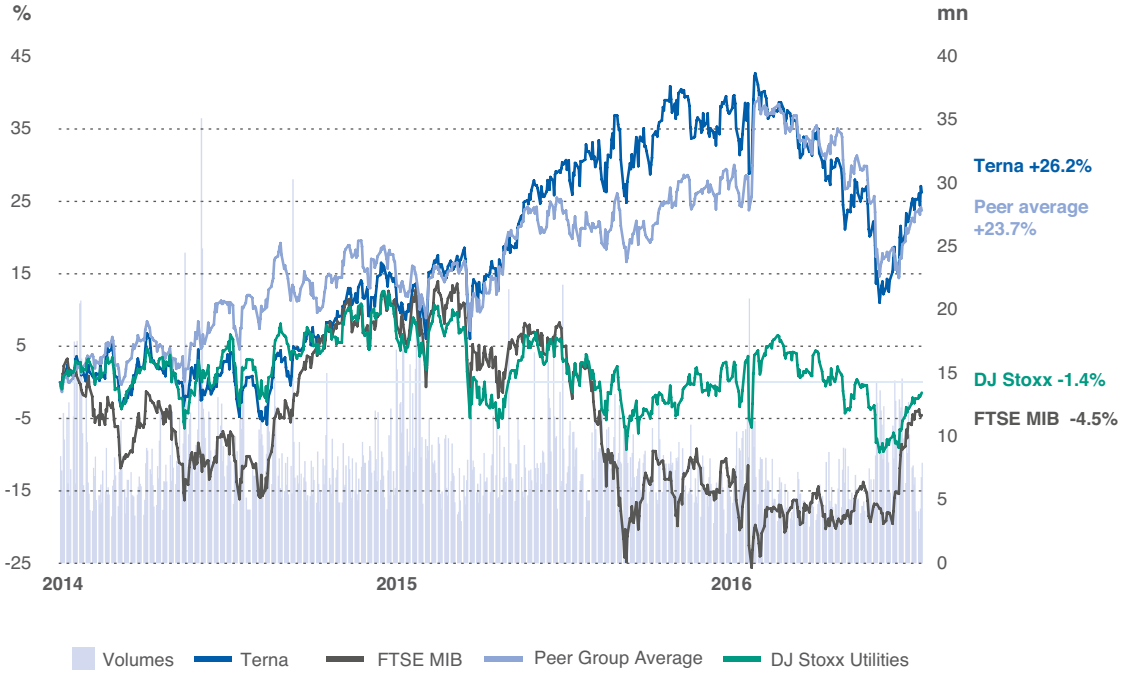
Main Activities in 2016

Requests for information sent via e-mail by retail investors amounted to 12 (7 in 2015 and 11 in 2014) and concerned information on the dividends policy, stock performance, information regarding the dates and availability of Terna corporate documents and/or related to general meetings and/or other information concerning the company.
At the ordinary Shareholders' Meeting held at 30 May 2016, 1,241 shareholders (10 of which in person and 1,231 by proxy) were present, for a total of 1,241,622,270 ordinary shares (61.772498% of the share capital), all entitled to vote.
The Corporate Social Responsibility Unit maintains ongoing relationships with sustainability ratings agencies and, in collaboration with the Investor Relations Unit, with analysts and fund managers, to which it provides the necessary information to assess the company's ESG performance. In 2016, the following organisations requested and obtained information: Legal & General Investment Management, Amundi Asset Management, BNP Paribas Asset Management, Glass Lewis, State Street Global Advisors, Thornburg Investment Management, Nuveen Asset Management, Amber Capital Italia SGR, SBAFLA, Etica SGR, Frontis Governance and ISS.

Share Performance

Terna has been listed on the Borsa Italiana electronic market since 23 June 2004 and is one of the leading Italian companies in terms of stock market capitalisation (sixteenth on the FTSE MIB index). From the date it was listed to the end of 2016, the stock has almost tripled in value (+156%) with a TSR of 429%, outperforming both the Italian reference index (TSR FTSE MIB +9%) and the European sector index (TSR DJ Stoxx Utilities +120%).
The main European stock exchanges ended 2016 with contrasting performance. Milan reported an drop of 10.2%, London and Madrid recorded +14.4% and -2.0% respectively, while Frankfurt earned 3.7% and Paris closed at +4.9%. While stock prices continue to benefit from the decision of the European Central Bank to strengthen expansive measures relative to monetary policy, the markets have been influenced by continuing volatility and an international situation of macroeconomic and political instability.
In 2016, Terna stock recorded a drop of 8.5%, in line with the European benchmark sector index (DJ Stoxx Utilities -8.9%) and outperforming the FTSE MIB index (-10.2%). The stock also recorded an average daily volume traded of approximately 7.3 million shares daily, down compared to 2015 (8.4 million shares).

TREND OF TERNA STOCK AND THE FTSE MIB AND DJ STOXX UTILITIES INDEXES



Source: Bloomberg (Figures at 31 December 2016)

Terna has adopted a policy which provides for the payment of dividends twice a year. The 2016 dividend advance payment was € 0.0721 (payment on 23/11/2016), while the balance proposed by the Board of Directors to the Shareholders' Meeting on 27/4/20017 was € 0.1339. Further information on share performance and dividend trends can be found on the site (www.terna.it/default/Home/INVESTOR_RELATIONS.aspx).
In 2016 the return on risk capital was € 414,058,352, 29.9% of the value added. A breakdown of the value added during the year is available in the “Key indicator tables” on page 197.

Lenders

These are the parties (generally banks and institutional investors) that help to procure the debt capital required by the company through their business activities or their relevant institutional role. Terna maintains a continuous relationship with these parties through many opportunities for discussion (around 100 throughout the year) concerning issues of potential business interest, including possible financing strategies.
In addition, Terna meets with S&P’s, Fitch and Moody’s every year, the rating agencies that assess Terna’s credit rating, especially in occasion of the Industrial Plan presentation. Other opportunities for discussion with these agencies are also provided for during the year, in order to share the calculation of the ratios that the company’s financial profile evaluation is based on.
In 2016 borrowed capital remuneration was € 105,508,004 amounting to 7.6% of value added. A breakdown of the value added during the year is available in the “Key indicator tables” on page 197.

Public Decision-Makers and Authorities

These are the public institutions that hold legislative, control and authorisation powers generally, and for the construction of infrastructural works in particular. They have influence over Terna and interact with the company to carry out their institutional duties. This category also includes organisations that influence public decision-makers and thus Terna, albeit indirectly (e.g. international organisations).

Participation in Industry Associations

Another opportunity for interaction and discussion in order to contribute to the general improvement of the electricity industry and its regulations and technical standards is provided by Terna’s participation in the work of ENTSO-E and institutions.

ENTSO-E AND EUROPEAN INSTITUTIONS

Stakeholder	Activities and Relations in 2016
ENTSO-E	Since its inception, Terna has taken on a coordinating role within ENTSO-E, the European association of grid operators committed to the process of integrating and coordinating electricity grids being implemented under the Third EU Energy Package. Terna's Chief Executive Officer has been the ENTSO-E Vice President since 2015. For details concerning Terna's activity within the ENTSO-E in 2016, see the specific box on page 114.
European Institutions	During the year, Terna consolidated its relationships with European Institutions (European Commission, Parliament foremost), contributing to defining Italy's position in relation to the issues that were of interest to Terna. In the context of the "Clean Energy for All Europeans" Package, the following are of note: the legislative proposals on "Market Design", the revision of the Directive on Renewable Sources and the Security of Procurements, the interconnection targets for 2020 (10%) and 2030 (15%) and the new European Neighbourhood Policy. Priority was also given to preparing the list of Projects of Common Interest (PCI) for the electricity and gas sectors and the area of smart grids, in implementing EU Regulation No. 347/2013, with the aim of ensuring that Terna projects are eligible for the funding provided by the CEF Programme (Connecting Europe Facility). The third list of PCI – the evolution of the second list adopted at 18 November 2015 – is being defined by the European Commission. As far as Italy is concerned, the 2015 list contains the following projects: the Italy-France Piossasco Grande Ile (Savoia–Piedmont) Interconnection, the Italy-Switzerland (Airolo–Baggio) Interconnection, the Italy–Austria (Veneto-Lienz) Interconnection, the Italy–Montenegro (Villanova-Lastva) Interconnection and the Italy–Slovenia (Salgareda-Divaca) Interconnection. Furthermore, the "Smart Grid GreenMe" project between France and Italy and the Italy–Austria (Somplago Wulmak) and the Italy–Switzerland (Verderio Sils) merchant interconnections were considered to be Projects of Common Interest. With reference to the energy corridors in which Italy lies ("North–south electricity interconnections in Western Europe" – NSI West Electricity Corridor and "North-south electricity interconnections in Central-Eastern and Southern-Eastern Europe" – NSI East Electricity Corridor), Terna is progressing the activities for its projects to be inserted in the third PCI list, expected for 2017, where development of the grid and interconnections with other countries should be confirmed. In this regard, the cooperation framework initiated by the European Commission at the start of 2016 with ENTSO-E is extremely important to ensure the right synergies between the preparation of the Development Plan for the European electricity grid published in 2016 (2016 TYNDP) which identifies the priority development requirements for the European transmission system and the drafting of a third list of Projects of Common Interest.

Main Activities 2016

The Ministry of Economic Development (MED) is Terna's main point of contact for activities covered by the licence.
At October 2016, Terna registered with the Transparency Register, established at the MED on the initiative of the same in order to guarantee the transparency and traceability of meetings at its offices.
Registering on the Register entails adherence and compliance with the behavioural rules provided for by the Code of Conduct published by the Ministry of Economic Development.
In reference to Parliament, in addition to institutional relations and information activities, as part of the hearings held in June 2016 a memorandum on the European Parliament and Council Regulation Proposal was submitted to the Chamber of Deputies regarding measures aimed at guaranteeing the security of gas supply.
During the year, also through associations, Terna took part in consultations on issues of environmental interest, on the reform of the Contracts Code and on the reform of the public administration with particular attention on proposals aimed at improving the efficiency of administrative procedures.

Media and Opinion-Makers

These are stakeholders who hold a mediation role between Terna and other stakeholders.
The media indirectly influences the public in general, as well as public decision-makers and authorities. It can directly impact Terna's reputation or indirectly affect the operational and business environment, as well as energy policy decisions.
The relationship formats adopted by Terna include: communication activities during company, industry and development events, security and sustainability activities, as well as the presentation and distribution of the Sustainability Report and the Strategic Plan, the organisation of information sessions across Italy, dedicated email boxes and social network profiles.
In 2016 media communication work accompanied the transition that is taking place in the energy sector, mainly aiming to support the importance of electrical infrastructures as an enabling factor in the change that is under way. Terna has contacts with over 300 media professionals within Italy and abroad. This crucial transition phase is also cultural and has resulted in the modification of communication activities, which are now increasingly focused on interventions of greater relevance and across a broader range of media (TV, radio, print and web). Moreover, it has made a different approach necessary, supported by the planning and preparation of increasingly accurate content and in-depth analysis, which led to the publication of 522 stories and articles focused on Terna, ad hoc videos and articles/interviews dedicated to top management. 116 press releases were issued in Italy (+41% v 2015) and 79 regional memos; 54 presentations and speeches were prepared for top management and 78 events were created and managed (including corporate and territorial events, national and international workshops, stands and internal events), 29 of which received media coverage. Overall, Terna has totalled over 17,000 releases across traditional media (newspapers, magazines, radio and TV) and online media, due to over 3,000 instances of direct contact by the press office with the press.
The corporate site www.terna.it has totalled over 3,800,000 page views and 1,700,000 visits (+40% compared to 2015) and was ranked within Webranking Italia's Top Ten of 100 of the largest listed companies. In 2016, a new homepage for the site was published online which, having undergone a visual overhaul, doubled the communication space for the various stakeholders and became an important information hub that enhances the company in its unique position as Transmission System Operator.
The presence and involvement of stakeholders on the company's social channels rose sharply, with significant employee engagement. At the end of 2016 the Facebook profile had 7,238 fans (+40% compared to 2015), Twitter 3,020 followers (+56%) and LinkedIn 25,400 followers (+ 33%).

IPSOS "IN-PRESS" 2016 SURVEY

Terna's external communication in 2016 was analysed by the Ipsos IN-PRESS survey, qualitative-quantitative press research that aimed to ascertain the effectiveness of the communication strategies of the main Italian companies and their relations with the media. The survey was conducted on the basis of 92 telephone interviews with journalists from 60 publications (national and local), 20 news agencies, 4 news broadcasts and 8 communication companies.
A very positive image of Terna emerges from the analysis, conducted on 41 companies, which stands out from the infrastructural companies as a solid and efficient company with a clear vision for the future and high-level management.
The press office was also assessed as being extremely positive: indeed, it achieved the best result in the infrastructural sector and was amongst the top three in the energy industry. Terna is the top company in the infrastructural sector in terms of speed and precision when providing information to the press and for availability and openness towards journalists, as well as being one of the best in terms of the competence and professionalism of its press office. These are all relevant aspects for the press, which recognises - thanks to the transparency and continual flow of communication with the press office team - Terna's new work approach with initiatives that focus on the sustainability and sharing of projects with local communities and the surrounding area, as well as protection of the law, workers and the growth of its resources.

During 2016 Terna signed an agreement with ENSIEL - the Consortium of Italian Universities operating in the area of energy and power systems (Consorzio interuniversitario nazionale per energia e sistemi elettrici) - to identify and conduct scientific research into electricity transmission and management, involving the associated universities. Thanks to this collaboration with ENSIEL, Terna has also joined the work panel promoted by ENEA - the Italian National Agency for New Technologies, Energy and Sustainable Economic Development (Agenzia nazionale per le nuove tecnologie, l'energia e lo sviluppo economico sostenibile) in order to take part in the tender for new technological clusters published in August 2016 by MIUR (Ministry of Education).

Participation in Associations

A further opportunity for dialogue and comparison is provided by Terna's membership in international and national corporate social responsibility associations, in order to spread a sustainability culture, and to promote its experience with a view to sharing best practices. In particular, Terna actively supports the following organisations:

Organisation	Business
IIRC – The International Integrated Reporting Council	An international organisation which published the first framework for the integration of financial, environmental, social and governance information in a single report in December 2013. Terna has been associated with it since 2011 and, following on from its participation in the three-year Pilot Programme (2011-2013), Terna is now part of the Business Network, which works with various companies and organisations at the global level to exchange experiences and best practices.
LBG - The London Benchmarking Group - Corporate Citizenship	An international benchmark organisation for measuring the contribution and impact of Corporate Community Investments. Terna employs the LBG model for monitoring and assessing expenses for the community (for more details, see page 88).
Fondazione Global Compact Network Italia (Global Compact Network Italy Foundation)	Terna has been a member of the Steering Committee of the Italian Network since 2011, and contributed to the Committee's work in 2016 mainly as the promoter and founder of the Global Compact Network Italy Foundation.
Fondazione Sodalitas	A benchmark organisation within Italy committed to promoting the spread of corporate sustainability and dialogue between businesses and the non-profit sector. Terna is one of the founders.
Anima per il sociale nei valori d'impresa (The Spirit of Social Responsibility within Corporate Values)	Terna has a been a member of this non-profit association since 2010 which brings together managers and companies united by the desire to spread an entrepreneurial culture which combines profit with the creation of well-being within the community.
Fondazione per lo Sviluppo Sostenibile (Foundation for Sustainable Development)	Terna became a member in 2011. The organisation's principle activities consist in studying sustainable development issues - from a cultural and technical perspective - through research, seminars and meetings.
CSR Manager Network	The reference association for professionals who deal with sustainability and Corporate Social Responsibility in their roles as company managers, consultants and researchers. During 2016, Terna supported research on "Materiality Analyses: Implementation, Impacts and Future Developments".

Organisation	Business
Acquisti e Sostenibilità (Procurement and Sustainability)	An association which carries out studies and makes it easier for companies to compare experiences to improve awareness of sustainability tools for the responsible management of the supply chain.
GEO – The Green Economy Observatory	An association which carries out studies and makes it easier for companies to compare experiences to improve awareness of sustainability tools for the responsible management of the supply chain.
Kyoto Club	The non-profit organisation made up of businesses, bodies, associations and local administrations engaged in reaching greenhouse gas reduction targets set by the Kyoto Protocol and promoting awareness-raising and information initiatives and training within the fields of energy efficiency, renewable energy sources and sustainable mobility.
Transparency International Italia	The Italian arm of the international organisation which works to fight corruption (see also pages 50 and 54).

TERNA WITH LEGAMBIENTE, WWF AND GREENPEACE FOR THE ENVIRONMENTAL SUSTAINABILITY OF THE NTG

Terna's commitment to increasingly improving the environmental sustainability of the National Transmission Grid starting with its Development Plan has been strengthened with the signing of the new memorandum of understandings with Legambiente, WWF and Greenpeace.
Terna and the environmental associations will collaborate fully: at the strategic level when drafting the National Electricity Grid Development Plan, at a structural level in preparing the Strategic Environmental Assessment and at an implementation level when consulting with the community to identify the most compatible location choices.
More specifically, when drafting the Terna Development Plan, Legambiente, WWF and Greenpeace will contribute to the assessment of future energy scenarios in relation to national and European environmental targets for the energy scenario in 2030 and 2050, in Italy and Europe, in line with the agreements signed in Paris in December 2015 (COP21).
Within the Strategic Environmental Assessment (SEA), the expected contribution concerns analysing the socio-environmental context of areas affected by the interventions provided for in the Development Plan and identifying the environmental corridors related to the works to be carried out.
Lastly, in regards to the design of the works and dialogue with the community, the organisations will cooperate in identifying the route feasibility bands for the sections of the electricity lines and the environmental content for consultation with local authorities, so as to minimise interference with priority natural areas, and mitigate the impact arising from development work disrupting or bordering on priority natural areas and implementing environmental rehabilitation measures.

Local Communities

G4-SO1

These include various kinds of stakeholders affected by Terna's activity in the community during all stages of the business, from development to grid maintenance. The identified parties include subjects that are directly or indirectly impacted, as well as subjects with the power to influence local opinion-makers, politics and decisions.
Terna's approach to local areas, which is especially important when new lines are being constructed, consists of a voluntary process of prior engagement with local institutions (regional and local administrations, park authorities, etc.) and, in the last few years, the citizens of local communities directly affected by the work. This process involves the sharing of NTG development needs with local institutions, a willingness to listen to stakeholder opinions and the search for a shared solution regarding the positioning of new infrastructure or the reorganisation of existing structures.
In this way, the conditions are created in which to develop and "build" the grid together, thus making it more sustainable and acceptable.
Terna's engagement with local areas envisages a voluntary pre-authorisation procedure illustrated in detail in the section on consultation, on pages 84.
During 2016, Terna held a total of 181 meetings with local administrations, involving around 270 bodies.
Terna has also held 7 public events, described in the box below, involving more than 200 citizens and has strengthened its commitment to communication in local areas.

"TERNA MEETS" LOCAL CITIZENS

Consistent with the approach it took to discussion and sharing with local areas, Terna developed a new stakeholder engagement tool for citizens. Drawing from a European regulation (347/2013) on the interoperability of trans-European energy networks, Terna chose to engage the citizens who live in the areas which are destined to be the sites of the main NTG development works.
Before beginning the authorisation procedure for its works, Terna organises public meetings, referred to as "Terna Meets" in order to meet the local communities and explain the need to develop the grid which necessitated the work, explaining the implementation methods, as well as alternatives that had been identified and, above all, making itself available to receive comments and clarification requests. Thus Terna extended the direct engagement approach that it had already adopted with public administrations to individual citizens. The details of the "Terna Meets" held throughout the year can be found in the table below.

Project	"Terna Meets" (no.)	Date	Registered office	Citizens attended (no.)
Rationalisation of the Lucca 380/132 kV grid	1	28/01/2016	Nozzano Castello (LU)	67
Glorenza – Nauders Italy–Austria 132 kV Interconnection	2	05/05/2016 12/05/2016	Malles Curon	35 25
Alto Bellunese HV grid rearrangement	2	09/11/2016 10/11/2016	Auronzo di Cadore Cortina D'Ampezzo	25 30
Italy - France Interconnector	1	16/12/2016	Trana	25
Lucana power line	1	20/12/2016	Oppido Lucano	15
TOTAL	7			222

A Responsible Approach to Grid Development: Consultation

G4-EN27

Since 2002 Terna has chosen to **voluntarily bring discussions with local stakeholders forward to the project planning stage** (for power lines and electrical substations) within its Development Plan to improve the quality of the relationship with public administrations which, in this way, are involved in sharing the electricity grid development needs and can work alongside Terna to find sustainable solutions which accommodate those needs.
The aim of this method is the **optimal localisation of new installations:** Terna and the public authorities find shared solutions, in terms of local **corridors**, based on area criteria (known as "ERPA criteria") and ratified in specific agreements. Through constant discussion with local stakeholders, considerations concerning the environment and the local area are thereby integrated into the electricity grid planning process.
This approach preceding involvement which would subsequently be outlined by the Strategic Environmental Assessment (SEA), subject to an EC Directive (2001/42/EC), which was transposed into Italian law only many years later (in 2007 with Italian Legislative Decree 152/2006) and with much less detailed implications at the level of relations with local institutions. Further information on SEA is available in the "Electric System" section of the website.
In addition to dialogue with local institutions, in 2015 Terna increasingly made use of another mode of dialogue and discussion with citizens directly affected by the move to new infrastructures: "Terna Meets", public meetings during which the company describes the requirements for developing the grid that led to the need for work, explaining the implementation methods, as well as alternatives that had been identified and, above all, gathering comments and clarification requests and providing immediate feedback.

Area Criteria

Agreement on **location criteria** is the instrument used for selecting local corridors with least impact. These criteria are used to identify the greater or lesser degree of suitability of an area to host new electrical infrastructure.
Terna and the Regions have agreed on a system of criteria (**ERPA**), based on four classes, to be adopted when locating new electrical works:

- **Exclusion:** areas in which all construction is excluded. Currently, the exclusion criterion includes areas recognised by law as areas of absolute exclusion (such as airports and military zones) and areas which are not directly excluded by law but which are constrained by a priori agreements between Terna and the entities involved
- **Repulsion:** areas that can be considered only in the absence of more environmentally compatible alternatives
- **Problematic:** areas in which passing is problematic for an objective reason associated with specific features of the area and documented by the authorities involved, which therefore require further analysis
- **Attraction:** areas with good landscape compatibility and areas that already host line infrastructure such as energy corridors, in which it would be more sustainable to position a new line with respect to new areas that do not have any line infrastructure

The support of GIS (Geographic Information System) technology is fundamental when searching for sustainable locations (corridors) for NTG development projects. This technology allows comprehensive consideration of all information relating to the different types of land use and protection obligations (territorial, naturalistic, cultural, landscape, etc.), in order identify possible locations which are the most compatible with the area concerned.

Landowners Affected by NTG Development

EU22

G4-SO2

The construction of new power lines involves the use of between approximately 30 and 250 square meters of land – usually agricultural – for each pylon.
Although Terna is authorised by law to use an expropriation procedure (Italian Law No. 1775 of 1933 and Presidential Decree 327/2001, the "Consolidated Law on Expropriations") to obtain land, Terna prefers solutions based on mutual consent, paying one-off compensation for the right of way of the line through private property. The pursuit of a consensual solution only fails in a minority of cases, making coercive measures necessary.

POWER LINE EASEMENT

G4-EC7

	2016	2015	2014
Owners of land affected by the construction of new power lines (n)			
Total easements	7,857	10,962	12,072
of which friendly	5,886	10,836	11,162
of which coercive	1,971	126	910

When Terna constructs a substation which occupies much more land, Terna normally purchases the necessary land.

Management of Opposition to the Construction of New Electricity Infrastructure

Terna considers respect for the environment and for the territory an integral part of grid planning and makes every effort to act in agreement with the local citizens and institutions. However, new infrastructure-creation projects often provoke adverse reactions attributable to the NIMBY (Not In My Backyard) syndrome. In these cases, Terna is willing to examine the situation and find alternative solutions, including ones which are technically more complex than those originally identified, provided that they are compatible with the general interest of the electricity service in terms of security, efficiency and cost-effectiveness.
Searching for agreed solutions requires difficult discussions and can be a drawn-out process. The results are normally positive, but local opposition may persist throughout. Please note, in particular, the following cases from 2016:

- **Rationalisation in the Middle Piave Valley.** The project was authorised in February 2011 and is now in the environmental-impact assessment phase. Some municipalities, including Belluno and Soverzene, were opposed to the route identified by Terna. In response to this opposition from local bodies, Terna proposed an alternative project in August 2015.
  In 2016, dialogue continued with local bodies and the local area, also due to the organisation of four meetings with citizens, two in Auronzo di Cadore (in November 2016 and January 2017) and two in Cortina d'Ampezzo (in November 2016 and in January 2017).
- **Rearrangement of the 380 and 132 kV grid in the Lucca area.** The project was authorised in January 2014 for the construction of a new electrical substation, a new line and the demolition of other obsolete plants. Initially coordinated with the municipalities involved, the project was later rejected by them as a result of protests by the local population. Terna then prepared four alternative solutions and presented them to the local population during an open day held on 28 January 2016 at Nozzano Castello, near Lucca.

In 2016, dialogue continued with the bodies involved: we are awaiting the decision of the MATTM (Ministry of the Environment and Protection of Land and Sea) concerning the proposed locations presented by Terna.

- **Italy – Switzerland Interconnector**. The project was authorised in 2012. From the very beginning the work was marked by several committees opposed to its construction, which organised various demonstrations and events. In response to these Terna planned two open days: the first in Magenta, (the town where an electricity substation connected to the main work will be built) in October 2015, the second in Settimo Milanese at the end of 2015, where Terna presented citizens with two alternative proposals. In January 2016, Terna met with the WWF, Legambiente and FAI and – separately – the Parco Agricolo Sud Milano (the South Milan Agricultural Park), the Municipality of Settimo and the Region in order to present the possible alternative locations for the Settimo Milanese electrical substation. In 2016, following on from many requests for amendments to the project, technical meetings were held for participatory planning with the municipalities of the Piedmont Region and, following on from the shared agreements with the same, in December 2016 the updated documentation was submitted to the MATTM.
- **Italy-France interconnection**. The project was authorised in 2011. The project is encountering opposition from the NOTAV movement that is active in the Val di Susa and difficulty in conducting geological surveys, which were completed with the help of DIGOS. Note that there is also strong opposition on the French side with violent demonstrations and blocking of sites occurring. At 16 December 2016, a meeting was organised in the Municipality of Trana with the citizens of Val Sangone.
- **Sorgente – Rizziconi**. When the construction sites opened (2011), protests – the work of local committees – broke out in the Messina area against the new power line under construction, despite the fact that the route was fully authorised, thanks in no small part to the two years of technical and environmental studies and intense consultation and dialogue with local communities, which lead to over 100 meetings being held starting in 2004. From February to July 2015, the Prosecutor's Office of Messina sequestered pylon no. 40 in the Municipality of Saponara, for presumed breach of the Provincial Landscape Protection Plan, which was approved after landscape authorisation for the work. From January to March 2016, the same Prosecutor's Office of Messina sequestered pylon no. 45 in the Municipality of Villafranca, which was also released. The power line lawfully entered into operation in May 2016 (see page 106).
- **Lucana Power Line**. The work was authorised by the Basilicata Region in March 2013 and released to Terna in July 2014. Terna obtained an insubstantial variant in October 2016 to resolve interference encountered with wind generators, photovoltaic plants and a water tank. The site was opened in November 2016 and it was only after this that objections were received from the citizens of the municipalities involved and a protest committee was established. In December 2016, Terna organised an open day at the Municipality of Oppido Lucano to discuss with the local community.

The Wider Community

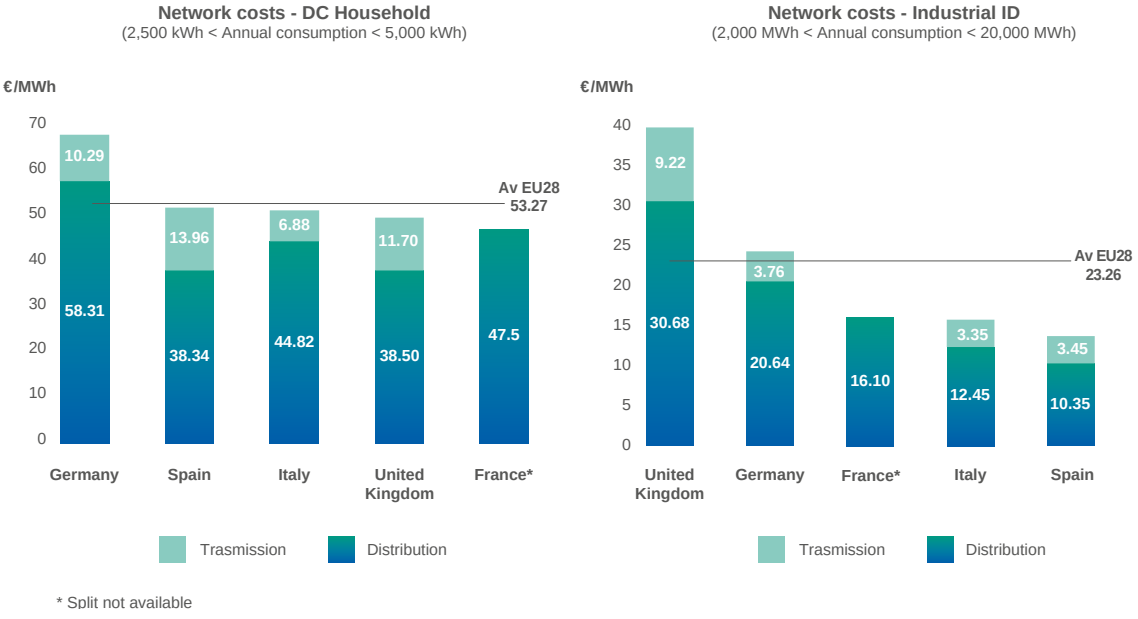
This represents the end users of the electrical service. Meeting their expectations concerning the electrical service is an important area of commitment for Terna. These are the stakeholders who are impacted as users of the electrical service and who do not have the opportunity to influence as individuals. Future users of the service are also included within this category, as they will be impacted in the long-term by Terna's current activities.

In 2016, the research and market analysis company Doxa carried out the "Doxa Reputation Italy 2016" survey, relative to the reputation of 150 brands operating in Italy. In the Energy&Utilities sector, Terna was ranked second in terms of reputation. The Company has an extremely positive image: it is first place relative to solidity and staff competence, and is also recognised for the important role it performs in the country's economy and the positive influence it has on the social context in which it operates.

The Cost of Transmission on the End User's Bill

Based on the data released by AEEGSI, it can be estimated tat the weight of the transmission service cost on a typical domestic user's[11] electricity bill is equal to around 4%[12].
From a European Commission study relative to 2015 data[13], it appears that - in both the residential and industrial segments - "network costs"[14] sustained by Italian consumers are in line with the European average. In particular, in relation to only the Transmission segment, the Italian tariffs were the lowest with respect to some of the countries best representing the sample analysed, as shown in the charts presented below (Terna analysis).

NETWORK COSTS



* Split not available

Economic Effects for the Wider Community

G4-EC8

Terna ensures that a service of general interest which generates economic returns and contributes to the country's economic growth is provided over time.
The Company's grid development work is of particular importance. Developing interconnections with bordering countries makes it possible to import electricity at more competitive prices compared to domestic production, as well as to have an additional power reserve and guarantee greater competition within the energy markets. Reducing grid congestion improves the use of generation resources in order to meet demand and makes it possible to use the most competitive plants, with positive effects on competition within the generation sector and on end prices.
In accordance with the legal and regulatory framework, all of Terna's investments in grid development are examined from a technical and economic perspective, by comparing the estimated cost of the work with the related benefits in terms of the reduction of the overall system expense, in order to maximise the cost/benefit ratio. Consequently, every Euro invested by Terna on average generates multiple savings for the users of the grid which are ultimately passed on to the end consumer. It is therefore significant that Terna's investment (most of which is to develop the grid) has increased greatly over the last few years.

(11) Family that uses 3 kW of power with 2,700 kWh in annual consumption.
(12) Terna analysis of AEEGSI data relative to Q1, 2017.
(13) 2015 figures from Eurostat and the European Commission, "Energy prices and costs in Europe" http://ec.europa.eu/energy/sites/ener/files/documents/com_2016_769.en_.pdf
(14) "Network costs" include tariff and distribution tariffs, losses, measurements and system charges.

OVERALL INVESTMENTS – TERNA GROUP

	2016	2015	2014
Millions of Euro	854.3	1,103.1	1,096.1

The above table shows the Terna Group's total investments in 2016, equal to € 854.3 million, of which € 798.5 million are related to investments in Regulated Activities, i.e. remunerated by the AEEGSI.
In 2016 Public Administration remuneration amounted to € 320,643,092. A breakdown of the value added during the year is available in the "key indicator tables" on page 197.
Relative to the public grants received, we note that with reference to projects financed by the Ministry of Economic Development, following the definitive decree and on the basis of expenses recognised and allowable for the loan, € 4,179,007.81 was returned to the Ministry in 2016.
Additionally, the European Commission agreed to provide a contribution to Terna S.p.A. for the completion of the "Sorgente-Rizziconi" connection project, in an amount not to exceed 21.79% of the allowable cost and in any case for an amount not to exceed € 110,000,000, for which during 2016 the parent company received an advance of € 33,000,000.00.

G4-EC4

CONTRIBUTIONS

	2016	2015	2014
Received for plant from the P.A. (*)	134,139	1,753,945.19	39,399.32
In relation to projects financed by the MED		-	60,535,918.26
In relation to projects financed by the EU	33,000,000		-

(*) These contributions are deducted directly from the value of the plant.

G4-EC1

Community Initiatives

G4-EC7

In keeping with the desire to contribute to Italy's civil growth beyond its infrastructural role, Terna again in 2016 confirmed its support for social, cultural and environmental initiatives.
Terna's corporate giving work consists mainly in providing financial support to projects with social goals and – preferably – in organising Terna's own initiatives for the benefit of the community. In addition, corporate assets which are no longer useful in the production cycle are donated and support is provided in the form of working time devoted to various initiatives by Terna's employees. In particular, this includes paid hours used for volunteering or in social projects organised directly by Terna, which in 2016 included the NEXT ENERGY programme. Each single corporate giving request is managed in keeping with the Group's "Corporate Giving Policy" and assessed by a specific commission made up of the Security and Services, External Relations and CSR, and Human Resource and Organisation Directors.

G4-SO6

In all cases, as established by Terna's Code of Ethics, contributions are never made to political parties or their representatives.
As outlined in the "Participation in Associations" section above, Terna is a member of the London Benchmarking Group (LBG) and has adopted an LBG model – developing a customised variation of it – for defining, classifying and booking company charitable initiatives. The model is oriented to accounting for what is done by companies through initiatives that generate real external benefits; such initiatives may involve contributions in cash (gifts, portion of sponsorships that translates into a real benefit, membership of associations that promote CSR), in kind (e.g. transfer of corporate property at the end of its useful life) and working time. Accounting for contributions requires, in some cases, recourse to non-accounting criteria and is therefore subject to interpretation. However, it also has the advantage of correlating the costs and benefits of the charitable initiatives in a coherent manner, meaning that corporate giving can be strategically planned and rationally managed.

A significant part of the model consists in measuring the benefits, inspired by measurement criteria of the real impact on the final beneficiaries. Impact measurement is assigned to external parties for the most important projects.
In order to provide comprehensive information, we note that in 2016 expenses accounted for as donations and sponsorships amounted to € 246,100 and € 921,000 respectively.
The following table shows the aggregate community initiatives, classified according to the LBG model, carried out by Terna in 2016.

COMMUNITY INITIATIVES

Values in Euro	2016	2015	2014
Total value of contributions (excluding internal overhead costs)	1,189,259	957,720	1,315,628
Breakdown by contribution type			
- In cash	867,167	873,124	1,064,850
- In kind (donation of corporate property)	43,140	9,471	35,445
- Working time	278,952	75,125	215,333
Breakdown by initiative type (*)			
- Donations	241,917	370,687	452,949
- Investment in the community	519,042	233,396	320,505
- Commercial initiatives	428,300	353,637	542,174
Breakdown by purpose			
- Education and young people	355,829	165,024	400,545
- Health	0	0	21,500
- Economic development	107,267	204,138	245,355
- Environment	130,500	74,000	98,800
- Art and culture	432,300	361,489	443,083
- Social welfare	38,600	40,000	20,000
- Crisis support	77,463	5,682	27,445
- Other	47,300	107,387	58,900

(*) **Donations**: occasional contributions, typically in response to requests for funds from worthy charities.
Investment in the community: expenses for initiatives coordinated/organised by the Company as part of a medium-to-long term programme, often in partnership with an NGO.
Commercial initiatives: charitable marketing initiatives (only the part of the expenditure which constitutes a charitable contribution is booked).

Support for environmental causes was not included in this table because, as a rule, it is associated with the construction of new lines and was therefore classified under environmental expenses (please see the relevant paragraph under “Environment”).
This year, once again, work continued on monitoring the effects of corporate giving initiatives. A Terna-LBG questionnaire was sent out for the most important initiatives. In this regard, please note:

Project	Partner	Area	Geographical area	Persons involved/ Beneficiaries	Results
140 years, together. The Corriere tells its story.	RCS Mediagroup	Education and young people	Italy – Milan	10,000 including students (13-17 years old) and teachers.	Widespread distribution of information on sustainable development, respect for the environment, protection of the law and respect for Italian traditions and institutions.
TODAYS To_Lab Project (Training and Innovation)	Fondazione per la Cultura Torino (The Turin Cultural Foundation)	Education and young people	Italy – Turin	approx. 5,000 young people aged 18–35.	Sharing of tools to support professional growth and the development of new enterprises in the creative sector.
European Indoor Rowing Championships 2016	Special Olympics Italia	Disadvantaged social groups (disabled people)	France – Paris	11 people with intellectual disabilities.	By taking part in a trip without family members, improvement in self-esteem and greater socialisation and integration with non-disabled peers was recorded.

NEXT ENERGY: THE TERNA INITIATIVE FOR YOUTH EMPLOYABILITY AND ENTREPRENEURSHIP

Terna has created NEXT ENERGY in partnership with the Fondazione Cariplo, an initiative that aims to promote the development of young talent and support innovative projects for the development of the electricity system.
The strongly innovation-orientated initiative is divided into two distinct pathways. The first is reserved for 15 engineering graduates, preferably from the electrical engineering field, and the second for 10 teams of young researchers who have a business idea to be developed.
Graduates were offered a paid internship lasting six months (October 2016 – March 2017) within the Terna departments responsible for innovation activities. The Fondazione Cariplo, in keeping with the mission of its Cariplo Factory, managed the incubation and acceleration experience of the selected 10 teams through its technical partner, PoliHub, – the Milan Polytechnic facility that focuses on start-up acceleration. This also lasted six months.
The two NEXT ENERGY pathways began at the same time in October 2016 and met regularly with a view to sharing relative skills and experiences. Terna in any case guaranteed a meeting with its technical departments, to create an open innovation initiative.
The selection of participants took place through two calls, which could be accessed for around two months on the dedicated website www.nextenergyprogram.it. Approximately 200 applications were received and examined by two separate Assessment Committees, which – respectively – selected 15 graduated for the internships and 17 teams of innovators for the "Innovation Days" that took place in late September 2016. At the end of this event, the Panel, made up equally by representatives from Terna, the Fondazione Cariplo and PoliHub, chose the best 10 candidates to begin the entrepreneurial empowerment course.
For the innovator pathway, the NEXT ENERGY call includes a second assessment, by the end of April 2017, conducted by the Panel in order to award the best 3 candidates with vouchers to be spent on services in the go-to-market, totalling € 50,000, € 30,000 and € 20,000 respectively.

TERNA FOR YOUNG PEOPLE: THE LAUNCH OF THE "SCHOOL-WORK" PROJECT

The Terna "School-Work" project began in February 2017 at the Istituto Tecnico Galileo Galilei in Bolzano. This is one of the 12 schools selected, for a total of 240 students across the whole of Italy, that will be involved in a training course built jointly by teachers and company experts for professional and soft skills.
This project, implemented by the Good School law (Italian Law 107/15), aims to encourage young people's transition to the world of work, fostering a virtuous cycle of exchange between the company and the external world and supporting their ability to interact at a global level through knowledge networks.
Specifically, the course will involve the fourth years of the schools selected and will be divided into two modules. The first, the "Integrated Course on the Electricity System and Green Jobs", will take place thanks to the contribution of skills from Terna technicians working in the area, amounting to around 50 hours of lessons (from mid-February to mid-May 2017) on the electricity system, occupational safety and innovation. The second module, "Summer Camp", will be held in collaboration with ELIS and will include a selection of students from each school. The objective is to provide in-depth learning on technical issues that are also inherent to soft skills by developing project work, workshops and team work aimed also at orientating the future professional choices of the students.

TERNA IS TO TAKE ELECTRICITY TO THE PERUVIAN REGION OF ANCASH

Terna is renewing its social commitment to the poorest and most inaccessible regions in the world and has undertaken to create a power line in Peru to allow the Parish of Chacas and the NGO Operazione Mato Grosso to significantly increase the availability of electricity, in order to benefit development projects within local communities.
This is Terna's second social initiative in South America: indeed, in 2011 the company completed a power line of approximately 37 km, at an altitude of 4,000 metres, in Kami, Bolivia to transport hydroelectric energy that was otherwise unusable.
This new initiative, formalised in November 2016 with the signing of an agreement with the Parish of Chacas and the NGO Operazione Mato Grosso, provides for the creation of a working group made up of Terna technicians and external volunteers to design and construct a 16 km power line between Pomabamba and Huari by the end of 2017. Terna will see to implementing the technical project, following on from authorisation procedures for the work, to construct - also through its subsidiary companies that operate in the area - the infrastructure from the power station to the point of connection with the line and manage the maintenance for a period of 12 years starting from when the line effectively becomes operational.

Inquiries, Litigation and Penalties

Preliminary Inquiries of the Regulatory Authority for Electricity, Gas and Water

At no time in 2016 did the Regulatory Authority for Electricity, Gas and Water (hereinafter: Authority) begin any formal preliminary enquiries of potential interest for Terna.
However, with reference to previous years, we note the fact-finding enquiry in relation to interruptions in the electrical service that occurred on 6 February 2015 and on the following days in vast areas of the Emilia-Romagna and Lombardy regions, which was launched with Resolution 96/2015/E/eel. This enquiry was closed with Resolution 644/2015/E/eel, through which the Authority approved the "Final Report" and provided for certain stipulations regarding some distribution companies involved in the fact-finding enquiry.
The Authority ordered the closure of the enquiry with Resolution 413/2015/E/eel "*Closure of the fact-finding enquiry related to provision of the electricity measurement service*" which aimed to verify the application of the Authority's provisions concerning electricity measurement, launched with Resolution 475/2013/E/eel". We also note the following procedures which are still pending.

Resolution 450/2013/E/eel of 11 October 2013 – Determination of electricity price trends in Sicily during the maintenance period on the Sicily-Mainland interconnection in October 2013.
With this provision, the Authority extended the fact-finding investigation launched in 2012 (resolution 401/2012/R/eel) on critical issues in managing the electricity system to include Sardinia as well as Sicily. This has been done in order to acquire further information on management of the Sicilian electrical system and the conduct of operators. The deadline for conclusion of both investigations has been extended to 31 March 2014. The closure measure of this fact-finding enquiry has not been implemented.

Resolution 256/2014/E/com at 6 June 2014 – Launch of a fact-finding enquiry on investments of regulated companies
With this provision the Authority enabled the launch of a fact-finding enquiry on regulated-business investment, intended to verify the correctness of the information disclosed to the Authority and to provide

useful elements for the evaluation of the appropriateness and consistency of investments in relation to the industry context. Within the framework of this survey, the Authority intends to prioritise further investigation into the information submitted to determine electricity distribution reference tariffs.
With Resolution 412/2015/E/eel of 6 August 2015 the Authority also extended the fact-finding inquiry on investments of regulated companies to the costs of grid plants for connection made by electricity producers.
Lastly, following the evidence which emerged from the fact-finding enquiry, a series of disciplinary proceedings for violating disclosure obligations relating to tariff regulation of electricity distribution were launched and the enquiry into the investments declared by certain electricity distribution companies was concluded.

Environmental Litigation

Environmental litigation originates from the installation and operation of electricity plants, and primarily involves damages which could derive from exposure to electrical and magnetic fields generated by power lines. The Parent Company and the subsidiary Terna Rete Italia S.r.l. are involved in various civil and administrative lawsuits requesting the transfer or change in operations of allegedly harmful power lines, despite their being installed in full compliance with the applicable legislation (Italian Law no. 36 of 22 February 2001 and the Prime Minister's Decree of 8 July 2003). Only a very small number of cases include claims for damages for harm to health caused by electromagnetic fields.
Only in a few cases have adverse judgements been issued against the Parent Company. These have been appealed and the appeals are still pending, and adverse rulings are considered unlikely.

Litigation Concerning Licensed Activities

Given that it has been the licensee for transmission and dispatching activities since 1 November 2005, the Parent Company is party to a number of cases appealing AEEGSI, MED and/or Terna measures relating to activities operated under the license. Only in cases in which the plaintiffs not only claim defects in the measures, but also allege that Terna violated the rules established by such authorities, or in cases in which the measure had an impact on Terna, has the Company appeared in court. Within the scope of this litigation, although a number of cases have seen the AEEGSI Resolutions struck down in the first and/or second-level court, together with, where applicable, the consequent measures adopted by Terna, it is felt that there is little risk of adverse outcomes for Terna, since the matters generally regard pass-through items. This position is supported by the information provided by the external legal counsel representing the Company in the cases involved. As the licensee for transmission and dispatching activities, the measures taken by the Parent Company Terna when applying the Resolutions adopted by the Authority are sometimes the subject of challenges. In appropriate circumstances, the economic costs of such challenges may be borne by the Authority.

Other Litigation

In addition, a number of cases relating to urban planning and environmental issues connected with constructing and operating certain transmission lines are pending. The possible effects of any unfavourable outcome to these cases are unpredictable and, accordingly, have not been considered when determining the "Provisions for disputes and other contingencies".
In a limited number of cases, the possibility of an adverse outcome cannot be entirely ruled out. The possible consequences could, in addition to the award of damages, include, inter alia, the costs of modifying lines and the temporary suspension of their use. Examination of the above legal disputes, having regard for the

information provided by the external legal consultants, suggests that the likelihood of adverse outcomes is remote, with the exception of a number of proceedings for which, considering their status, it is not possible at the moment to carry out reliable assessments of their outcome.
More details on the different categories of dispute are shown in the indicator tables on page 197.

G4-EN34
G4-LA16
G4-HR12
G4-SO11

Reporting Tools

For Terna, management of relations with the main stakeholders also involves the preparation of dedicated communication channels to gather information requests, suggestions, notifications and complaints of various types.
The easiest and most accessible tool is e-mail, with a number of issue-specific addresses (e.g. info@terna.it, csr@terna.it, etc.). Promotion of this tool is done through the institutional site www.terna.it and, in the case of employees, also through the intranet.
On the homepage menu, through the "Contacts" section, a number of questions guide users who want to contact Terna. This page also gives the certified e-mail accounts for all communication that requires this feature.
For electricity operators and suppliers, Terna has three separate portals (GAUDÌ, MyTerna and the Procurement Portal), as well as a dedicated call centre, which can be reached through a toll-free number (800-999333).
From the website homepage it is also possible to access Terna's social media profiles on Facebook, Twitter and Linkedin particularly, which represent a growing opportunity for interaction for the company. In 2016 the Facebook profile totalled 3,886,230 views and 41,981 interactions (clicks, shares and likes), an increase of 81% and 24% compared to 2015; Twitter 179,164 views (+39%) and 1,205 interactions (+10%); Linkedin 1,418,631 views (+132%) and 12,881 interactions (+194%).
During the year, the Facebook page private mailbox folder received 45% more messages (photos sent, support requests for CV submissions, suggestions and notifications, information requests and collaboration proposals) with a private response rate by Terna of 85.4%.
These tools are also supported by dedicated reporting tools and mechanisms for ethical and environmental issues (see the sections below).

Code of Ethics Clarifications and Reporting Violations

Terna employees who require clarifications or want to report an issue can contact the Ethics Committee or the Audit Unit. These structures are also responsible for handling any reports of violations of the Code by external stakeholders. Contact information (addresses, e-mail, and telephone numbers) can be found and are kept up to date on the intranet and website. Specifically: comitato.etico@terna.it and audit.codiceetico@terna.it.
The Ethics Committee was created to offer a specific channel for both external and internal stakeholders to be used for communications on the Code of Ethics. This body consists of three members, appointed by the Chief Executive Officer, who have the task of:

- responding to requests for clarifications regarding the Code of Ethics
- receiving and examining reports of violations
- deciding whether to open an investigation regarding the report and providing a response

On the other hand, the Audit Unit is Terna's internal audit unit, and is responsible for investigating any reports of violations of the Code of Ethics. Reports collected by the Ethics Committee and the Audit Unit are published on page 196.
In September 2016, Terna published the Guideline, valid across all Group companies, that defines the "Whistleblowing policy" for reporting and handling any irregularities of which an employee, consultant,

contractor or someone with no direct links to the company (the whistleblower) has become aware of when performing their own work within the company itself or in other circumstances. By adopting this policy Terna is responding to the instructions given in the Corporate Governance Code for listed companies on the Borsa Italiana of the A.N.A.C. and the National Anti-Corruption Plan.
This policy strengthens the internal control tools that Terna uses to define the conduct guidelines to be complied with when conducting its business and to set out the rules that oversee the pursuit of the same.

Environmental Reports and Complaints

In line with the ISO 14001 Environmental Management System, Terna monitors and classifies complaints received regarding significant environmental issues.
Any written communication from stakeholders can be presented to a Group office or organisational unit with the aim of reporting that an activity carried out by Terna is causing or has caused damage. It is filed by the office and managed by the relevant operating unit.
Complaints received are classified on the basis of the relevant environmental aspects – defined by the Environmental Analysis – using the following categories: waste, noise, biodiversity, landscape, electrical and magnetic fields, lighting, vegetation control, and other.
Once again this year, the majority of reports concerned electrical lines and referred to noise emitted during operation, electromagnetic field measurement requests and the cutting of vegetation along power line corridors.
Terna responds as soon as possible and, in any case, within 30 days of receiving the request, or within 60 days if the size and complexity of the request make it impossible to resolve within the first 30 days.
In this case, Terna informs the requesting party of the extension in a timely manner, indicating the reasons behind it. Details of reports received and managed during the last three-year period are published on page 196.

ELECTRICITY SERVICE

ELECTRICITY SERVICE

Continuity and Security of the Electricity Service: Our Approach

Terna's core business is the provision of electricity transmission and dispatching services in Italy. These services are in the general interest of society and performed on the basis of a government concession which assigns Terna the role of national electricity transmission system operator (TSO).
To ensure this service, Terna makes use of the capital infrastructure made up of the high-voltage and very-high-voltage National Transmission Grid, the Group's main asset.
The service performed by Terna is indispensable for the operation of the entire electricity system and for ensuring electricity for everyone. This entails a responsibility towards the entire country, both in terms of the everyday operation of the transmission grid and in its medium and long-term operation, which is reflected in management objectives.
These are therefore connected first and foremost to compliance with regulations and meeting the specific targets set by the industry regulatory authority (the Regulatory Authority for Electricity, Gas and Water - AEEGSI). Targets of particular relevance include:

- service continuity measurements. Terna's performance in this area in recent years has been in line with the targets set
- grid-development and security goals, set out in the:
  1. **Security Plan for the Electricity System** in order to plan the investments needed to improve elements which have an impact on the security of the electricity system
  2. **Development Plan**, approved every year by the Ministry of Economic Development, which sets forth the construction of new electricity lines and substations necessary to ensure that the country's electricity demands are met, for which the integration of a growing quantity of production from non-programmable renewable sources has taken on particular importance. Terna also selects development projects on the condition that the overall financial benefits to the electricity system outweigh the costs

Since 2017, Terna has also been called upon to draft a **Resilience Plan**, which aims to identify the work needed to increase the transmission system capacity in order to guarantee performance for its safe operation, even in extreme weather connected to climate change, particularly where sleeves of ice form on the lines. The first edition of the Plan is currently being drafted.
Terna, as operator of the electricity system, has the task of management of producer registers, management of data on inputs and withdrawals for the determination of economic items and preparation of Italian statistics in the electricity sector. This entails knowledge of confidential sector-operator data, and especially those pertaining to electricity producers. Terna protects this confidential data using the best practices possible to avoid information in its possession being accessed or communicated to unauthorised third parties.

Continuity and Quality of the Service

EU28

EU29

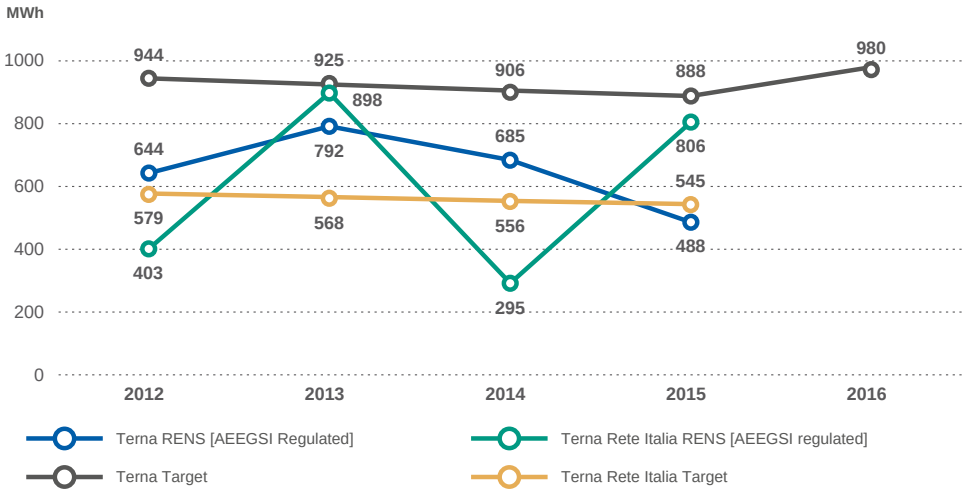
Each stage of the electricity system – generation, transmission, and distribution – contributes to the result of ensuring the availability of electricity for society, guaranteeing adequate quality standards and a number of outages that remain below pre-set thresholds.
Terna monitors the continuity of the service provided through different indices, some of which are defined by the AEEGSI (Resolution 250/04) and by the Terna Grid Code. The portions of the NTG monitored are those owned by Terna S.p.A. and, from 2012, also those controlled by Terna Rete Italia S.r.l..

Contents	What it measures	How it is calculated
RENS*	Energy not supplied following events that originate from the regulated grid**	The sum of energy not supplied to users connected to the NTG (following events that originate on the relevant grid).
ASA***	Service availability of the NTG	Calculated taking the ratio between the sum of energy not supplied to users connected to the NTG (ENS) and the energy put into the grid.

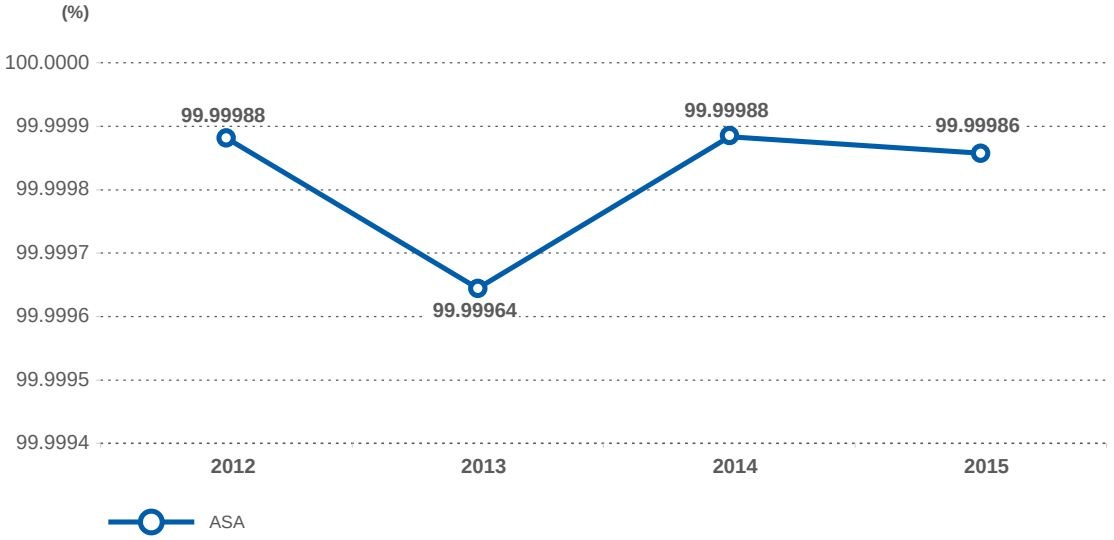
* Regulated Energy Not Supplied.
** "Regulated grid" means all the High-Voltage and Very-High-Voltage grid.
*** Average Service Availability.

These indices are significant for the system as they monitor the frequency and impact of events that have occurred on the electricity grid attributable to faults or to external factors, such as meteorological events. Over the four-year observation period, no significant variations were recorded, testament to the good service quality achieved.
We must point out that, at the moment of publication of this report, the figures for the RENS indicator for the year 2016 are not available while awaiting the totals released by the AEEGSI.
It must be stressed, finally, that the RENS index is relevant for the purposes of the impact on regulated revenue. In fact, the AEEGSI has regulated the quality of the service provided by Terna using an incentive/penalty scheme set out by Resolution ARG/ELT 197/11. It is applicable to the 2012-2015 regulatory period and relates to the Regulated Energy Not Supplied (RENS) index referring separately to the grid owned by Terna S.p.A. and that owned by the subsidiary Terna Rete Italia S.r.l. With effect from 2016, the service quality supplied by Terna is regulated by Resolution 653/15/R/EEL, which applies to the 2016-2023 regulatory period. This resolution assumes one index only, the NTG RENS, which includes both the grid owned by Terna S.p.A., as well as the grid of the subsidiary Terna Rete Italia S.r.l. Resolution 38/2016/R/EEL recently clarified that the portion of the grid acquired from the FSI Group is excluded from the bonus/penalty scheme for energy not supplied.

RENS INDICATOR[16]



ASA INDICATOR[17]



(16) For the RENS indicator, the targets for 2012-2015 have been set as an average of the 2008-2011 RENS indicator, referred to in AEEGSI Resolution ARG/ELT197/11, with a 2% improvement in performance required for each year compared with the previous one. The target for 2016-2023 has been set as an average of the 2012-2015 RENS indicator, referred to in AEEGSI Resolution 653/15/R/EEL, with a 3.5% improvement in performance required for each year compared with the previous one.

(17) The ASA indicator refers to the 2012-2015 period of observation. The 2016 figures have not yet been finalised and approved by the AEEGSI. The positive trend of recent years was confirmed.

The Security Plan for the Electricity System

The **Security Plan for the Electricity System**, prepared annually by Terna and approved by the Ministry of Economic Development, is the four-year programme of initiatives aimed at preventing and reducing the consequences of a disservice on the electricity system.
The initiatives aimed at the security of the electricity system involve activities linked to:

- **operating the grid,** strengthening the preventative scheduling of dispatching resources, coordinating the management of systems interconnected with neighbouring TSOs, improving control capacity in real time, arranging defence plans, defining system restarting strategies after blackouts and improving the reliability of telecommunication infrastructure to support the defence of the electricity grid
- **physical integrity of the grid,** monitoring and protecting the most critical electrical substations and guaranteeing the information security of the infrastructures against intrusion attempts, unauthorised access and possible cyber attacks

The current structure of the Security Plan envisages eight different areas for scheduling, control, regulation and protection, restarting and monitoring of the electricity system, and an area for the secure and optimal management of renewable sources.
These intervention areas were confirmed in the fourteenth edition of the Security Plan (2017 Security Plan), which covers all the activities carried out during 2016 and those planned for the 2017-2020 period in order to guarantee the security of the electricity grid.
More specifically, the 2017 Plan confirms the needs that emerged in previous years, with particular reference to:

- **the installation of appropriate equipment to compensate for reactive power** focused on managing system security, especially in southern Italy, within the expected scenarios for the operation of the electricity system
- **the installation of devices to guarantee the security of the electricity system in the case of weather events** (snow, ice, salt pollution) and the adoption of technological solutions capable of preventing the event occurring and allowing the service to recover faster than the provisions set forth in Resolution 563/15/EEL/R concerning resilience
- **strengthening of telecommunications infrastructure in order to reach electrical substations with optical fibre.** To this end, an action plan was drawn up which aims to make high-performance and reliable connectivity possible at Terna-owned plants for services such as remote management, remote control, remote protection and monitoring
- **strengthening physical security systems** aimed at creating a centralised, integrated platform for managing physical security events at the main electrical substations and supporting IT systems

In 2016 investments made in relation to projects provided for in the Security Plan amounted to approximately € 45 million.
The fourteenth edition of the Security Plan for the years 2017-2020 provides for investments of around € 330 million over the next four-year period.

Information Security and Cyber Security

The risks that weigh upon the advanced technologies that make up a company's cyber-environment are ever greater and continuously evolving, especially if functional to critical infrastructure activities (as in the case of Terna). In addition to traditional threats to ICT projects and those inherent to the plant setting (natural or artificial threats), the number, the degree of danger and trends linked to cyber-threats have increased sharply, originating in cyberspace and strengthened by the digitalisation process taking place in every organisation.
As interconnections between computers and new communication technologies are increasing, the cyber risk is a permanent fixture among the most relevant risks that affect highly-innovative companies.
For some time now Terna has adopted an "Information Security Governance" model based on a regulatory framework of policies and procedures, combined with an operating programme coordinated by Information Risk Management (IRM), under the direction and coordination of the Group's CISO (Chief Information Security Officer), which has allowed us to identify the top cyber risks. The programme takes into account all the risk factors to which Group ICT ecosystem is exposed (organisational, technical and technological, physical/environmental, cyber, etc.), including compliance with laws on data processing and the fight against cyber crime, and its aim is to counteract their impacts (interruptions to grids or IT services critical to electricity system operation and/or with potential damage to the NTG, confidentiality loss, theft or tampering with sensitive, strategic and confidential information relating to the electricity market and/or on third parties held by Terna).
Lastly, through the Security Operation Centre (SOC), a structured process is implemented which aims to quickly identify and contain security incidents, minimising information loss and working to restore any involved services. In addition, the SOC has responsibility for measuring the risk to which company assets and the information contained in them are exposed.

Activities in 2016	Description
Update of the Information Security Governance Model 2.0	The update of the Cyber Security Policies document set, in accordance with Governance Model 2.0 issued by the CISO during 2016, was aligned with specific policies and baseline controls (security measures selected to be implemented in the Security Plan) to eliminate remaining instances of overlap or inconsistencies that gradually emerged during the approval process.
Counter-Actions against Cyber Risks	2016 was marked by a deep commitment and greater continuity in counteractive measures to reduce the main cyber risks: • IT attacks, also through malware, on industrial domain assets (ICS/SCADA) • Identification and formulation of recovery plans for technological vulnerabilities detected on corporate/management domain systems • Analysis and prevention of attempts to hack websites and company work stations (social engineering, ransomware) • Monitoring the unavailability of critical services for dispatching control rooms and addressing improvement actions

Activities in 2016	Description
Defining Security Standards for Former RFI Station Automation Systems (SAS)	The level of technical requisites for Cyber Security has been raised in the tender requisites for SAS procurement for former RFI stations, defining technical solutions focused on: the logical segregation of applications, secure access, security features for accessing remote maintenance and diagnostic features and interfacing with Terna's SIEM (Security Information and Event Management) system for remote access to events that are intrinsic to system IT security.
Updating the Grid Code – Annexes A.13 and A.26	This focus on Cyber Security features is also reflected in the Grid Code. The 2016 edition revised some technical sections of the Grid Code, Annex A.13 and Annex A.36 in particular. A brief new section was introduced on "Cyber Security", which addresses some basic practices that interconnected operators must conform to.
Cyber Risk in Industrial Automation and Control Systems (IACS)	During the year, working panels were created to reduce the cyber risks connected to Industrial Automation and Control Systems (IACA) that support Terna's core business. The main initiatives included: the recovery project for logistical access rules for the IACS domain in compliance with the one-way paradigm; the adoption project of new secure infrastructure for remote access, also administrative in nature, to the IACS domain; and the segregation project for internal networks on the IACS domain.
Identity and Access Management (IAM)	As part of the streamlining of current processes and compliance with existing legislation, Terna has decided to implement an Identity and Access Management (IAM) solution that includes the management of users, profiles and authorisation policies. The centralised management of the digital identity of Terna employees and external personnel is guaranteed, conveniently profiling them to allow them access to applications and data - only where necessary - while simultaneously protecting personal data from unauthorised access.

As in previous years, there were no complaints received for breach of privacy, or for inappropriate or unauthorised use of personal data entrusted to the Group's companies, either through the email address (privacy@terna.it) created specifically for such notifications or through the other channels used for notification or identification.

G4-PR8

TERNA HOSTS THE CYBER-SECURITY WORKSHOP OF THE PORTUGUESE TSO, REN

Last November the Campus training centre hosted a cyber-security workshop promoted by the Portuguese electricity grid operator, REN.
The initiative is part of the Portuguese TSO's "Cyber-Security Program", which includes meetings with other European operators. Terna's Security and Services Department, acknowledged by the CEO of REN as an international reference point on the issue, shared its own standards of excellence, guidelines and best practices and encouraged international networking. The issues discussed included the organisational departments concerned with security and governance models, security risks and threats with examples drawn from real cases and first solution scenarios, security initiatives and their level of importance for the security agenda and on-site resolution, identification and prevention procedures.

Capital Infrastructure: Grid Development and Maintenance

G4-EC7

Grid Development

The transmission grid must evolve consistently with developments in the generation and consumption of electricity, which grow at uneven rates in different areas of Italy and change the flows of electricity in the system, thereby causing congestion in the existing grid.
In recent years the need to integrate a considerable proportion of Non-Programmable Renewable Sources (NPRS) has taken on particular importance.
In response to these needs, Terna prepares a National Transmission Grid Development Plan (hereinafter DP) every year containing the grid development projects envisaged for the next ten years and the progress made on development works planned in previous years.
Every DP is assessed and approved by the Ministry of Economic Development, subject to public consultation[18], as well as by the Regulatory authority for electricity, gas and water, and is also subjected to evaluation by the Grid User Consultation Committee.
Furthermore, the Plan is also subject to the Strategic Environmental Assessment (SEA)[19] process carried out by the Ministry of the Environment and Protection of Land and Sea in collaboration with the Ministry for Cultural Heritage with the purpose of integrating environmental considerations into the process of preparing the plan, thus guaranteeing environmental sustainability.

(18) Pursuant to article 36.13 of Legislative Decree 93/11.
(19) It may also be subject to screening to check whether it should undergo SEA pursuant to Legislative Decree No 1 of 24 January 2012.

2017 Development Plan

The 2017 Development Plan has many new features compared to previous editions, in keeping with the evolution of the energy context which is distinguished, firstly, by new climate targets arising from the signing of the Paris agreements (COP21) and, secondly, by the altered regulatory context provided for by the Regulatory Authority for Electricity, Gas and Water (AEEGSI), which revised the regulation based on an output-based system aimed at measuring the benefits obtained from development projects and identifying more efficient solutions overall, at a lower cost and with lower environmental impact.
The 2017 DP foresees investments totalling € 7.8 billion, thanks to which efficiencies will be achieved for the electricity system, as well as benefits, such as:

- reduction of energy losses of approximately 830 billion kilowatt-hours per year
- reduction of congestions for an amount of more than 3,000 MW
- greater overall foreign exchange capacity, estimated at more than 5,000 MW
- greater power capacity generated by renewable sources of around 4,500 MW

With regard to the benefits in terms of a reduction in CO_2 emissions, refer to the dedicated paragraph on page 144.
In 2016, the AEEGSI approved new provisions on the methods of drafting the ten-year National Transmission Grid Development Plan[20], starting from that of 2017, also requiring Terna to consistently update Chapter 2 of the Grid Code and to prepare a new annex containing the new Cost-Benefit Analysis methodology. When preparing the 2017 DP, Terna:

- applied the requirements on the subject of completeness and transparency of information and cost-benefit analysis methodology in order to promote the planning of investments according to criteria of selectivity and greater usefulness for the electricity system
- applied the minimum requisites of the cost-benefit analysis methodology for all grid development operations with an investment cost equal to or greater than € 25 million and, in terms of subsequent Plans, at least for all development operations with an investment cost equal to or greater than € 15 million, the new cost-benefit analysis provides for an important alignment with criteria and methods applied in the ENTSO-E setting, introducing analysis across a greater number of scenarios as well as, for the first time, environmental and social benefit indicators
- every two years draws up its forecasts on the electricity system development scenarios over a period of time of not less than twenty years
- stated that it would submit a disclosure on the investment expenditure expected for each of the next five years to the Authority by 30 April 2017 of each year

Main Development Work in Progress

Each year, grid development work takes the shape of numerous projects at different stages of the implementation cycle.

(20) Resolution 627/16/R/eel

Completed Work

In 2016, Terna **increased its transformation capacity by about 1,441 MVA of power and put approximately 94 km of new high-voltage and very-high-voltage lines into operation**. For details on work which has been completed concerning both projects of primary interest and plants needed to implement collection and the use of production from renewable sources in the south of Italy, consult the Development Plan summary available in the “Electricity Service” section of the website www.terna.it.

IN OPERATION, THE "SORGENTE-RIZZICONI" ELECTRICITY LINE, THE ELECTRICAL BRIDGE BENEATH THE MESSINA STRAIT

With the "Sorgente-Rizziconi" line becoming operational in May 2016, Terna strengthened the connection between Sicily and the Italian peninsula, and consequently Europe, via the Italian high-voltage electricity system.
By also removing the last existing "bottleneck" in the area, Terna actually created the conditions to remove the price spread between Sicily and the rest of Italy and made better use of Sicilian renewable production, above all wind and photovoltaic power, totalling more than 700 MW.
The project was inaugurated by the Italian Prime Minister, Matteo Renzi, and attended by President of the Calabria Region, Gerardo Mario Oliverio, AEEGSI (Regulatory authority for electricity, gas and water) Chairman, Guido Bortoni and Terna CEO, Matteo Del Fante. It spans a total of 105 km, including 38 km of undersea cable – the longest 380 kV alternating current cable in the world – with a maximum depth of 376 m and a transfer capacity of up to 1,100 MW.
The total investment, partly funded by the European Union as part of the European Energy Programme for Recovery (EEPR), exceeded € 700 million and will guarantee savings for the wider community of around € 600 million each year.
The project also positively impacts the environment as it will lead to 700,000 tonnes less CO_2 in the atmosphere and, visually, will free up over 200 hectares thanks to the removal of 114 km of obsolete lines. The new 60 km of overhead lines were constructed using single-stem pylons, which are much less invasive than the traditional truncated pyramidal pylons.

Progress on Construction Sites

The major works that began in 2016, and which are still in progress, aim to reduce grid congestion, connect new power plants (particularly those based on renewable sources) and make the national transmission grid more reliable, with a greater emphasis on the environment and safety. For details on the status of these works, please consult the website www.terna.it.

Authorised Work and Authorisation Procedures in Progress

In 2016, authorisation procedures were initiated for works shown in the figure below, which also show authorised works. For details on these works, please consult the website www.terna.it.

Figure 1 – Main Development Plan projects which have been/are being authorised.

Projects Set Out for Use of Energy Produced from Renewable Sources

Terna has implemented Directive 2009/28/EC and the National Action Plan (NAP) prepared by the Ministry of Economic Development, as well as included a specific section in the Development Plan dedicated to the actions needed for full use of the energy deriving from the production of renewable source systems.
The grid analyses have enabled us to identify action to be taken both on the primary 400-220kV transmission grid, and on the 150-132 kV high-voltage grid.
The figure below shows an overview of the main development work carried out on the 400 kV very-high-voltage grid, aimed at fully using the energy produced by renewable sources.

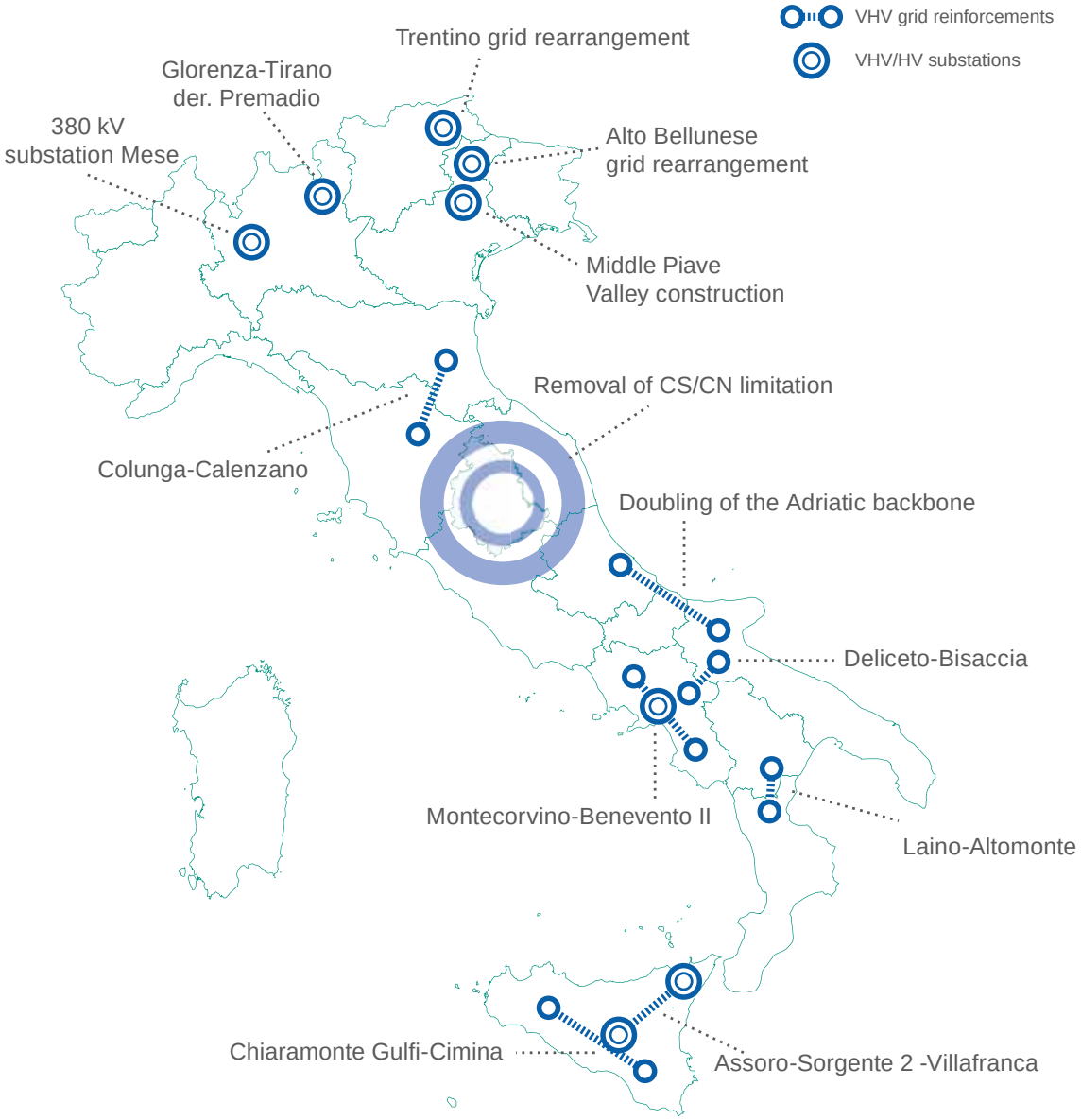


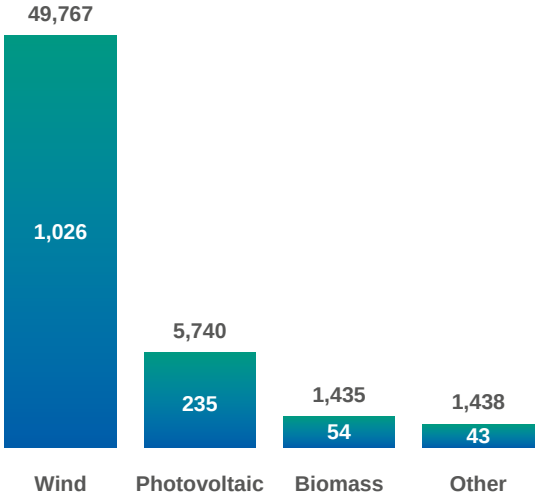
Figure 2 - Main action on the 380 kV grid aimed at greater production from RES

Connecting New Plants

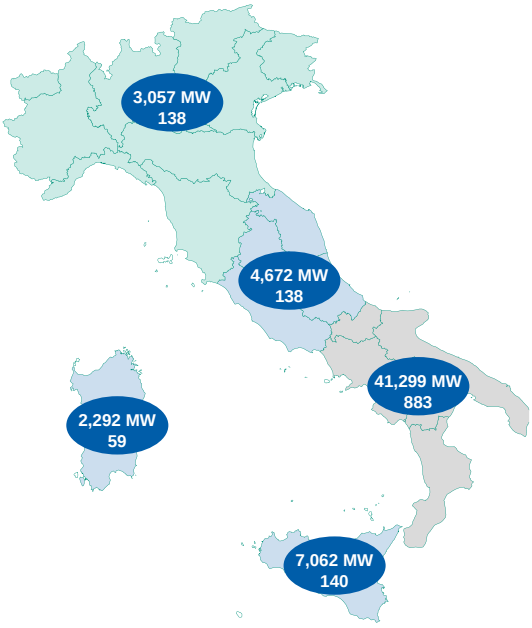
Terna has an obligation to connect all potential users that request connection to the Grid[21] based on criteria that allow for continuity and security in operating the grid to which the new user plant is to be added.
Specifically, Terna is responsible for connection to the National Transmission Grid (NTG) at high-voltage and very-high-voltage for plants with a power of 10 MW or more.
The technical, procedural and economic terms and conditions for supplying the NTG connection service are regulated by provisions issued by the Regulatory Authority for Electricity, Gas and Water (AEEGSI). These resolutions are implemented in the Grid Code, which describes the transparent and non-discriminatory rules for grid access and its technical regulations.
Connection requests managed by Terna, which correspond to more than 2,000 active connection requests, amount to a capacity of over 100 GW. These requests have accumulated over the years, and while Terna has already implemented the actions for which it is responsible during the respective phases of the connection process, the requests have not yet been completed for various reasons (e.g. authorisations not yet requested or not yet obtained).
The trend in connection requests has been almost constant over the last three years.
In regard to plants from Renewable Energy Sources (RES), there are 1,358 active connection requests, with a solution on the NTG, for a capacity of 58,381 MW.
The figure below, which summarises these requests by source and geographical distribution, shows:

- wind energy takes prime position among renewable sources on the NTG, in view of the continuous decline in connection requests from photovoltaic sources
- there were more requests for the connection of generation plants from renewable energy in Southern Italy and the Islands, which are more favourable in terms of the availability of primary sources

Division by source



Division by location



Total output
58,381 MW

Total number of requests
1,358

Data at 31.12.2016

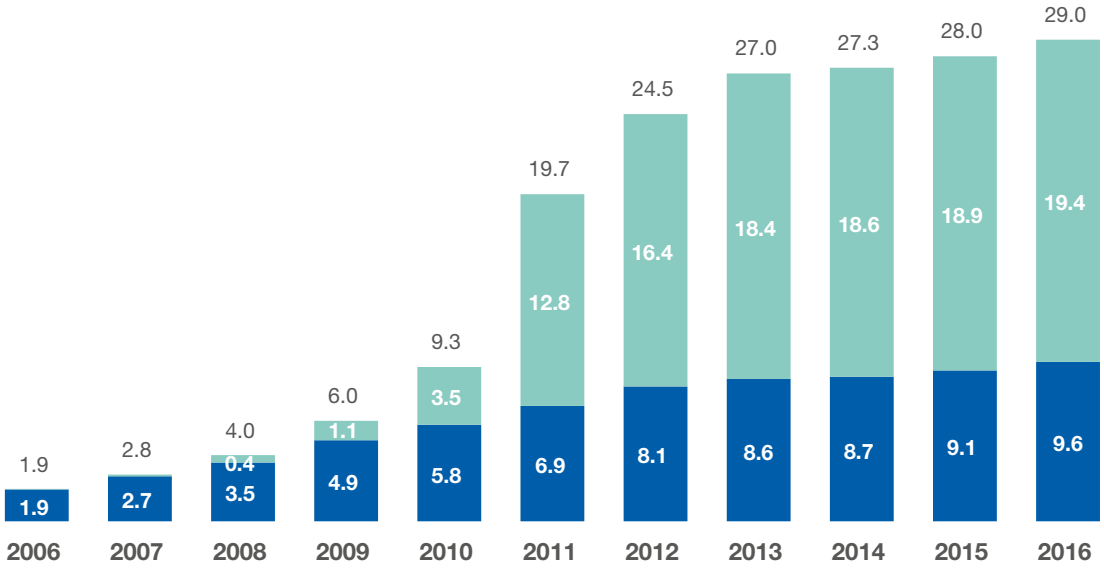
(21) Legislative Decree no. 79 of 16 March 1999 - Article 3, paragraph 1: "the operator must connect to the national transmission grid all those who request the same, without compromising service continuity and provided that the technical rules pursuant to paragraph 6 of this article are respected, as well as the technical and economic conditions for access and interconnection established by the Regulatory Authority for Electricity and Gas [now the Regulatory authority for electricity, gas and water]".

Considering production plants (renewables) on the NTG, we note that in 2016:

- 13 plants became operational for a total capacity of 261 MW
- 31 connection requests were made, for which the requesting party presented the authorisation to the relevant authorities and for which the Detailed Minimum Technical Solution (STMD) was accepted, for a total of 833 MW
- 7 connection contracts were signed (for a capacity of 183 MW) to regulate the relationship between Terna and the applicant for the purpose of providing the connection service

The Auction Procedures for renewable sources, in accordance with Italian Ministerial Decree dated 23 June 2016, were held during 2016, calling tenders for 1,000 MW, 800 MW of which is intended for new on-shore wind farms.
The wind generation initiatives, included in the incentives contingent, are crucial projects. They are expected to become operational within the next three years, considering the time limits set by Italian Ministerial Decree dated 23 June 2016.

PHOTOVOLTAIC AND WIND POWER INSTALLED 2005 - DECEMBER 2016* (GW)



(*) Terna 2016 provisional data.

Plant Maintenance

Plant maintenance is essential to guarantee service quality and continuity. The main activities carried out in 2016 on electrical substations and lines are listed below. We can note the new forms of overhead line monitoring making great use of helicopters.

MAINTAINING INFRASTRUCTURE

Plant Monitoring and Inspection

- 22,200 periodical technical and surveillance checks on substations at different voltage levels
- Inspections with visual checks on around 72,800 km of circuits, approximately 31,900 km of which were carried out by helicopter (visual + infra-red), with a total average frequency of around 1.2 inspections per year for each power line
- instrumental checks on 35,900 km, conducted both from the ground and using thermal imaging cameras to identify hot spots, DayCor UV cameras to pinpoint the corona effect on insulators and conductors and climbing pylons with LLW (Live-Line Working) techniques, as well as by helicopters using specific flights with infra-red detection (with Terna staff on board) and LIDAR surveying technology to ascertain interferences, with particular reference to those created by trees

Ordinary Maintenance

Terna identifies the action to be taken on the basis of indications of deterioration coming from the integrated remote-management system, the online sensors and the results obtained from the plant monitoring process, using Maintenance and Business Intelligence (MBI), the expert system which optimises maintenance activities, active since 2005.

Tree Cutting

G4-EN12

The correct operation of the lines requires continual monitoring of vegetation growth to prevent it getting too close to the energy conductors and causing possible short circuits and line interruption. In 2016, vegetation was cut along approximately 15,400 km of power lines.

Activity with Live-Line Working (LLW)

Approximately 1,800 monitoring checks and 1,000 line maintenance actions with live-line working were carried out.
These actions, performed with the line in operation, increase the availability of the plants and contribute to improving service quality and continuity.

Extraordinary Maintenance

In 2016, Terna reconstructed 9 km of overhead lines and 8km of underground cables, and replaced approximately 2,000 km of energy and guard wires.

The Development of Other Activities

Progress of Private Interconnector Projects

Italian Law 99/2009 ("Provisions for the development and internationalisation of businesses, including energy companies") introduced the possibility for so-called energy-intensive private companies - that is those with high energy consumption (power >10 MW) - to finance interconnecting electricity lines constructed by Terna. In this way companies can purchase energy abroad at more competitive costs than those found in Italy.

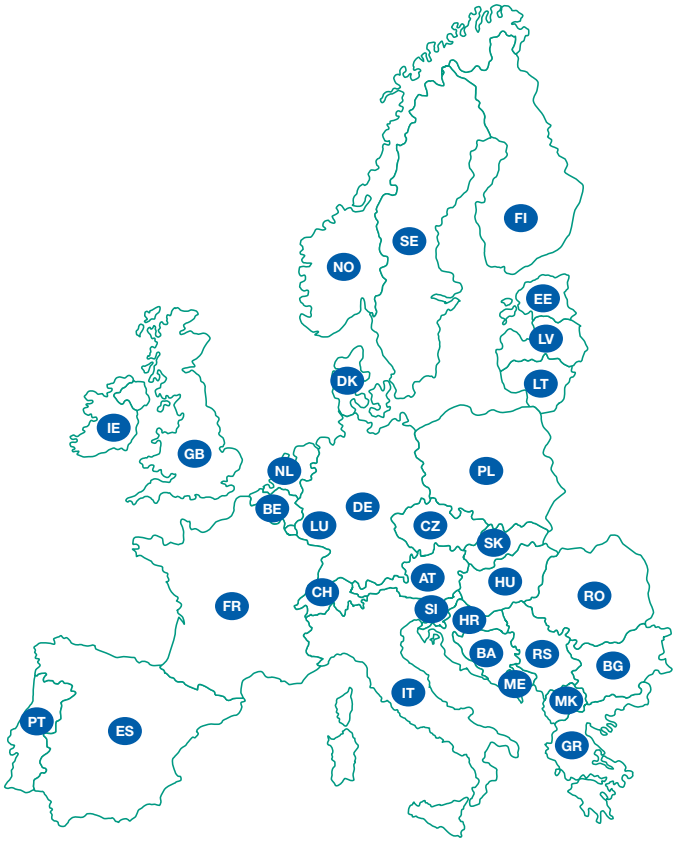
Project	2016 Progress
Italy - France Interconnector	The new "Italy-France" direct current interconnection, between the nodes of Piossasco and Grande Ile, will make the French electricity border the most important for Italy, significantly increasing the cross-border interconnection capacity. 190 km long, the power line will be the longest underground line in the world with very low impacts on the environment and the territory. The laying of around 15 km of cables began in March 2016 to connect the substations of Piossasco and Avigliana. In regard to the Piossasco substation, geological surveys and basic engineering studies were carried out and site preparation works were completed. In July 2016, the Ministry of Economic Development issued the "Decree of exemption for the private line of the interconnection power line" in favour of the subsidiary, Piemonte Savoia S.r.l. (PI.SA.). The document was sent to the European Commission for the necessary approval. Currently, PI.SA. is waiting to receive the notification from the MED concerning the conclusion of the extension process. In August 2016 the competent Ministries authorised the alternative location for the approximately 26 km section of the Italy – France electricity connection between Bussoleno and Salbertrand.
Italy - Montenegro Interconnector	The project includes the construction of a direct current connection, part undersea cable and part underground cable, between the substations of Villanova (IT) and Lastva (ME), for a total distance of around 445 km. The connection is a great opportunity for the Italian electricity system with a view to the developing the interconnection between Italy and the Balkans. The connection, for which construction is already under way, includes technical engineering solutions aimed at substantially reducing environmental impact. In December the AEEGSI issued a positive opinion to the Ministry of Economic Development for the ten-year exemption concession for the company Monita. With regard to the progress of the project, on the Italian side the main buildings of Cepagatti (PE) substation have been built and production on the principle electromechanical works has been completed. On the Montenegro side, civil engineering works for the Kotor substation are under way. At December 2016, the second cable laying campaign, starting from Kotor, was completed.

Authorised Interconnector Projects

Terna has authorised three additional private interconnector projects, which are described below.

Project	2016 Progress
Italy - Austria Interconnector	The Italy - Austria Interconnector (Reschenpass project), for which authorisation procedures are in progress, includes the construction of a new, 220 kV alternating current interconnection line between the substations of Nauders (AT) and Glorenza (IT) with an approximately 25 km stretch of underground cables and the necessary adjustment actions on the internal grid. The project will provide an increase in the cross-border interconnection capacity between Italy and Austria, in accordance with Italian Law 99/09.
Italy - Switzerland Interconnector	The project includes the development of new transmission lines between Italy and Switzerland, partly alternating current and partly direct current. With regard to the first type, a 380 kV connection will be constructed between Airolo All'Acqua (CH) and the new Pallanzeno (IT) substation, to which a direct current system will be connected that runs to the 380 kV node in Baggio, totalling over 160 km in distance. The project is currently awaiting authorisation in Italy and will allow for a significant increase in the interconnection capacity between Italy and Switzerland to be achieved, in accordance with Italian Law 99/09.
Italy – Slovenia Interconnector	In order to increase the interconnection capacity between Italy and Slovenia, the construction of a new direct current line, to be made partly with undersea cable, between the substations of Salgareda (IT) and Divaca/Bericevo (SL) is planned, as well as a few adjustment works on the internal grid in Italy and Slovenia. The project is currently awaiting authorisation in Italy.

TERNA WITHIN ENTSO-E



ENTSO-E is the European Network of Transmission System Operators for Electricity that is working to implement the Third EU Energy Package. It includes 42 transmission system operators from 35 countries in Europe (Iceland, Macedonia, Montenegro, Norway, Serbia, Switzerland and Turkey - as an observer member - are also members, in addition to 28 EU countries).
Terna CEO Matteo Del Fante has been ENTSO-E Deputy Chairman since June 2015, with a two-year mandate.
ENTSO-E is based in Brussels and acts as the body for obligatory cooperation of all grid operators at European level in synergy with the European Commission and ACER, the Agency for the Cooperation of Energy Regulators. The main duties of the ENTSO-E include:

- preparing European Network Codes
- adopting the Ten-Year European Network Development Plan (TYNDP)
- formulating adequacy scenarios, research and development plans and recommendations for the technical coordination of transmission systems belonging to countries outside the EU
- supporting the assimilation of new members into the association and pursuing the extension of the European synchronous system

Terna participates in ENTSO-E activities, which are divided into five macro themes (Market, System Operation, System Development, Research and Development, Legal and Regulatory) and coordinated by the General Assembly, the association's decision-making body, and the ENTSO-E Board, with a commitment of more than 80 employees.

European Network Codes

The ENTSO-E prepares the European Network Codes via a consultation process with the reference stakeholders, which are adopted by the European Commission via a supra-national and binding legislative act: the EU delegated regulations.
To date ENTSO-E has prepared the following European Network Codes:

- **Network Code on Capacity Allocation and Congestion Management (NC CACM)** for allocating capacity and managing congestion in the day-ahead and intraday markets
- **System Operation Guideline - SO GL** currently pending publication in the Official Journal of the European Union, it defines the guidelines for maintaining operational security, frequency quality and the efficient use of the interconnected electricity system
- **Network Code on Emergency and Restoration – NC E&R** concerning emergencies and the restoration of the electricity service
- **Network Code on Requirements for Generators – NC RfG** detailing the requisites for connection generation plants. The code became a European Regulation in May 2016
- **Demand Connection Code – DCC,** adopted as EU Regulation no. 2016/1388 I, it sets out the requirements for connecting distribution and consumption plants to the grid
- **Network Code on HVDC Connections – NC HVDC,** adopted as EU Regulation no. 2016/1447, it sets out the requirements for connecting high-voltage direct current systems (HVDC) and direct current generation systems to the grid
- **Electricity Balancing Guideline – EB GL,** it establishes the detailed balancing guidelines for electricity. It is currently awaiting approval from the Member State Committee
- **Network Code on Forward Capacity Allocation – NC FCA,** adopted as EU Regulation 2016/1719, it sets out the legislation concerning interzonal capacity allocation in future markets

Market Transparency and Integrity

ENTSO-E manages a centralised platform for the publication of essential data for the electricity market, implementing EU Regulation 543/2013.
Lastly, in implementing EU Regulation 1227/2009 on integrity and transparency in the electricity market, ENTSO-E is collaborating with ACER in order to construct a European monitoring platform, ARIS (ACER REMIT Information System), which will be used to identify any potential manipulation of the electricity markets.

Ten-Year European Network Development Plan

ENTSO-E defines the non-binding Ten-Year European Network Development Plan (TYNDP) every two years, in order to plan investment needs for grid development and interconnections in line with National Development Plans and taking account of European guidelines for trans-European energy networks.
The most recent version of the European Plan was published in December 2016 (2016 TYNDP). The 2016 TYNDP confirms the need to invest € 150 billion to implement the projects included within it, which are required to reach European energy and interconnection capacity targets. These investments result in an increase of € 1-2/MWh in the consumer's bill.
The ENTSO-E Plan is fundamental in selecting the PCI projects to be included in the next European Union list, expected in the Autumn of 2017.

Intellectual Capital and Innovation

The current phase of energy transition towards more sustainable solutions has a major effect in terms of new development opportunities, including on Group intellectual capital.
The consolidated activities of research and the planning of company assets, also implemented by interacting with suppliers, as well as conducting timely surveys and analysis on operational experience and international benchmarks, have been overtaken by the need to identify optimal solutions and address innovation by meeting the growing environmental sustainability needs of the entire electricity system.
This new scenario is leading to a good portion of production capacity being shifted to renewable energy plants.
In response to this macro trend, the electricity system is adopting a new management approach, though targeted experimentation, that is increasingly intelligent and flexible, both at a grid level, thanks to the use of efficient and innovative technologies (smart grids, storage systems), as well as at the Electricity Market level, with an unprecedented revolution that will bring about the integration of distributed generation resources, storage and demand within the Services Market in the short term, and the integration of national markets at a European level.
The electricity scenario will gradually have to guarantee increasing integrability and interoperability between the electricity grid and other networks (transport, gas, water, etc.) so as to make the Italian-system and the European-system increasingly cost-effective and eco-sustainable.
This development will create new opportunities for growth and business for Terna, which will hinge on a strong upgrade in intellectual capital. In 2016, The Group has strongly accelerated the process, both from an organisation perspective, as well as a strategic one, which is covered in the paragraphs below.

CODRONGIANOS, EUROPEAN INNOVATION HUB

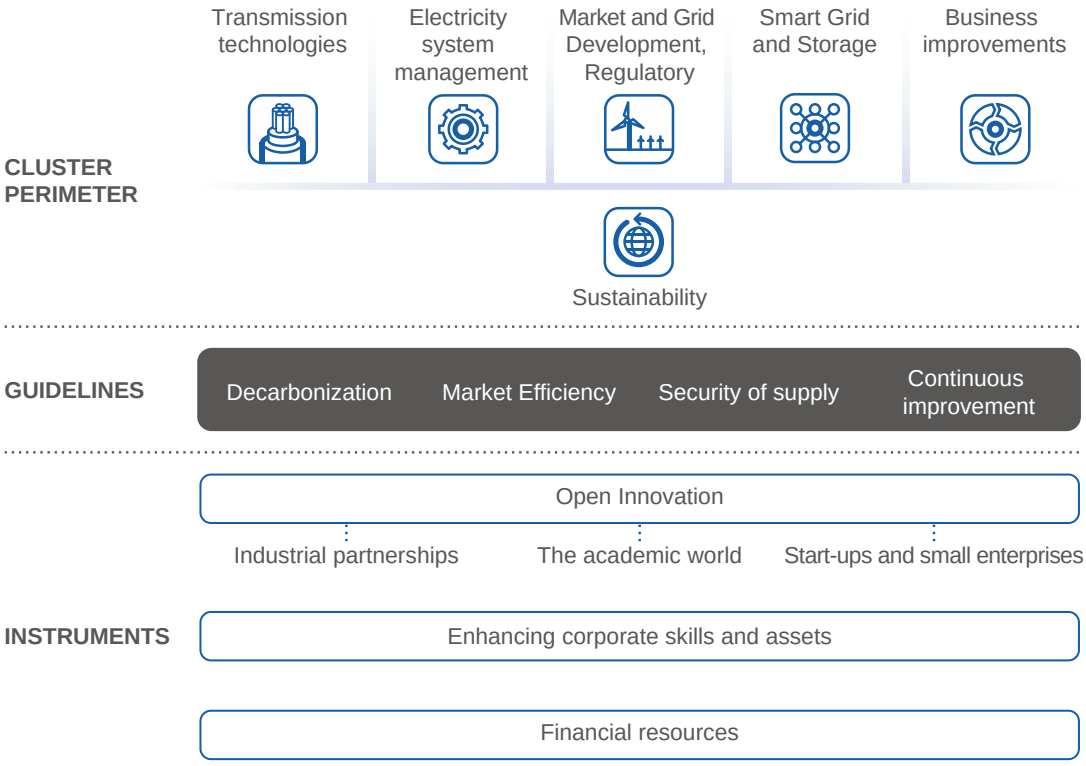
The Terna technological hub was inaugurated in Codrongianos (SS), with the Italian Prime Minister in attendance, a flagship centre for innovation.
The site is home to the Terna Storage Lab, the first international energy storage systems project to support and protect electricity grids. This is a highly-innovative experimental project, created by Terna and developed in accordance with the AEEGSI, to maximise the exploitation of power from renewable sources and to improve the robustness of the high-voltage and very-high-voltage systems. With around 12 tested technologies in total across all of its storage sites, Terna is in possession of the most extensive expertise concerning grid scale energy storage worldwide. In Codrongianos, where 8 are being tested, Terna has already completed the installation and commissioning of the first 7.9 MW of storage systems, as provided for by the company in its Defence Plan for the electricity grid. 8 suppliers contributed to this initial project phase: the Italian company, Fiamm, as well as Samsung, Byd, Saft, General Electric, Toshiba, Siemens and Gildemeister.
The Codrongianos site also hosts Terna's first two synchronous condensers, which have been specifically designed to improve the management of renewable sources. These are large machines (320 tonnes each) that are connected to the grid and allow for the stability and security of the electricity grid in the region to be improved. The development of renewable sources - which are intermittent by nature, and thus non-programmable, and create power surges - is of increasing interest to the local electricity grid: this can cause difficulty when managing them and regulating voltage, especially within poorly connected grids that are not very extensive (as is the case with Sardinia). The condensers are a viable solution for dealing with these problems: their task involves guaranteeing greater regulation capacity and improved operational flexibility, and thus increasing grid capability, preventing power surges and, simultaneously, small energy losses, thereby avoiding the occurrence of critical situations. In addition to Terna, many European and American utility companies use this kind of technology to stabilise the electricity grid.

Programmes and Projects for Innovation

In line with the rapid evolution of the electricity scenario and the objectives contained within the Strategic Plan, the Strategy and Development Department was enhanced further and, in March 2016, it became the second division within the Group (Strategy and Development Division) tasked with analysing the development of the electricity system, assessing impacts and opportunities for the Group, developing international business and Non-Regulated Activities within Italy, coordinating the Group's Regulated and Non-Regulated Activities, drafting the Development Plan of the NTG and the Security Plan for the National Electricity System, as well as managing relationships with domestic regulatory bodies and authorities.
This new organisational division has also been assigned the task of centralising and coordinating the innovation of the Group in order to guarantee the initiatives' full compliance with the strategic guidelines of the company's Strategic Plan.
It was on this basis that the 2017-2021 Innovation Plan was drafted, with the objective of guiding and overseeing innovation within the company through the identification of strategic guidelines, project monitoring and the management of support tools, as described in the box below.

2017-2021 INNOVATION PLAN

The new edition of the Innovation Plan includes initiatives on the main research and development themes, which focus on core activities (now addressed with new perspectives and approaches) and decidedly innovative sectors.
The initiatives are all defined within an innovation framework that is divided into six clusters, characterised by the centralised management of the tools to promote and accelerate corporate innovation.



Specifically, the clusters – together with their respective fields of application – are:

Cluster	Description	Areas
Transmission technologies	This cluster aims to group cutting-edge initiatives and solutions within the field of transmission grid construction and operation.	• Innovative materials for conductors. • Techniques to reduce electromagnetic fields and the corona effect • Implementation of innovative technologies to insulate transformers • Application of power electronics to transmission.
Electricity System Management	This cluster refers to technologies that permit greater control and management of the National Electricity Transmission Grid, guaranteeing high standards of security and reliability.	• Adoption of new systems and techniques to control and operate plants • New logic and algorithms for the Energy Management System platform to optimise the Dispatching Services • Big Data technologies to process advanced data analysis models. • Implementation of Internet of Things technologies to monitor and manage grid sensors • Improvement in the resilience of the HV grid, advanced status estimation models and security assessment • New interoperability and communication technologies between TSOs/DSOs and market operators
Grid Development and Markets, Regulatory	This cluster includes grid development initiatives, the definition of new market models and regulatory and geo-climatic trends analysis both nationally and internationally.	• New models for studying the impact of climate changes on the electricity system, the new forms of electrical mobility and the penetration of renewable sources • Systematic analysis tools for critical areas and grid vulnerability • Predictive models of market scenarios and the optimisation of dispatching • Advanced models for predicting production from renewable sources • Demand contribution models to regulate the electricity system (Demand Side Response)

Cluster	Description	Areas
Smart Grid & Storage	This cluster includes the development of new business models for large scale storage, innovative projects on smart grids and new studies on innovative grid services.	• Innovative storage technologies analysis • Optimal battery management systems • Coordination of storage systems with renewable sources to provide power to the islands • Development of new models for integrating smart grids into the TSO systems
Business improvements	This cluster incorporates all the initiatives that aim to improve the management of internal corporate procedures and operations.	• Business integration models, project management and business resource management • Software applications for support to the business and maintenance programme management • Digital workplace and digital archiving of documents • Dematerialisation of paper projects. • Teleprescence • Collaboration
Sustainability	This cluster contains all the projects concerned with promoting a more environmentally-aware approach. It is an integral part of the corporate mission and applies to all the other clusters.	• Technological analysis to reduce environmental impact • Life Cycle Assessment • Alternative solutions to the use of SF_6 gas in electrical substation switchgears.

The Group continues to use the specialised support of manufacturers, collaboration with universities, RSE S.p.A. (Ricerca Sistema Energetico) and CESI S.p.A., a specialised service company in which it has a 42.698% shareholding. In particular, in 2016 the Terna Group incurred costs of € 18.9 million in respect of the associate CESI S.p.A., of which € 16.6 million were capitalised.
During 2016 the Operative Research Centre was established within Terna Rete Italia, based in Florence. The Centre's research areas include conducting studies and analysis and defining test protocols with a predominant focus on the following sectors: Power Electronics in HVDC, Sustainability, Asset Management and Smart Grids and Transmission Grid Resilience.

MAIN ACTIVITIES DURING 2016

Research field	Description
Smart Island	Terna's commitment to the Smart Island initiatives continued. These were begun in June 2015 with the agreement to modernise the electricity grid of the island of Giglio. The Smart Islands projects include the integration of renewable generation, energy storage systems, electrical vehicles and hi-tech solutions for managing active demand on the smaller islands. Specifically, in May 2016 a Memorandum of Understanding was signed between Terna Plus S.r.l., the Municipality of Pantelleria and S.Med.E. (the company that produces and distributes electricity on the island) with the aim of constructing renewable generation plants and energy storage systems, increasing energy efficiency, reducing CO_2 emissions, actively managing electricity demand and introducing a mobility system with electrical vehicles and charging stations, thus making the island an example of sustainability and cutting-edge technology. In August 2016 Terna Plus signed an agreement with Vento di Venezia, a company that is pursuing the requalification of the island of Certosa in partnership with the Municipality of Venice, with the objective of making the island of Certosa a smart energy lab. The three-year project is part of a bigger programme that aims for the environmental and economic recovery, from a social perspective, of 24 hectares of land on the island of Certosa. Intense corporate activity and frequent contact with principle stakeholders also continued, which allowed for Terna's market share to be consolidated. Memorandum of understandings are currently being negotiated with the other non-interconnected main islands that are managed by smaller electricity companies.

Research field	Description
Environmental Sustainability	As part of the **"TSO-DSO" project**, development and construction of new dispatching functions continue which could be implemented in automation and control systems installed in substations and at NTG control and operation centres, with the aim of favouring the integration of distributed generation plants from non-programmable renewable energy sources, thereby improving operational security and safety.
	The **Life Cycle Assessment (LCA)** was conducted **on 380 kV overhead lines and cable lines with single-stem pylons.** An LCA assessment is currently being conducted on direct-current conversion plants (HVDC). In regard to the project testing innovative solutions for **mitigating low-frequency CEM** (electromagnetic fields), following on from tests on the 150 kV Collarmele-Castelmadama line, guidelines were prepared for designing mitigation systems with passive loops, to be applied to HV electricity lines with different voltages.
	In regards to the trial of **noise mitigation systems**, a pre-prototype system has been tested at the Rome South electrical substation with good preliminary results. Additionally, a second solution with passive dampers has been completed, applied to a newly-constructed single-phase reactor, which has been installed at the Taio electrical substation. This lead to the provision of passive dampers being installed on Terna reactors.

Research field	Description
Transmission technologies	Research and the implementation of **high-temperature low-sag (HTLS) conductors** on the NTG continues, which are capable of withstanding higher temperatures without suffering mechanical degradation during operating life.
	As part of the development project into re-ignition practices on isolated grids in the absence of local generation, a successful **operating test on an island** of the Synchronous Condensers at Codrongianos using Storage Lab storage systems was undertaken.
	Testing continues, in the laboratory and in the field, on **innovative instrument transformers**, with technical characteristics and requirements that allow for improved environmental sustainability with their future use (no oil or SF_6). As part of the **Mitigating Outage Risks caused by snow and ice project**, the installation campaign of the anti-rotation devices for conductors and research activities concerning the Wolf-TRASM system (predicts the formation of "sleeves" of ice on overhead lines) continued. Research is also under way into the development of ice-phobic and hydro-phobic coatings, to be applied to overhead power line conductors in order to mitigate the risk posed by ice and snow. This is being conducted in collaboration with the Milan Polytechnic and Energy System Research (Ricerca di Sistema Energetico - RSE).
	The installation of **advanced monitoring systems for HV equipment and machinery** at the NTG's electrical substations continue.
	The initial stages of the **MOSAICO project** have been completed. It aims to define a new operational maintenance model that will allow, within the plant units, for operational stages in the processes of defining demands, planning, scheduling, allocating activities to teams and final accounting to be simplified.

WITH NEXT ENERGY TERNA IS OPENING UP TO THE IDEAS OF 10 TEAMS OF INNOVATORS

Launched in May 2016 with the opening of the online call for applications, NEXT ENERGY, the programme created by Terna and the Fondazione Cariplo to promote the development of young talent and support innovative projects for the development of the electricity system (see the specific box on page 91), is Terna's first real "open innovation" initiative.
The programme includes two distinct parts: the first involves a 6-month training course at the company for 15 engineering graduates, while the second is dedicated to teams of innovators, for whom an entrepreneurial empowerment course has been designed, also lasting 6 months, overseen by Polihub, the incubator of the Milan Polytechnic.
The 10 innovative ideas were selected by the NEXT ENERGY Panel, chaired by Terna Chairwoman Catia Bastioli, at the end of the "Innovation Days", the first acceleration session provided to the teams selected by the project's Assessment Committee, which was held at the end of September at the Cariplo Factory, the physical location of Fondazione Cariplo, so as to create an environment of open innovation.
These are the projects that gained access to the acceleration phase:

ChiFiApp	Nano-structured lead-acid batteries
Cleveral	Grid monitoring via "machine learning" techniques and sensors
Drone Radio Beacon	Automatic flight of drones using GPS
Elytix	Cloud-based platform to manage the technical and economic assets of generation plants
EWC-Energy Wise Communities	Diffusion of environmentally-friendly lifestyles between communities
Ribes Tech	Development of flexible photovoltaic cells for applications regarding distributed sensors
RisVolta	Electricity production from living plants
Sensesquare	Air quality monitoring to promote social acceptance of biomass plants
Elemize	Optimisation of storage systems
Veranu	Innovative flooring to generate clean electricity

In April 2017, the Panel will examine the progress of the teams and choose 3 winners, who will be awarded a voucher valuing € 50, 30 and 20 thousand respectively, to be spent on services in the go-to-market. If an innovative project proves to be of particular interest to Terna, the NEXT ENERGY call includes a pre-emption right that can be exercised within 6 months from the end of the initiative, for economic exploitation or use, also through the acquisition of property rights, depending on the terms and conditions to be agreed with the team that owns the project.

ENVIRONMENT

ENVIRONMENT

Natural Capital: Our Approach

Terna recognises the importance of the right balance between energy requirements and protecting the environment and local communities. In carrying out its business, it therefore seeks appropriate solutions to ensure Italy has the electricity it needs in the most reliable, economical and environmentally sustainable way. In terms of impacts on the planet's natural capital, the most significant impact of Terna's work is a result not so much of using natural resources or of emitting pollutants, but rather of soil occupation due to the **physical presence of power lines and electrical substations**, and their interaction with the surrounding natural and urban environment.
The **most significant environmental aspects** of Terna's work are thus:

- soil occupation with the consequent visual impact of substations and lines on the landscape
- electric and magnetic fields
- the interference of lines with biodiversity, with particular regard to birdlife
- greenhouse gas emissions
- special waste and its management

Terna has established an **Environmental Policy** which describes its commitment to practices which limit and reduce its environmental impact, even beyond the limits imposed by law, whenever this does not compromise the other general interests that it is obliged to protect. Among Terna's main environmental commitments, the following should be noted:

- in the planning of grid development investments, listening to the needs expressed by stakeholders (in particular, local institutions and environmentalist associations) and seeking agreement on solutions, through a process of **voluntary prior consultation with local institutions** (see pages 84 and 128)
- in the construction, management and maintenance of the grid, adopting procedures in accordance, where possible, with reducing the environmental impact. Terna has adopted an I**SO 14001:2004 certified Environmental Management System which covers 100% of the national transmission grid (substations and lines) and offices;** since 2013, the Environmental Management System of the company Terna Crna Gora has also been ISO 14001:2004 certified (see page 47)
- with regard to electromagnetic fields, strict compliance with regulations and close monitoring of the development of scientific studies, as well as a contribution to the correct presentation and understanding of the phenomenon (see page 131)
- with regard to biodiversity, the commitment to limit the impact of the grid – particularly on birdlife – with mitigation activities to be identified and finalised, including programmes agreed upon with environmental associations (see pages 83 and 132)
- with regard to climate change and energy efficiency, a recognition of the importance of the problem and a commitment to take action, as far as is operationally possible, to reduce the emission of greenhouse gases. Specifically, Terna's commitment to energy efficiency was consolidated in 2015 with the ISO 50001:2008 certification of its Energy Management System (see page 145)
- in relations with suppliers, the requirement to gradually adapt to the environmental standards adopted by Terna (also see page 55)

In organisational terms, these aspects are overseen by several departments, responsible for specific aspects, which are coordinated by the Sustainability Steering Committee.
This chapter outlines the important environmental aspects related to grid development and the management of a few specific impacts, such as magnetic and electrical fields, biodiversity, power consumption, emissions, the use of resources and waste. G4-EN24
In 2016, as in the previous two years, no spills of contaminating liquids were recorded. Two significant accidents occurred to machinery at electrical substations which, however, did not cause any environmental damage.

Managing the Environmental Impact of Grid Development

Lines and Local Communities

G4-EN27
G4-SO2

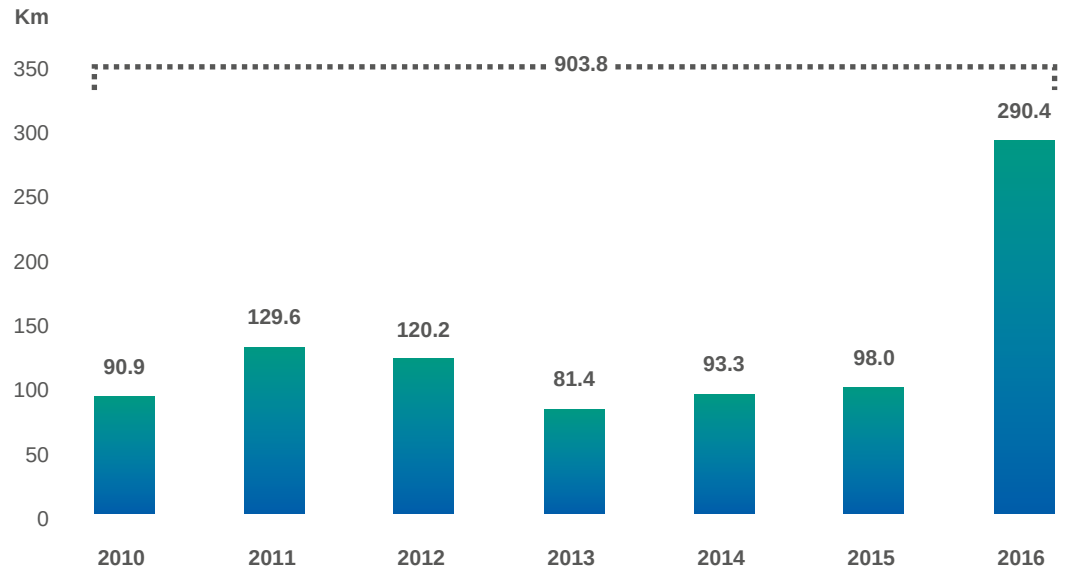
The **construction of new lines** responds to the technical needs of the electricity system – such as removing congestion and eliminating risks of overload – and to increasing energy production and consumption, which accompanies the economic growth of specific areas or of the entire country. Terna adds the required new projects to the Grid Development Plan which involves a complex authorisation process every year.
While grid development caters to society's general interest, the environmental impact of the construction of new power lines is instead concentrated on the area affected by the line route. In addition, the population density of many parts of Italy and the artistic-cultural value and landscape of many other parts make planning more complex and construction more difficult.
As regards **existing lines**, on the other hand, the need to intervene is usually due to the fact that many of these lines were built some decades ago. The gradual urbanisation of rural areas and the adoption of new legal regulations, modifying parameters already in force regarding the interaction between power lines and the land, mean that changes to portions of the existing grid become necessary.
The environmental actions preceding the coming into operation of grid development investments are described below.

Planning

From the grid development and adjustment planning stage, Terna has made use of assessments based on digital thematic maps, mostly from official sources (Regions, River Basin Authorities, the company Audit System), organised across an extensive database that is constantly updated. Interventions with which Terna can reduce the impact of power lines on the environment can be attributed to two categories:

- **Rationalisation**: complex work which involves several grid components at the same time, consisting of replacing some plants with better systems, eliminating the parts of the grid which are of negligible use following new constructions, or adding new grid elements to avoid having to upgrade saturated lines.
  Given the significance that visual impact on the landscape holds within Terna's environmental impacts, the physical removal of power lines is one of the most important effects Terna's business has on the environment, also in terms of use of terrain.
  In 2016, 290 km of lines were demolished. This was an exceptional amount, due to the removal of over 200 km of obsolete power lines in Valtellina, the result of activities begun in previous years. Net of this removal, demolition involved around 80 km, in line with previous years (around 100 km/year). In the 2010-2016 period, 903.8 km of lines were demolished.
  Demolitions are defined as overhead lines that have been physically removed (or replaced by cable lines) and do not include declassified or enhanced lines.

REMOVED POWER LINES (KM)



- **Reclassification**, that is converting existing power lines to a higher voltage by installing new conductors and pylons in place of the existing ones. This can involve replacing old pylons with larger ones, which therefore take up more space. Reclassification, compared with constructing a new line, has the advantage of **generally using pre-existing infrastructural corridors, avoiding taking over new land.**

Consultation

Since 2002 Terna has voluntarily brought forward discussions with local communities to the project planning stage of its Development Plan. The dialogue with local institutions at the **consultation** stage and the **Strategic Environmental Assessment (SEA)** procedure of the Development Plan and the public initiatives for citizens of the local communities that are directly affected by the move to new infrastructures, offer indications for mitigating the environmental impact at the design stage (see also page 84).

Design

The search for the route for the construction of a power line is the most delicate design stage because it is the choice of route that can mitigate or affect interferences with the surrounding landscape and community.
Therefore, Terna researches design solutions that minimise, as far as is possible, soil consumption, interference with areas of environmental, natural, landscape and archaeological value, whether urbanised or urban development areas, and the sacrifice required by the properties involved. This is with the exception of where a route is needed to enable the regular operation and maintenance of the power line. During the design stage Terna considers problems related to vegetation cutting right from the initial stages, adopting methods and tools that aim to reduce interference to a minimum:

- Optimising the height of pylons and their locations
- Studying site plans with the aim of using existing roads or routes, reducing the creation of new routes, especially in wooded or protected areas

The drafting of the Environmental Impact Study provides detailed indications on the various components that assist designers in transforming the route into an optimised project.
Great attention is paid to minimising visual impact which, where it is not mitigable using precise, suitable location choices and/or taking advantage of morphology, can make use of the following actions:

- Choosing **pylons with a reduced visual impact**. In recent years Terna has expanded the available alternatives, also turning to new "single-stem" pylons with a low environmental impact (occupying 10 square metres of ground surface compared to the 150 square metres for truncated pyramidal pylons) and to internationally renowned architects to design new pylons that blend in better with the landscape. The indication for using these types of pylons are mainly endorsed by Park Authorities or Landscape Superintendencies. For the construction of new electrical substations, similar considerations apply

NUMBER OF PYLONS INSTALLED AS AT 31.12.2016

Type of Pylon	Line	Total
Single-stem pylon	Chignolo Po – Maleo	88
	Trino - Lacchiarella	201
	Foggia – Benevento (I route)	40
	Laino - Rizziconi	8
	S. Fiorano - Robbia	
	Udine ovest-Redipuglia	131
"Germoglio" and "Foster"	Trino - Lacchiarella	6
	S. Barbara – Tavarnuzze -Casellina	9

- **Use of underground cables** which eliminates or **reduces the visual impact** typical of overhead stretches of power lines, which are negatively perceived, especially in built-up areas. However, burying cables, although appreciated and requested by local institutions, is problematic from a technical and economic point of view: underground lines are less reliable over time than overhead lines and require more time for repairs in the event of a malfunction. For this reason, they often do not ensure adequate security for the electricity system or service continuity. In addition, buried cables cause a greater impact in the construction stage – for example, in terms of road traffic – and much higher construction costs (from five to ten times the cost of an overhead line).

Construction

Terna manages the environmental impacts of its construction sites via the "Management of the Environmental Aspects during Plant Construction" operating guidelines, in line with the Group's environmental policy and current legislations, adopted in February 2016.
The main changes introduced include:

- the **environmental officer**, a role which is tasked with overseeing the environmental requirements (contained in the EIA Decrees and the opinions of environmental bodies) and respecting legal obligations, also in reference to the activities conducted by contractors
- **environmental monitoring of the indicators provided by ISO 14001**, (conducted under the supervision of site assistants) concerning complaints/reports, environmental accidents, waste and the consumption of energy and natural resources

Particular attention has been paid to identifying **construction site areas and access routes**, which are located, where compatible with the technical and planning needs, **in areas of less naturalistic value**.

EU13

When the project is complete, Terna provides for the restoration of the sites involved back to their original state. Where such areas include natural or semi-natural habitats, specific actions are carried out in addition to normal recovery work, which are based on naturalistic engineering techniques that aim to create environments that are suitable for plant and/or animal species or communities (habitat reconstruction), living native plants that do not require watering or special fertilisation; materials, even inert, infrastructures and other measures aiming to create favourable living conditions for animal species (https://www.aipin.it/).
Terna's **environmental policies**, which are applied also at construction sites, were formulated according to the provisions of the applicable environmental laws and the prescriptions of the ISO 14001 standard. These include aspects such as preventive measures against contaminating aquifers, limiting damage to vegetation, managing accidents, minimising air and noise emissions and vehicle use, and correctly managing waste and excavated land (see page 149). These aspects are voluntarily improved with additional precautionary principles. Internal audit campaigns on construction sites allow for any deviations from the company's environmental policies to be monitored.
Additional operating guidelines were adopted in October 2016 that aim to ensure compliance with the requirements.

Requirements

Requirements, usually technical and/or environmental in nature, are indicated by the authorising body and, in conjunction with national, regional and local legislation, constitute a "binding regulation" for the proposing party for the executive planning and construction of the work itself.
In most cases they accentuate or better define the mitigations proposed in the Environmental Impact Study or impose new ones on the advice of specialised bodies (Superintendencies, River Basin Authorities, Park Authorities, etc.).
Such mitigation, once constructed, will further lower the effect of the impacts estimated in the study (the "Monitoring Plan"), which is drafted for all Terna works that undergo an Environmental Impact Assessment.
The requirements can also be compensatory. When a residual impact is not considered to be sufficiently mitigated, the competent authority assesses an intervention, in a different location to the plant, with environmental balance value, which would benefit the area, for example, the reconstruction of a vegetation habitat or the restoration of an architectural-cultural property, etc.

Mitigation and Compensation

G4-EN13

In compliance with the requirements expressed during the authorisation procedure and/or on a voluntarily basis, Terna adopts **mitigation measures to reduce the impact, and/or improve integration into the environment, of the electrical structures.**
In particular, Terna creates **systems to hide** its own electrical substations from places frequented by tourists or those of landscape-environmental interest; redevelops assets with cultural importance; during the design phase prefers to locate lines where they take advantage of natural morphology and makes use of naturalistic engineering techniques for restoration after demolitions, reconstructing habitats and stabilising slopes or embankments.
If the mitigation measures are not sufficient to reduce the interference to insignificant levels, **environmental offsetting measures** are adopted, that is environmental regeneration or habitat reconstruction work on areas close to the power line such as balancing out the trees cut along the lines in the projects by planting individual trees of the same species over equivalent areas.
Throughout 2016, 3 vegetation redevelopment projects were carried out and 3 executive designs were completed. 5 projects are being constructed in 2017, which also includes executive projects made in previous years.

Monitoring and Supervision of Electromagnetic Fields

Protecting the public from exposure to electromagnetic fields is precisely defined by law: the relative legislation (Prime Minister's Decree of 8 July 2003) establishes:

- **exposure limits:** in case of exposure to electric and magnetic fields at a frequency of 50 Hz generated by power lines, the limit is 100 microteslas for magnetic induction and 5 kV/m for the electric field, understood as effective values
- **caution values:** as a precautionary measure protecting against the possible long-term effects of exposure to magnetic fields generated at the grid frequency (50 Hz), in children's play areas, residential areas, school sites, and places where people stay for at least four hours a day, the caution value for magnetic induction is 10 microteslas, understood as the median value over 24 hours under normal operating conditions
- **quality objectives:** in planning new power lines near sensitive areas as above, and in planning new settlements and areas in the vicinity of lines and installations already present, the quality objective is set at 3 microteslas for the value of magnetic induction, understood as the median value over 24 hours under normal operating conditions. This is in order to gradually minimise exposure to electric and magnetic fields generated by power lines operating at a frequency of 50 Hz. To ensure that quality objectives are met, in agreement with the Regional Environmental Protection Agencies, Monitoring Plans with electric and magnetic field measurements can be provided for new power lines, both in the pre- and post-construction stages

The values of the three parameters, and in particular the "caution value" (10 microteslas) and the quality objective (3 microteslas) show that the Italian legislator has adopted the precautionary approach expressed by Article 15 of the Rio Principles. These parameters are amongst the lowest in Europe. In order to comply with the law, Terna must adopt the same principle in its work.
Terna performs inspections on its own lines to guarantee compliance with the limits provided for by current legislation and researches innovative technological solutions to mitigate magnetic fields. In the event of any reports and requests by responsible bodies and administrations, Terna provides the data needed to assess the effective exposure to electric and magnetic fields generated by its plants.
Finally, with the objective of providing accurate but easily comprehensible information on the subject, Terna has provided a further explanation of electromagnetic fields (EMFs) on the "Sustainability" section of its corporate website www.terna.it.

EU13

Safeguarding Biodiversity

G4-EN27

G4-EN12

G4-EN13

The relationship between the Terna grid and the surrounding natural environment and, consequently, its impact on biodiversity can assume different features.
In the grid construction stage, the impact on biodiversity is associated with site work: opening up routes so as to be able to erect pylons, excavate and remove residual materials.
In this phase, the potential disturbances at the site areas and any access routes are temporary and reversible.
In the operating stage of existing lines, the potential impact on biodiversity is twofold. On the one hand, **the line route may contribute to increasing** biodiversity and protecting certain species because the pylons and their bases constitute "islands" of concentrated biodiversity, sparing areas of land from intensive farming. On the other hand, the lines potentially have negative effects on biodiversity, in particular on birds and in protected areas or areas of particular natural interest.
The main tool used to identify critical line sections is a comprehensive regional database, populated with data from the Regions and Ministries: the Geographic Information System (GIS), which allows for integrated analysis of all layers of information for various types of land use and protection constraints (regional, naturalistic, cultural, landscape, etc.). Using this tool, Terna has put together an **inventory of all possible interference between its lines and areas with protected or high levels of biodiversity, which is found in the table below.**

G4-EN11

LINES IN PROTECTED AREAS[22]

	Units	2016	2015	2014
Lines interfering with protected areas	km	5,512	5,541	5,625
Lines interfering as a total of lines managed by Terna	%	10	10	10

On this basis, potential threats deriving from the risk of collision concerning bird species included in the "IUCN Red List" were explored.

Electrical Lines and Birdlife

The presence of lines may cause potentially negative effects for birdlife.
While the risk of electrocution affects low- and medium-voltage lines, and therefore does not affect Terna plants, high-voltage lines are associated with the risk of collision.
To minimise this risk, **for stretches of line where birds frequently cross, special devices known as "dissuaders" have been installed.** Due to their high visibility and the noise t**hey make when the wind hits them, they make electricity lines more easily perceptible to birds in flight.**
Over the years Terna has initiated research and scientific studies to investigate this issue and identify increasingly effective solutions (for example, see the 2010 Sustainability Report, page 116, "Terna-LIPU Agreement: study on the interaction between birdlife and the national electricity transmission grid"). The first Italian study dedicate to the issue of collisions[23], and based on the results of the Terna-LIPU agreement, it shows a low risk of collision.

(22) The percentage of lines located in protected areas is calculated using the "ATLARETE" database, which may present non-significant misalignments with the data in the indicator tables showing the number of plants.
(23) Costantini et al., "Estimates of avian collision with power lines and carcass disappearance across differing environments", Animal conservation, 2016.

DISSUADERS FOR BIRDLIFE PRESENT ON THE NTG

	Units	2016	2015	2014
Lines affected	n.°	57	53	51
Length of lines affected	km	212	205	193
Total dissuaders installed	n.°	14,472	13,866	13,397

Tools for Preventing the Risk of Collision

During 2016, Terna, in collaboration with CESI and the "Charles Darwin" Biology and Biotechnology Department at "La Sapienza" University in Rome, developed AVIVAL, a tool based on GIS (Geographic Information System) designed to help assess the suitability of a territory to host a power line. The tool considers the modelled distribution of all bird species across the area of interest, the presence of protected areas, the susceptibility of the species to the presence of the line and the influence of environmental factors on the potential collision risk.
An additional tool is provided by the prior monitoring of the passages of migratory birdlife. As part of the preparatory activities for the construction of the “Sorgente-Rizziconi” electrical line (see page 106), Terna has created a three-year monitoring project, using radar, over the Messina Strait, which, to date, has allowed for over 50,000 passages to be recorded, broken down by number and altitude for birds of prey and passerines, which has not shown any collision phenomenon. Terna presented this experience, which constitutes an international best practice, at the International “Radar Aero-ecology: Applications and Perspectives” Conference promoted by ENRAM (the European Network for the Radar Surveillance of Animal Movement), which was held in Rome on the 23-24 February 2017.
Lastly, in January 2016 experimentation began involving a section of the "Villanova-Gissi" power line and using AVIMON, a device that detects impacts of birdlife with power line guard wires. During the two highest periods of bird traffic (pre-reproduction and post-reproduction), no collisions were detected, confirming the results of previous on-site monitoring.

Identification and Monitoring of Bird Species Included on the "IUCN Red List"

G4-EN14

As part of its birdlife protection initiatives, Terna has conducted a study to identify the protected species included on the "IUCN Red List", which may be affected by its infrastructures.
The IUCN Red List is the largest existing database at an international level concerning the conservation status of thousands of plant and animal species, which are catalogued on the basis of their risk of extinction. When conducting its analysis, Terna specifically considered the presence of bird species belonging to the "IUCN Red List" and "Natura 2000"[24] sites, protected areas with high levels of biodiversity (approximately 3,000 between SPAs and SCI).
The study selected the Natura 2000 areas affected by Terna’s lines, thereby verifying the protected species that had chosen said areas as their habitat, including those contained on the Red List and classified as Vulnerable, Endangered, Critically Endangered and Extinct in the Wild[25]. These species are a conservation priority, as without targeted interventions aimed at neutralising the threats in their regard and increasing their populations in some cases, their extinction is a real possibility. The analysis showed that Terna’s electrical infrastructures could interfere with the habitats of the following 8 species.

(24) Natura 2000 is the main tool in the European Union’s policy on the conservation of biodiversity. It is an ecological network that is spread across the entire European Union, established in accordance with the “Habitats” Directive no. 92/43/EEC to guarantee the long-term maintenance of natural habitats and plant and animal life that are at risk or are rare, throughout the European Union. The Natura 2000 network is made up of Sites of Community Importance (SCI), identified by Member States in accordance with that which is established in the Habitat Directive, which were subsequently designated as Special Areas of Conservation (SACs) and also includes Special Protection Areas (SPAs) that were established pursuant to the 2009/147/EC “Birds” Directive concerning the conservation of wild bird species.
(25) There are 11 risk categories, ranging from Extinct (EX), which is applied to species for which there is definitive proof that the last member has died, to the Least Concern (LC) category, which is adopted for species that are not at risk of extinction in the short or medium term. Between the categories of Extinction and Least Concern lie the endangered categories, which identify the species that are at an increasing risk of extinction in the short or medium term: VU - Vulnerable, EN - Endangered, CR - Critically Endangered and EW - Extinct in the Wild.

SCIENTIFIC GROUPING

Species	Family	Common name	Red List Category
ACCIPITRIFORMES	Accipitridae	Greater spotted eagle	VU
ANSERIFORMES	Anatidae	Ferruginous duck	EN
CHIROPTERA	Vespertilionidae	Barbastelle	EN
GRUIFORMES	Rallidae	Corn crake	VU
FALCONIFORMES	Falconidae	Lesser kestrel	LC
CHIROPTERA	Vespertilionidae	Long-fingered bat	EN
ANSERIFORMES	Anatidae	White-headed duck	RE
CHIROPTERA	Rhinolophidae	Mediterranean horseshoe bat	VU

In regards to the species that belong to the bat (Chiroptera) family, their biology excludes the risk of collision with fixed structures. The results from a field research project conducted by Terna have demonstrated the absence of line interference on the bats' movements, which fly through the spaces below power lines and even nest in the bat boxes installed on the pylons.
After checking scientific publications and targeted consultation, no particular issues with the bird species became apparent, with the exception of the "Corn crake", a species found in the alpine area between Friuli-Venezia Giulia and Lombardy, which has a potential collision risk.

Alternative Uses of Electrical Lines

Terna has been creating projects aimed at finding alternative uses for electrical lines in partnership with environmental associations for some time. The most important was carried out in collaboration with Ornis italica and is called "Nests on Pylons". It consists of placing nesting boxes and conducting annual monitoring of the species occupying the nests and the outcome of their nesting season. The project includes many species, such as the kestrel, peregrine falcon, horned owl, common cuckoo, European roller, bat and stork. Launched in 2015, the GIS survey (localisation using geographic coordinates) of the installed nests is still in progress, with 266 already recorded.

GEOREFERENCED NESTS AT 31.12.2016

Location	Nests		Species concerned (*)
	Number of Nests	Of which in Protected Areas	
Abruzzo	30	0	Kestrel
Calabria	30	23	Kestrel
Campania	1	0	
Emilia-Romagna	59	26	Kestrel, horned owl, common cuckoo, European roller
Lazio	47	14	Kestrel, horned owl, European roller
Lombardy	15	0	
Piedmont	54	25	European Roller
Sicily	30	10	
Grand total	266	88	

(*) The species concerned are identified according to the type of nest installed and the subsequent monitoring. However, it cannot be ruled out the nests may be used by other species that have not been identified.

The **"Birdcam" project** completes this project, which provides for the installation of television cameras on artificial nests to follow the birds' reproduction period online on Terna's website and on www.birdcam.it. For further details see the "Sustainability" section of the website www.terna.it.

Climate Change and Energy Efficiency

Terna transmits electricity and has no production activities which, in the electricity industry – and among all business activities in general – are those most responsible for greenhouse gas emissions: therefore, Terna is not subject to emission-reduction obligations according to the Kyoto targets, nor to emission-trading schemes of any kind, but **it has still chosen to commit itself voluntarily to containing emissions.** In this light, Terna responded to the urging of the international CDP organisation (originally "Carbon Disclosure Project") and adhered to the international "CDP Road to Paris"[26] initiative, subscribing to three commitments (emission data transparency, elimination from the supply chain of procurement leading to deforestation, and public support for the objective of reducing greenhouse gases). As well as monitoring and programmes to contain its emissions, the investments included in the Grid Development Plan **of Terna lead to significant reductions in CO_2 emissions in the overall electricity system.**

(26) "CDP Road to Paris" was the initiative promoted by CDP in July 2014 ahead of COP 21 (Paris, December 2015).

G4-EC2

Climate Change Risks and Opportunities

In line with the interest of stakeholders to assess the possible impact of climate change on Terna's business, risks connected with certain overarching trends can be assessed, specifically those risks that are derived from regulatory/legislative frameworks, physical risks and other risks connected to the role and activities of Terna.

Regulatory Risks

Reduction of emissions (emission trading/ carbon tax)

Terna is not involved in the generation of electricity and therefore is not subject to any obligation to reduce emissions or to any emission-trading schemes. Accordingly, any fiscal or regulatory measures (e.g. carbon tax or emission-reduction targets) do not concern Terna and have no direct consequences on its business and financial performance.

Changes in consumption and generation systems intended to reduce energy consumption

Research into greater efficiency has already reduced the elasticity of energy demand to the growth of GDP. The consequences for Terna are very few: the current regulatory framework significantly limits the risk of repercussions on Terna income from a below-trend growth in energy demand.

Physical Risks Associated with Environmental Conditions

Extreme weather conditions (water shortage, extreme heat, ice)

Extreme weather conditions may also make it difficult for Terna to balance electricity input/withdrawal on the transmission grid. To address these risks, Terna is carrying out research initiatives in two directions. The first is oriented towards increasing knowledge of the potential consequences of extreme weather scenarios – in line with the IPCC (Intergovernmental Panel on Climate Change) data – on grid infrastructure and on transmission operations, so as to increase the resilience of the system; the second is aimed at developing technological solutions for securing the service in specific adverse weather conditions (see page 122).

Other Risks

Development of the production of electricity from renewable sources

This poses various operational and technological challenges for Terna in relation to the need to resolve grid congestion problems and for efficient and safe management of non-programmable production. For example, intermittent wind production makes dispatching more difficult.

Reputational

As the probability of critical situations due to extreme weather events increases, which can result in widespread disruption, Terna's exposure to reputation problems increases, both relative to public authorities and the general public.

Climate change has encouraged the legislative framework to evolve in a way that favours renewable sources and has led to a merging of guidelines also at an international level, clearly seen during the climate conference of December 2015 in Paris (COP21).
Terna strategic guidelines are coherent with international guidelines, particularly when it comes to decarbonisation and the transition to energy production using renewable sources. The main opportunities that climate change indirectly opens up for Terna regard both Regulated Activities and new market opportunities: grid development investments meet a need to aid energy transition by strengthening transmission capacity and interconnections with foreign countries and research and innovation are also focused on identifying sustainable smart solutions that can be proposed to Non-Regulated Activity customers.
For example, Terna is installing storage devices (batteries) which may actually encourage the use of renewable sources, while resolving grid regulation problems (see page 101). In addition, in 2016, Terna signed an agreement with RFI for the development of plants producing renewable sources (see page 43).
Lastly, we note Terna's participation together with other energy infrastructure managers in a project to identify and analyse methods of governing climate change risks, requested and managed by the ENI Enrico Mattei Foundation, in order to share strategies and procedures and develop synergies between the companies.

Energy Consumption

G4-EN3

G4-EN5

The transmission of electricity requires **direct consumption** of energy only for a few activities that support the service, in particular:

- fuel for company operating vehicles, helicopters and vehicles used for line inspections, repairs, and other activities mainly connected with the maintenance of lines and substations (see the "Plant maintenance" paragraph on page 111)
- diesel for emergency generators, which are used only in cases where electricity is lacking. It is estimated that across Italy generators were used for a total of 6,124 hours (consumption of 0.3 GJ per hour)
- heating oil and natural gas for heating offices

The **indirect consumption** of energy consists of the electricity used to run substations and operating plants (approximately 80% of the total) and in offices and workshops. The figure for office consumption is 130,791 GJ, which, as a ratio to Terna's total employees (net of blue-collar workers), corresponds to per capita consumption of 53.5 GJ per year, up compared to the figure for 2015 (50.5 GJ). The energy efficiency management system implemented will enable an improvement in this efficiency indicator in the medium term (see the relevant section on page 145).

DIRECT AND INDIRECT ENERGY CONSUMPTION BROKEN DOWN BY PRIMARY SOURCE – GIGAJOULES[1]

	2016	2015	2014
Direct consumption in GJ			
Petrol for vehicles [2]	544.8	455.0	90.6
Diesel for vehicles [2]	77,430.6	80,513.6	85,237.6
Jet fuel for helicopters [3]	7,030.5	7,134.4	-
Natural gas for heating	8,184.0	10,022.3	8,659.3
Oil for generators and heating	9,250.1	10,454.5	9,849.6
Total direct consumption	**102,439.9**	**108,579.8**	**103,837.0**
Indirect consumption in GJ			
Electricity for powering substations and offices	702,286.9	687,968.2	668,808.0

(1) The direct consumption data in tonnes and thousands of m^3 are shown in detail in the key indicator tables. To convert the volumes of primary resources into gigajoules, the parameters indicated in the Global Reporting Initiative (GRI) protocols were used.
(2) Only the consumption of operating vehicles, and not of managerial vehicles, is considered.
(3) The Terna helicopter fleet has been operational since 2015.

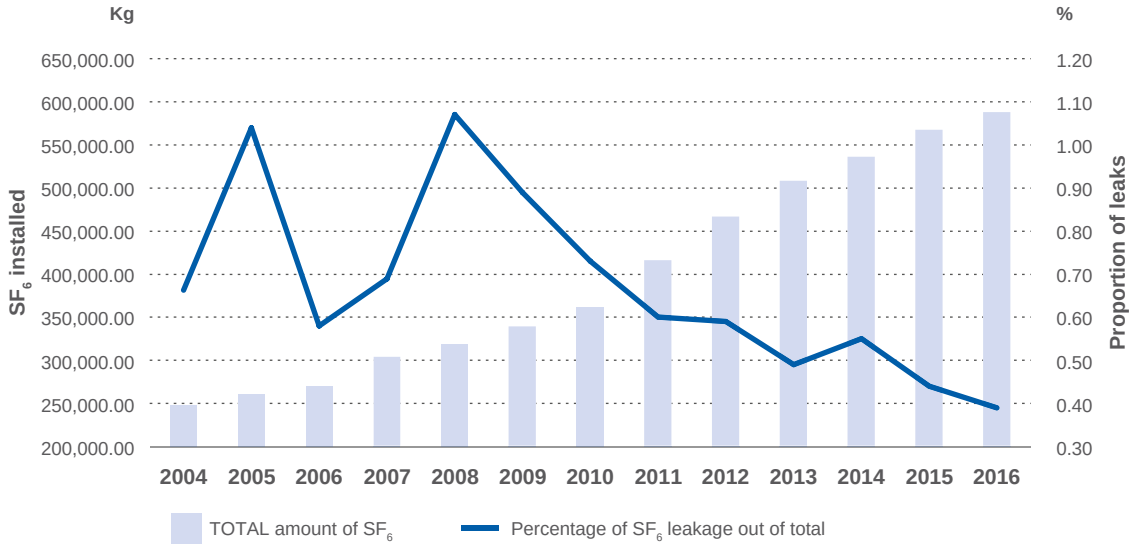
SF_6 Leakage

Thanks to its chemical and physical properties, the gas SF_6 (sulphur hexafluoride) is used as insulation in certain electrical devices such as switches, current transformers and armoured systems. Part of the gas present in the devices is dispersed into the atmosphere owing to defective seals, faults and sometimes also during operations to restore pressure. SF_6 gas has an extremely powerful greenhouse effect, equal to 23,500 times that of CO_2[27].

SF_6 leaks are the main source of direct greenhouse-gas emissions by Terna. In the last five-year period, the quantity of SF_6 present in the Terna Group's plants increased by 172 tonnes (+47%): This is a trend – common to many transmission operators – associated with the higher insulating properties of the gas and with the smaller size of substations built with equipment containing SF_6, compared to more traditional solutions.

In 2016, thanks to programmes to limit the proportion of SF_6 leaks (shown in the relevant paragraph on page 144) **and the absence of significant accidents, leaks fell in absolute terms (kg) by 7.5% compared to the previous year.** The impact of leakage on total installed amounts – the most important KPI for the containment measures adopted – in 2016 was 0.39%, the lowest figure since measurement began (0.44 in 2015, 0.55%[28] in 2014).

SF_6 LEAKAGE

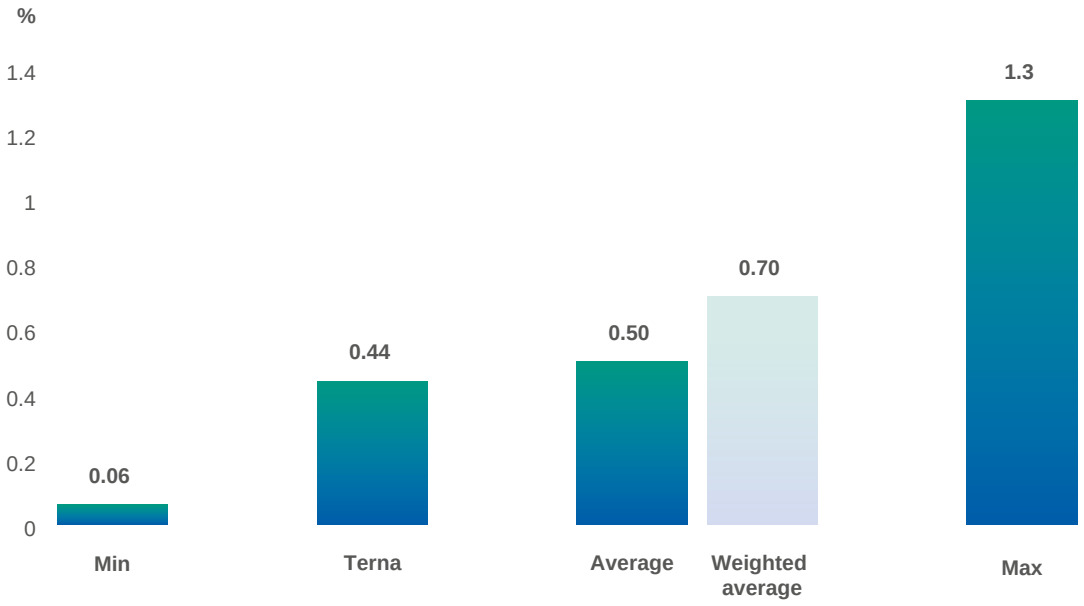


(27) See the "*IPCC Fifth Assessment Report: Climate Change 2013*".

(28) In 2014, the impact from leakage included an event that occurred in a substation which resulted in the loss of 784.1 kg of SF_6, equivalent to 26% of the total losses recorded.

SF_6 LEAKS: COMPARATIVE DATA

SF_6 gas is used by electricity transmission operators because of its excellent electrical insulation properties. On account of its specific nature of use, only other TSO panels were compared.
The indicator compared was the proportion of leaks to the total quantity of gas installed in substation equipment. In 2016, Terna recorded a proportion of leaks of 0.39%. For 2015, the year to which the comparison refers, SF_6 leaks were equal to 0.44%.
In the comparison with other transmission operators, for the year 2015 Terna showed a slightly below-average proportion of SF_6 leaks compared to the panel average, both in terms of the simple average (0.50%) and the weighted average (0.70%), i.e. calculated as the ratio between the sum of leakages and the sum of quantity installed across all TSOs.



(1) See the *"IPCC Fifth Assessment Report: Climate Change 2013"*

Details of the calculation of the "SF_6 leaks" benchmark are available in the "Sustainability" section of the website www.terna.it.

G4-EN15
G4-EN16

Direct and Indirect CO_2 Emissions

Direct greenhouse-gas emissions connected with Terna's work are mainly caused by SF_6 leaks (87% of total direct emissions in 2016), which fell by 7.5%, resulting in a decrease of 7.2% in total direct emissions. Indirect emissions have, instead, increased by 6% reflecting a diverse conversion factor relative to previous years, more than an actual increase in consumption. We note that, for technical reasons, the energy consumed by Terna cannot be traced to a supply contract. This makes it impossible for Terna to reduce indirect emissions by selecting supplies from renewable sources, and the need to use a conversion factor based on the average for Italian electricity production.

TOTAL DIRECT AND INDIRECT EMISSIONS OF GREENHOUSE GASES – CO_2 EQUIVALENT TONNES [1]

	2016	2015	2014
Direct emissions			
SF_6 Leakage	54,101.9	58,478.3	69,831.4
Refrigerant gas leaks (R22, R407C, R410A) [2]	478.5	488.3	0
Petrol for vehicles	37.7	31.5	6.3
Diesel for vehicles	5,730.6	5,958.8	6,308.4
Jet fuel for helicopters [3]	499.5	506.9	0.0
Natural gas for heating	458.8	561.9	485.4
Oil for heating and generators	684.6	773.7	729.0
Total direct emissions	**61,991.7**	**66,799.4**	**77,360.5**
Indirect emissions			
Electricity[4]	74,715.5	70,325.6	66,323.5

(1) The conversion of direct energy consumption and SF_6 (sulphur hexafluoride) and refrigerant gas leaks to equivalent CO_2 emissions is calculated this year using the parameters indicated in the IPCC Fifth Assessment Report (AR5) and Greenhouse Gas Protocol (GHG) Initiative. This led to a change in the equivalent tonnes of SF_6 and refrigerant gas and total direct emissions compared to that which was previously published.
(2) Until 2014, data on refrigerant gas leaks was only collected for R22. Since 2015, data collection was added for R407C and R410A. In 2016 there were no R22 leaks.
(3) The Terna helicopter fleet has been operational since 2015.
(4) Indirect consumption of electricity is converted taking into account the proportion of thermoelectric production in the total Italian electricity production for 2016. The reference for the division of the production mix is the "Monthly Report on the Electricity System" with the results for December 2016, available on the website www.terna.it.

The carbon intensity value can be found below, which is the ratio between direct and indirect emissions of CO_2 equivalents (amounting to 136,707 tonnes in 2016) and an important metric for the company's business. In Terna's case, the ratio is measured on revenue.

CARBON INTENSITY – EQUIVALENT TONNES OF CO_2 / REVENUE (MILLION OF EURO)

G4-EN18

	2016	2015	2014
Total emissions (direct and indirect) compared to revenue	65.0	65.9	72.0

The reduction in the figure for the three-year period (-9.7%) is attributable to a total reduction in Group emissions (-5.0%) on the one hand, and to an increase in revenue from the same period (+5.3% compared to 2014) on the other.

CO_2 EMISSIONS: COMPARATIVE DATA

The figures used for comparison as regards the emission of CO_2 are composed of the figures related to direct and indirect emissions (Scopes 1 and 2).
The unit of measurement used for the comparison is the CO_2 equivalent, expressed in thousands of tonnes, where CO_2 equivalent means the total contribution of the greenhouse gases to the greenhouse effect.
The analysis was done by comparing Terna's emission values with those of three corporate panels: companies listed on the FTSE MIB, the Electric Utilities on the Dow Jones Sustainability World Index, and the TSOs(1).
In the absence of normalisation factors valid for all sectors, it was deemed of interest to present the company data on CO_2 emissions in absolute terms – despite the poor comparability. Such figures, which vary greatly in magnitude from one case to another, at least provide an indication of the extent of greenhouse gas emissions – and therefore of the practical need to contain and mitigate them from the point of view of sustainability – in the various sectors and companies.
For 2016, CO_2 emissions attributed to Terna's activities amounted to 136.5 thousand tonnes. On the other hand, for 2015 (the year with which a comparison can be made) emissions were measured at 137.1 thousand tonnes of CO_2.
When compared with all three panels, Terna is significantly below the average for 2015. The data confirms the evidence for the previous three-year period.

	CO_2 emissions (thousands of tonnes) - 2015		
	TSO	FTSE-MIB	DJSI- Electric Utilities
Figures available (1)	11	25	8
Average	15,996.3	7,762.6	27,085.4
Max	155,478.5	120,164.0	120,164.0
Min	10.8	1.0	37.9
Terna		137.1	

(1) In the absence of figures published by the company, or directly comparable values, it was decided that the figures in the "CDP Climate Change Report 2016" could be used for the analysis. In total, CDP figures were used for four companies.

Details of the calculation of the "CO_2 emissions" benchmark are available in the "Sustainability" section of the website, http://www.terna.it/en-gb/homepage.aspx.

Other Indirect CO_2 Emissions

G4-EN17

In addition to the emissions corresponding to electricity consumption, Terna's most significant indirect emissions are related to grid losses. For the indicators relative to emissions produced by staff air miles, see page 201.

Grid Losses

EU12

Grid losses are defined as the difference between energy input by producers (including imported energy) and final consumption; the losses relevant for Terna are those associated with the transmission grid. The figure presented in the table below is based on the direct measurement of energy inputted and withdrawn from the transmission grid (approximately 7,500 metres), to which corrective technical coefficients are applied in cases in which the measuring point does not coincide with the boundaries of the transmission grid. Terna is responsible for measuring the energy input into the NTG, while for the energy withdrawn, on the basis of specific agreements, Terna may read the measurements remotely, which however remain the responsibility of the distributor companies. This entails a margin of error concerning the correctness of the measurements of electricity withdrawn which, moreover, has tended to reduce over the years, thanks to cross-checks and the gradual resolution of discrepancies with the distributors' data.
In order to reduce the margin of error and the risk of interpreting the effect of measurement errors and related corrections as real trends, starting from 2012 it was decided to use the simple moving average of losses with a three-year window (2012-2014 for the year 2014; 2013-2015 for the year 2015; 2014-2016 for 2016) as the annual figure.

GRID LOSSES

	2016		2015		2014	
	% proportion with respect to energy demand	GWh	% proportion with respect to energy demand	GWh	% proportion with respect to energy demand	GWh
VHV and HV grid	1.5	4,525	1.5	4,622	1.5	4,579

Terna can only contribute to determining the amount of losses, which are not completely under its control. Dispatching – needed to ensure the constant balance between injections and withdrawals, and to avoid grid-security and service-disruption problems – takes place according to regulated criteria within the scope of production set-up determined by the energy market, and cannot be conditioned by Terna so as to minimise losses.
Grid development, however, with equal production set-ups, would lead to greater efficiency and thus a reduction in losses; however, the real impact of grid development on losses cannot be predetermined, nor is it under the control of the grid operator, since it depends on the evolution of production capacity and the demand and supply of electricity on a local basis.
The CO_2 emissions associated with grid losses amounted to 1,733,251 tonnes for the year 2016 (1,700,916 in 2015 and 1,646,235 in 2014). The trend differs from the losses measured in GWh due to modifications in the conversion factor for transforming energy into equivalent CO_2 emissions, which – in turn – is affected by the changes in the production mix of the Italian generation system.

G4-EN19

Initiatives to Reduce Emissions

Terna focuses its attention on a number of voluntary action programmes aimed at reducing its main sources of greenhouse-gas emissions, which consist, in particular, of:

- **a programme to limit the proportion of SF_6 leaks:** Terna has launched several initiatives such as identifying leaks promptly by means of online monitoring systems and seeking technological solutions which improve the sealing of equipment and components
- **a programme for energy-efficient** buildings
- **feasibility studies for energy conservation initiatives** in electrical substations

Limiting SF_6 Leakage

Terna works to **keep SF_6 leaks under control**, limit and, where possible, reduce their **percentage as a ratio** to the total gas used. In fact, if leaks in absolute terms increase owing to the greater use of gas, a reduction in the proportion of leaks would, precisely for this reason, have a significant impact in terms of emissions avoided.
The identification of a reduction target is affected by several elements of uncertainty:

- the growth of awareness of and attention to the issue has been reflected in an improvement in measuring leaks, entailing – precisely in the years when limiting activity began (2009–2010) – worse performance, in all probability only apparent
- the occurrence of faults with significant gas leaks – the probability of which is growing given the increasing use of SF_6 gas in equipment at large substations – can alter the trend considerably
- while on the one hand installing equipment with better sealing performance tends to reduce the proportion of leaks, on the other the ageing of equipment already installed could entail an increase in leaks

Net of exceptional faults and any effect deriving from the ageing of the equipment in operation, it is estimated that installing new devices with better seals (such as more highly reliable transformers), which began in 2009 and continued in the years 2010-2012, may determine a reduction in the proportion of leaks of approximately 0.1% over the period of five years of the installation campaign. On the basis of this estimate, and again net of the factors mentioned, we expected the proportion of leaks to be placed around 0.6%, considering that the average proportion in the 2007-2008 period was 0.7% (net of exceptional faults). Therefore, the effective proportion recorded (0.39% in 2016) represents a better result than the expected target, which, however, given the average proportion recorded by European TSOs (0.70%, see the "Comparative Data" box on page 140), remains a Terna objective up to and including 2018.

G4-EN30

Company Fleet

The company's operating vehicles are used throughout Italy to carry out line inspections generally to reach plants and sites.
The fleet of vehicles used by Terna is made up of:

- 3 helicopters acquired in 2015 for scheduled and occasional inspections of Terna power lines
- A car fleet, which was renewed during 2016, made up of over 90% of cars fitted with Euro 6 and Euro 5 engines (for more information on the vehicles and the impacts connected to the company fleet, see the table in the Indicators Tables on page 201)

Energy Management System

In line with its sustainable business approach, Terna promotes energy efficiency and saving.
In 2012 the company launched the “Energy Consumed for Own Use Management System” project to provide the Group with a corporate Management System that complies with the UNI CEI EN ISO 50001:2011 standard.
To achieve the objective of UNI CEI EN ISO 50001:2011 certification for Terna S.p.A., Terna Rete Italia S.p.A., Terna Plus S.r.l. and Terna Crna Gora, obtained in December 2015, and comply with the commitments established by Italian Legislative Decree 102/2014 and the guidelines issued by the MED, which obliged large companies to carry out, again by 2015, a series of energy audits on a significant sample of company sites, the following were carried out:

- initial Energy Analysis
- energy analyses at relevant sites (Rome, Milan, Florence, Naples, Palermo, Cagliari, Rome Campus and the Security Operation Centre-SOC, Rome)
- energy analysis of the Terna Gora headquarters
- energy analysis of the Terna Gora construction site
- energy analyses of 18 electrical substations (the three largest in Rondissone, Dugale and North Rome)
- the Ginestra site for non-conventional storage systems
- the physical-chemical laboratory in Rome and the Genzano di Lucania construction site

The energy analyses were conducted in compliance with current legislation (Italian Legislative Decree 102/2014) and the use and consumption of all energy carriers (electricity, diesel oil for generators, natural gas, heating oil and car fuel) were examined, on account of the fact that they are relevant aspects for the group.
Real-time energy consumption sensors were installed, which power an energy dashboard for 9 important offices: the Rome headquarters, Milan, Padua, Florence, Palermo, Cagliari, Rome Campus and the Rome Security Operation Centre (SOC).
During 2016 the "UNI CEI EN ISO 50001:2011 Energy Management Systems – Requirements and Guidelines for Use and UNI CEI EN 16247 Energy Diagnosis" course was given to around 60 people, including energy officers and assessors. In addition, to increase energy-saving awareness within the company, a poster campaign was carried out, which was linked to an email address in order to gather suggestions.
In July 2016, a positive result followed on from an audit by the Certifying Body in order to maintain the certification.

Energy Efficiency in Substations and Offices

G4-EN6

At Terna the development of energy efficiency programmes relative to the **use of electricity** in substations and offices is experimental at this stage, as electricity consumption falls within the "own transmission use" category which, in accordance with the provisions of the sector Authority, are not included within Terna’s operating expenses.
In **offices**, the main sources of energy consumption are related to lighting, air-conditioning, heating and the use of computers and printers.
The **renovation and new construction of Terna sites** should be noted first and foremost, which – on the basis of a multi-year programme – tend to raise the energy class of Group owned properties, thereby accompanying construction with an improvement in energy efficiency standards.
During 2016, the construction of the new Turin office and the remodelling of the Palermo offices contributed to improving the energy class of Terna’s main buildings, in line with the objective to bring these buildings to 70% (expressed as a % of total cubage in the offices considered) in classes A, B or C by 2020 (45% in 2015).
We also note initiatives launched in previous years which concern the reduction in these consumption sources and for which we can measure the obtained benefits:

- trading-in computers and printers: the new models enable savings in average energy consumption of around 13.3% and a consequent reduction of carbon dioxide emissions. The reduction achieved in 2016 adds to those already recorded in 2012 for a total of 242 tonnes of CO_2 emissions
- the replacement of heating oil boilers with two heat pumps and a series of geothermal probes at the offices of the Friuli-Venezia Giulia Plants Unit. The investment initiated in 2014 has a payback period of 5 years and has allowed for a reduction in costs and consumption related to heating oil. This has led to a reduction in CO_2 emissions into the atmosphere amounting to a total of 150 tonnes of CO_2

Among the initiatives begun in 2016 we note the switch to LED bulbs in the Pero offices (Milan) and the installation of innovative light towers (with LED technology) in the Basiliano electrical substation (Udine). The benefits for these projects in terms of carbon dioxide reduction will be quantified at the end of 2017.

The Development Plan and Reduction of CO_2 Emissions from the Electricity System

The construction of the new lines and substations provided for by the Development Plan will have positive effects not only in terms of service security and the final cost of electricity, but also in terms of reduced emissions from the electricity system. The effects, achievable upon completion of the Plan, can be attributed to three categories:

- Reduction of grid losses
- Improvement of the production mix and interconnection with other countries
- Connection of plants using renewable energy

Overall, the reduction in CO_2 emissions could reach approximately 13 million tonnes a year.

Reduction of Grid Losses

Grid losses depend, among other things, on the distance the electricity travels on the transmission grid. In the simplest terms, the further the point of consumption (of withdrawal from the NTG) from the point of production (of delivery into the NTG), the greater the losses for the same consumption. In addition, for the same distance, the losses are greater on a lower-voltage line. Development work that improves the grid mesh structure brings withdrawal and consumption points closer: all other conditions being equal, the result is a reduction in grid losses. The same result is produced by upgrading a stretch of the grid, for example when a 400 kV line replaces one at 150 kV over the same route. The entry into service of the main development interventions provided for in the 2017 Development Plan will lead to a reduction in energy losses on the grid estimated at being around 830 GWh/year. Assuming that the reduction of these losses is equivalent to a reduction in production from combustible sources, it is possible to quantify a decrease in CO_2 emissions of somewhere between 500,000 and 600,000 tonnes every year.

Improvement of the Production Mix and Interconnection with Other Countries

One of the main purposes of developing the electricity transmission grid is to overcome the transport limits between "electricity zones". The existence of these limits imposes a number of restrictions on the possibility of production by more efficient generation units, namely units which pollute less in terms of CO_2 emissions, and at the same time makes production by obsolete substations necessary for grid security.
The work envisaged in the Development Plan, together with the expansion of interconnection with other countries, would enable a more efficient production mix, with a larger proportion of production by plants with higher yields. The same final consumption quantity would thus be fulfilled with a smaller quantity of fuel: the benefits are quantifiable as a reduction in CO_2 emissions of up to around 7,246,757 tonnes a year.

Connection of Plants Using Renewable Energy

The main contribution to the reduction of CO_2 emissions comes from connecting production plants using renewable sources considered among the projects in the 2017 Development Plan. The production of energy from renewable sources has represented an energy potential that has seen strong growth in recent years. Specifically, wind and photovoltaic generation plants have increased substantially, especially in Italy's southern regions and islands.
One of Terna's main tasks is to plan NTG upgrading in order to encourage production of electricity from renewable energy sources. The aim is to try to overcome any grid and operating limitations that could impact renewable-energy input into the grid, which is entitled to dispatching priority.
The development solutions planned in response to these critical areas include both action to strengthen sections of the primary grid, which make it possible to indirectly reduce the limits on the operation of NPRS production, and action to locally expand the sub-transmission grids to which the NPRS generation is directly connected (see the relevant section on pages 108-110). Besides this work, NPRS collection stations on the primary 400 kV grid are planned, which will make it possible to limit the construction of new 150 kV power lines which would otherwise be needed. The works included by Terna in the 2017 Development Plan will release about 4,350 MW of power from renewable sources, thus obtaining a reduction of CO_2 emissions amounting to around 5,600,000 tCO_2/year.

Reduction of CO_2 Emissions in 2016

In 2016, the benefits in terms of reduction of CO_2 emissions were mainly due to the installation of new "zero-emission" production units.
The provisional figure for power installed from renewable sources in 2016 is presented below.

Energy source	Power installed – MW
Wind	~9,600
Photovoltaic	~19,350
Total	**28,950**

From the 2016 provisional figures, it can be seen that in 2016 the gross production using wind and photovoltaic energy increased by approximately 2,730 GWh; this figure corresponds to a reduction of approximately 1.52 million tonnes of CO_2[29].

(29) Considered as a conversion ratio of 0.557 tCO_2/MWh and assuming that the new renewable capacity installed replaces an equivalent thermoelectric capacity.

Resource Use and Waste Management

The provision of the transmission service requires the construction and maintenance of a large endowment of capital assets: power lines (pylons, conductors, insulators), transformer substations (transformers, switches, other substation equipment), and control systems are the main components.

G4-EN8

The use of materials is related, in particular, to constructing new electricity and ICT infrastructure.

Water is not used in the electricity transmission and dispatching production cycle. Normally, the water used – for hygienic use, to clean offices and for cooling systems – comes from connections to the water mains for civil use (water consumption is shown in the key indicator tables on page 202).

The production and direct waste management primarily concerns the maintenance of electricity infrastructure.

G4-EN1

Resources

Terna does not use raw materials but purchases finished products such as electrical equipment, conductors, devices and other elements which are used to develop and maintain the National Transmission Grid. An estimate of the materials contained in the primary products purchased by Terna is shown in the following table, where the quantities have been estimated considering the average material contents of the various products purchased by Terna in the years referred to. Information is not currently available on the use of recycled material by the suppliers of the materials and equipment used.

MAIN MATERIALS IN SUPPLIES

Tonnes	2016	2015	2014
Porcelain	193	336	327
Polymeric	93	102	114
Copper	461	1,380	1,019
Aluminium	2,858	5,077	2,946
Steel	13,253	13,275	29,675
Glass	859	1,474	3,525
Dielectric oil	227	682	408
SF_6	34	31	28

The quantities shown in the table illustrate an overall reduction in all purchased materials, with the exception of SF_6 gas. Paper consumption - entirely certified - is shown in the key indicator tables on page 202.

Waste

G4-EN23

Most of Terna's waste is recovered to be sent for production recycling. Only some residues are sent to the waste-disposal sites and therefore have an environmental impact.
93% of waste was recovered in 2016 (92% in 2015 and 81% in 2014).
Such waste derives mainly from maintenance and modernisation works to the electricity infrastructure, activities which depend on technical considerations regarding the security and efficiency of the system, which therefore may change significantly from year to year.
Actual recycling depends on the materials which make up the waste: some materials can easily be separated and consequently reused (for example the iron parts of pylons); however, in some cases, it is impossible or too costly to separate the parts, especially for equipment purchased some years ago.
For these reasons, the annual changes in the percentage of waste recycled must not be interpreted as representing a trend.

WASTE BY CATEGORY[1] TONNES

	2016	2015	2014
Waste produced[1]	**4,941.6**	**5,112.1**	**4,489.9**
of which hazardous	1,842.5	2,906.7	2,651.0
of which non-hazardous	3,099.1	2,205.4	1,838.9
Recycled waste	**4,581.4**	**4,680.2**	**3,652.7**
of which hazardous	1,560.6	2,643.1	2,136.2
of which non-hazardous[2]	3,020.8	2,037.1	1,516.6
Waste sent for disposal[3]	**351.6**	**427.3**	**780.3**
of which hazardous	275.6	259.7	458.2
of which non-hazardous	76.0	167.6	322.2

(1) This includes only the special waste from the production process, not that produced by service activities (urban waste). This does not include waste relative to sewage and waste deriving from septic tanks, coming from substations not connected to the sewer network. The amount of sewage and septic tanks amounted to 789 tonnes in 2016, 680 tonnes in 2015 and 383 tonnes in 2014. In 2014, waste identified as "Other emulsions" (amounting to 857 tonnes) produced during an accident that occurred in an operating area was also excluded.
(2) They consist of uncontaminated metal waste, deriving from the decommissioning of transformers, electrical equipment and machines (for example, generators) no longer in use, with a recovery percentage that averages 100%.
(2) Waste sent for disposal may differ from the simple difference between waste produced and recovered, owing to the temporary storage of waste.

The main hazardous special waste produced by Terna's operating activities consists of:

- **metal waste** which derives from the decommissioning of **transformers, electrical equipment and machinery** no longer used and contaminated by hazardous substances, more than 95% of which is recycled on average, after treatment by third parties
- **batteries** (lead and nickel), which, in the event of a blackout, enable emergency generators to be turned on to keep the energy transportation and transformation service operating during emergencies, 100% of which are recycled
- **dielectric oils** for the insulation of transformers replaced following the regular checks carried out for transformer maintenance, and which constitute hazardous waste with a recovery rate of 85%

Waste sent for disposal consists mainly of materials used in the maintenance and cleaning of plants (mud, oil emulsions and rags containing oils and solvents) and insulating materials containing asbestos for which no kind of recycling is available.

G4-EN31

Costs for the Environment

Terna's commitment to the environment is reflected in the costs incurred for environmental reasons, both as investment and as operating expenses. Environmental costs were shown separately on the basis of the definitions presented below, by aggregating information deducible from the company's general and management accounting. Such definitions and the methodology described below have been taken from the operating guidelines of the Terna Group.

Recording Methods

Environmental costs are identified firstly on the basis of the definitions available, in particular those of the ISTAT (the Italian National Institute of Statistics), Eurostat and the GRI as well as on the European Commission's recommendation on the recognition, measurement and disclosure of environmental issues in annual accounts and annual reports (Recommendation 2001/453/EC). On the basis of this recommendation the term "environmental expenditure" includes the cost of steps taken by an organisation or on its behalf by others, to prevent, reduce or repair damage to the environment which results from its operating activities.
Secondly, the aforesaid definitions were applied to the environmental aspects considered significant (for example, the noise of substations, electromagnetic fields, etc.) in the Company's ISO 14001-certified Environmental Management System to identify, in the main corporate processes, Terna's operating and investment activities of environmental significance.
Many of Terna's activities described in this Report entail environmental expenses. However, several limitations were introduced in determining the reporting boundary:

- exclusion of integrated costs, i.e. regarding activities whose purpose is not exclusively environmental (for example, the use of pylons with innovative features also from the point of view of environmental integration) because of the subjectivity of accounting for only environmental components
- exclusion of the additional costs connected with the consideration of restrictions or requests for safeguarding the environment during planning and designing new lines (detours and burials)

Other conditions were that the costs had to be:

- significant
- consistent with the annual reporting of accounts (operating costs and investment clearly distinguished)
- directly recognisable on the basis of the existing corporate accounting system

This last condition fulfils the need to minimise recourse to estimates based on non-accounting analyses.

Investment and Operating Costs

The table below best shows the investments and operating costs incurred by Terna for the environment (see the relevant information box for more details on the accounting method used).
These costs exclude expenses regarding internal resources and consider only expenses for external purchases. An exception is the "Environmental activities – existing plants" item, which includes the costs of internal personnel.
In accordance with the method adopted and the footnotes to the table, it should be noted that the environmental costs shown are a subset of the total environmental costs actually incurred, as defined above.

COSTS FOR THE ENVIRONMENT - INVESTMENT AND OPERATING COSTS € MILLION

	2016	2015	2014
Investments			
Environmental offsets [1]	14.7	1.2	12.7
Environmental impact studies [2]	2.4	5.0	2.1
Environmental activities – new plants [3]	4.3	5.8	4.4
Environmental activities – existing plants [4]	7.5	7.1	9.8
Demolitions [5]	0.9	1.2	4.7
Total investments	**29.8**	**20.3**	**33.7**
Costs			
Costs for environmental activities [6]	19.1	19.4	19.2
Total operating expenses	**19.1**	**19.4**	**19.2**

(1) **Environmental offsets:** these are amounts for offsetting the works set out in the Grid Development Plan, as determined by special agreements entered into with local institutions.
(2) **Environmental-impact studies:** these relate to plants provided for in the Grid Development Plan that are at the construction stage or in the process of being authorised by the competent administrations.
(3) **Environmental activities - new plants:** the amount shown is based on an estimate. On the basis of an analysis of several large investment projects, it turned out that at least 1% of the total expenses of the project regard environmental items, usually determined by obligations (for example, masking with trees, barriers against noise, installation of dissuaders for birdlife, environmental monitoring, analysis of excavated earth and rocks). Therefore, a value of 1% of investment costs for projects with similar features was considered.
(4) **Environmental activities - existing plants:** the expenses for upgrading existing plants in accordance with environmental provisions and new regulations (for example noise and visual/landscape aspects).
(5) **Demolitions:** the costs for the definitive dismantling of lines as part of rationalisation projects. In 2016, we also note two demolition projects involving 176 km on the Grossotto-Lovero (Sondrio) and Milano Stazzona (Como) power lines, the activity, performed directly by the engineering unit from the Milan operating area, is not added to the item in the table as the methodology determined in 2010 does not include projects carried out directly by the operating areas (which are normally of little significance). This project cost around € 700,000. In 2017, the possibility of amending the methodology to insert other similar cases in the future will be evaluated.
(6) **Costs for environmental activities:** cutting trees, cutting grass, waste management and demolitions/dismantling for small amounts not included in investments. These cost items, which can be determined directly from the industrial accounting, do not exhaust the year's total environmental costs, but represent the majority of them.

PERSONNEL

PERSONNEL

Human Capital: Our approach

Human resources are an essential part of corporate business but they are also individuals who should be valued and whose rights should be respected. Terna's approach to relations with its collaborators is characterised by:

- **concern for safety and the prevention of injuries** to ensure the physical integrity of employees
- the design of management and development systems to **improve performance and develop individual skills**
- **investment in training**, ensuring the growth of the Company and its employees
- **remuneration and welfare policies** aimed at aligning individual performance with the Company's goals and providing economic security for employees and their families
- a well-organised system of **industrial relations based on trade-union involvement** in numerous aspects of company life (see also pages 64-65);
- **listening to employees** by using staff surveys (see also page 64)

Staff policies are established by the Human Resource and Organisation Department, while staff management is entrusted to the relevant department Heads as well as the HR Department. Workplace health and safety issues are the responsibility of the Security and Services Department. Both departments are part of the Parent Company's Corporate Affairs Division.

G4-LA1

G4-LA12

An Outline of the Employees

The following tables show data for the Group, with the same scope as 2015. Therefore, the data for the 396 Tamini Group employees (see methodological note on page 172) are not included. For the sake of visual uniformity, we have also excluded the three employees on local contracts with the Montenegrin subsidiary Terna Crna Gora d.o.o.. Including the Tamini Group and Terna Crna Gora, employees at 31/12/2016 totalled 3,869 (+102 compared to 2015). Compared to the Group's scope at 31 December 2016, measured in terms of revenue as of 31 December 2016, the data in this section covers 95.1% of the Group's revenue.

PERSONNEL COMPOSITION BY CATEGORY

	2016	2015	2014
Total	**3,468**	**3,333**	**3,437**
Senior managers	64	63	61
Junior executives	549	498	541
White-collar workers	1,830	1,813	1,887
Blue-collar workers	1,025	959	948

The total turnover rate on termination (1.5%) was in line with the trend of the previous years, with the exception of 2015, which was affected by the generational turnover project implemented by the Group during that year.
Retirement is the main reason for employees leaving. The leaving rate for spontaneous resignations has remained very low despite having increased compared to the previous two years (0.60% in 2016; 0.35% in 2015; 0.32% in 2014). The increase in leaving rate for employees under 30 years of age (1.9%) affected this rise, a group which expanded greatly due to the aforementioned generational turnover project.
In 2016, Terna made use of 54 temporary workers (compared with 37 in 2015 and 54 in 2014), employees of agencies that provide a temporary employment service to Terna.

PERSONNEL CHANGES

	2016	2015	2014
Total employees	**3,468**	**3,333**	**3,437**
Employees recruited during the year	186	369	68
Employees who left during the year	51	473	73
Turnover rate on termination (%) [1]	1.5	13.8	2.1
Turnover rate on termination (%) under 30 [1]	1.9	1.1	0

(1) The turnover rates report the termination flows with respect to the number of employees as at 31 December of the previous year.

PERSONNEL COMPOSITION

	2016	2015	2014
Total employees	**3,468**	**3,333**	**3,437**
By contract type			
- permanent	3,466	3,331	3,382
- temporary	2	2	55
By gender			
- men	3,062	2,942	3,042
- women	406	391	395
Average age of personnel (years)			
Average age	43.5	43.5	46.6

The generational turnover project launched in 2015 led to an increase in the educational qualifications of the corporate population. In 2016, 92% of employees had a degree or high school diploma. The average length of service was 17.5 years.

Management of Generational Turnover

The company concluded the initiative in 2015, which was launched in the last quarter of 2014 and aimed at bringing forward generational turnover through incentives for the voluntary retirement of employees close to pension age. Terna has therefore implemented staff rationalisation and reorganised corporate procedures with the aim of rebalancing the professional and demographic composition of the workforce. The redundancy and retirement initiatives were countered by intensive personnel selection and hiring initiatives, which lead to generational turnover in the workforce of the Terna Group. For further details, please see the 2015 Sustainability Report on pages 125–126.
Some time ago, the Terna Group began a series of initiatives to better manage generational turnover. The most significant include the transmission of knowledge and experience, which are often exclusive, by increasing use of training courses taught by in-house teaching staff and professional development projects aimed at creating and transmitting technical and managerial skills, enabling adequate performance of critical roles. The increase in the number of training hours given in 2016 also reflects training reserved for new hires in 2015.
The summary table of potential personnel leaving for the 2017-2021 and 2017-2026 periods respectively is given below:

EU-15

359 employees as at 31.12.2016 potentially retiring in the 2017-2021 period (10.35% of all employees at 31.12.2016) of which:

- Senior managers: 4
- Junior executives: 57
- White-collar workers: 186
- Blue-collar workers: 112

816 employees as at 31.12.2016 potentially retiring in the 2017-2026 period (23.53% of all employees at 31.12.2016) of which:

- Senior managers 16
- Junior executives: 150
- White-collar workers 405
- Blue-collar workers: 245

STAFF TURNOVER: COMPARATIVE DATA

Terna's "staff turnover rate" is defined as the ratio of employees leaving during the year against the number of employees as at 31 December of the previous year.
As the staff turnover rate is an indirect indicator of the internal company climate affecting all divisions, the figures for the transmission companies (TSO panel) and those of the large companies listed on the Italian stock exchange (FTSE MIB) were taken into account, as well as those for companies in the Electric Utilities sector included in the Dow Jones World Sustainability Index.
In **2016** Terna's turnover rate was **1.5**%, in line with the trend recorded up until 2015. In **2015**, the year for which comparative data is available, Terna's turnover rate was impacted by the implementation of the generational turnover programme, amounting to 13.8%. Net of incentivised redundancies, the turnover rate would have been 1%.
Considering the average rates recorded in the comparison group, which are in line with those of previous years, it emerges that the Terna turnover rate before 2015 and – in 2015 –, net of the generational turnover programme, was well below the average of all the panels considered.

Turnover rate (%) – 2015

	TSO	FTSE-MIB	DJSI – Electric Utilities
Figures available	16	24	9
Average	6.0	8.6	6.6
Max	13.8	22.0	13.8
Min	0.6	1.6	0.8
Terna		**13.8**	

Details on the "staff turnover" benchmark figures are available in the "Sustainability" section of the website.

The HR Process

Research and Selection

The personnel recruited from the external labour market are graduates – in particular engineers – and qualified people with diplomas from professional institutes, most with an electrical specialisation. Once employed, the new recruits expand their knowledge and the necessary specific skills through dedicated introductory training courses.
The preferred recruitment channel for candidates is the "Working at Terna" section of the company website. The process of looking for and selecting personnel is managed by the Human Resources and Organisation Department, which also oversees relations with schools, universities and employment agencies in order to support the process of finding new staff and create a virtuous circle of exchange between the Company and the outside world. From this perspective the Company has entered into agreements with the leading Italian universities and business schools, funding the creation of specialised master's courses.
Terna's business in 2016 can be summarised by the following figures: it provided financial support for 4 master's courses, 89 hours of teaching by Terna employees in external courses, participated in 8 career days, received 543 university or master students for visits at its plants and launched 33 traineeships, internships and work projects.

G4-LA9

Training

Training at Terna continuously embraces all aspects of professional life. It is aimed at creating value for our people through increasing and diversifying their skills and employability, and creating value for the Company through the development of human capital in line with the Company mission and the business strategy. “Campus - Esperienze in Rete” (Grid Experiences) is the umbrella scheme for all the training, which is provided via a training scheme that is based on the transfer of specialist know-how entrusted to the most experienced staff (Faculty) and on external collaborations (with universities and business schools) to ensure multiple teaching inputs. In 2016:

- **203,066 hours of training** were provided (+6% compared to 2015), 99% of which took place in the classroom (99.8% in 2015)
- **99% of employees have attended at least one training course** (97% in 2015)
- **61 hours of training per capita** (56 in 2015, +9%)

Moreover, 117,000 hours were carried out – which were not considered in previous data – as an on-the-job complement to the training of newly-hired operators and multi-skilled staff.
The 61 hours of training per capita provided by Terna are comparable with the average per capita hours of the 40 companies on the FTSE-MIB that gravitated around 30 in recent years (30.2 in 2015, latest figure available).

TRAINING FOR EMPLOYEES: COMPARATIVE DATA

The comparison of staff-training performance uses the per capita hours of training provided by companies as a reference.
Since per capita training does not depend on the size of the company or on the sector in which companies operate, figures for the companies on all three panels were examined.
In 2016, Terna provided 61 hours of training for each employee, up compared to 2015 (56).
Compared to the other companies on 2015 data, Terna comes in above the average value for all three panels: TSO, Electric Utilities for the Dow Jones Sustainability Index and companies on the FTSE MIB; Terna achieved the highest figure for the latter panel.
Particularly, with reference to the 2011-2015 period, Terna provided an average of 45 hours of per capita training each year, compared to the 31 of the FTSE-MIB panel. Please note that Terna data does not include on the job training hours.

Hours of training per capita - 2015

	TSO	FTSE-MIB	DJSI- Electric Utilities
Figures available	11	27	9
Average	43.9	30.2	45.7
Max	100.0	56.0	100.0
Min	9.0	5.1	15.1
Terna		**56**	

Details on the “staff training” benchmark figures are available in the “Sustainability” section of the website http://www.terna.it/en-gb/homepage.aspx.

Developing Human Capital

The new Terna Group Professional System was implemented in 2016 to support human resource development activities aimed at ensuring that positions are effectively covered and guarantee an adequate succession planning process. This system promotes:

- professions (that is "professional families"), identified according to the main core-business corporate processes and staff
- macro-roles ("duties"), that are transversal to the organisation, identified on the basis of the type and complexity of the contribution, broken down according to the level of seniority

The professional system represents the framework on which HR strategies and policies are introduced, and comprises an integrated management and development system that makes it possible, *inter alia*, to:

- respond effectively and promptly to developments in business and the organisation, making the "duties" independent of the organisational structure
- oversee and develop corporate know-how
- optimise the mobility process for resources

G4-LA11

During the year a skills assessment project was launched within the context of the aforementioned framework in order to gain in-depth knowledge concerning human capital and initiate an optimisation process.
This project involved around 160 managerial staff and around 170 professionals from all company departments and analysed the skills required to meet the Group's strategic objectives. The project's outcomes will allow for targeted development strategies to be defined through job rotation and training initiatives which will be tailored to each individual professional group.
A new assessment and performance appraisal model will be an integral part of this system.
Measurement of performance is also related to payment of the variable parts of the remuneration. Various tools are used to do so, according to the type of corporate figures involved and the time horizon of the results to which they refer:

- **Long-Term Incentive Plan**, linked to multi-year corporate objectives, for senior managers who hold the most important positions in terms of achieving strategic objectives
- **MBO** (Management by Objectives) for company management, which links the amount of individual bonuses to the degree of achievement of both company and individual targets, some of which coincide with the Sustainability Plan or are related to Terna's environmental and social commitments (e.g. occupational safety index)

In order to encourage productivity, Terna also signed an agreement with the trade unions governing a corporate-result bonus assigned to blue- and white-collar workers, which takes account of general company trends and specific work-related employee targets.

Corporate Welfare

As in other large electricity companies, the treatment of employees at Terna (pay, working hours, holiday, and other aspects of employment) is substantially better than the Italian average.
Benefits are available for all employees including part-time workers and those with apprenticeship contracts, specifically:

G4-LA2

- supplementary health care
- supplementary pensions (voluntary participation)
- insurance for non-occupational injuries
- recreational associations
- more favourable maternity-leave conditions than those provided for by law
- subsidised loans for purchasing a home, as well as for serious family needs
- cafeteria service or meal coupons

Terna's employees (excluding senior managers who have access to a different fund) are automatically signed up to the **FISDE supplementary health-care fund** for employees of the Gruppo Enel.
The FISDE pays part of the cost of medical treatment of illnesses not only for its employee members, but also for their dependants.

Beneficiaries	Information on and prevention of risks	Treatment
Workers	Yes	Yes
Families of workers	No	Yes

Terna offers its employees a defined-contribution supplementary pension scheme on a voluntary basis. Senior managers may participate in the Fondenel pension fund (http://fondenel.previnet.it) which envisages contributions both from the senior manager and the Company. Other employees (blue-collar workers, white-collar workers, and junior executives) may sign up for the Fopen pension fund (www.fondopensionefopen.it).
In addition to the pension plans, the employees of the Italian companies receive other defined-benefit payments.
Specifically, during their working life, all employees receive a contractual "loyalty bonus" when they reach their 25th and 35th year of employment at the Company. While, upon terminating their employment, they receive the benefits due to all employees (termination benefits), senior managers hired or appointed up to 28 February 1999 (allowance in lieu of notice), and blue- and white-collar workers and junior executives hired up to 24 July 2001 (additional months' pay).

G4-EC3

Further information on the composition/coverage of and changes to termination benefits and other staff funds is available in the Annual Financial Report.

Caring for Children and Family Members

G4-LA3

Italian law regulates maternity and parental leave, providing for a general coverage, with respect to which Terna offers more favourable conditions, in application both of the National Collective Labour Agreement (CCNL) for the electricity industry and of company agreements. The most important measures are:

- five months of paid maternity leave, awarded to the mother and distributed before and after the birth. Terna guarantees 100% of normal pay compared with the 80% provided for by law
- six further months of maternity leave paid at 30%. Terna increases this to 45% and 40% respectively in the first and second month of use. The leave may be taken also by the father, within a maximum limit of ten months for the sum of both parents' leave. If not used in the first years of the child's life, the leave can also be used later, up to the age of twelve years, but will be unpaid
- unpaid leave (paid only in the case of serious disability), without limits on use, in the case of illness of children within their third year
- three days a month, or two hours a day, of leave to care for children or other family members (paid in the case of serious disability)
- extraordinary leave of two years in the case of serious disability of children or other close relations

The table below shows the number of employees who made use of parental leave for at least 29 days.

	2016	2015	2014
Total	19	23	21
- of whom women	18	19	19
- of whom men	1	4	2

With respect to all the employees who made use of parental leave over the three-year period, one person did not return to work and another was no longer at the company 12 months after their return.

Internal Communication

Internal communication has a fundamental role in facilitating the exchange of information, creating integration, promoting teamwork and improving processes. To this end, Terna uses two macro-categories of instruments: publications (print and on-line) and events (both social and those dedicated to employees). Below are the main initiatives for 2016.

PUBLICATIONS

Type	News issue / Circulation
Terna News (in-house printed publication).	18,000 copies (4,500 copies per 4 issues/year).
“A Year of Terna” volume (print).	4,500 copies.
“Company Loyalty” volume (print).	1,500 copies.
Internally/Featured news (company Intranet).	200 news articles published per year.
Internally/Terna news (company Intranet).	190 news articles published per year.

EVENTS

Type	Target
Fedeltà Aziendale (Company Loyalty)	Employees with 25 and 35 years of service.
Office openings	Employees working at opened offices.
Sports open day, Energylandia	Employees and their family members, with a focus on children.
Terna Running Team	Employees interested in sports.
Charity events (Community Easter Egg Hunt, Speciality Food Market (Mercatino della Bontà), Peperuncino health campaign)	Employees interested in supporting local non-profit organisations.
End of year party with top and middle management	All employees.

Health & Safety and Correct Working Practices

Working in safety, without putting health at risk is a fundamental worker’s right and Terna invests greatly in ensuring this is respected with regard to its staff.
Safety is part of the global corporate culture, and those who play a key role in operations are encouraged to be involved in paying close attention to these issues and how to improve on them.
This applies more generally to respect for human and workers’ rights: the Company undertakes to ensure that such rights are also guaranteed for those working for contractors.

Ensuring Employee Safety

Terna’s commitment to safety should be seen in the context of existing legislative provisions. The Italian legislation on safety, (Legislative Decree 81/2008 “Consolidated Law on Occupational Health and Safety”) is among the most stringent in Europe and obliges companies to carry out a detailed assessment of the risks for workers’ health and safety. Terna specifically focuses on analysing the risks deriving from the interference of the work of contractors and subcontractors, for all operations that make up the working process at construction sites. Terna’s approach to safety at work hinges on a system of instruments that apply to all company processes, specifically:

Clear Safety Policy Guidelines	The importance of protecting people from physical harm is affirmed in Terna's Code of Ethics. The Company's Occupational Safety Policy specifies the guidelines in the Code of Ethics, for example with an explicit commitment to promoting accident prevention for all employees, including contractors.
Certified Management System BS OHSAS 18001:2007	The system covers 100% of company activities and is integrated with the quality and environment system. It is based on scrupulous risk assessment, with a particular focus on electrical risk (Rules for the Prevention of Electrical Risk – DPRET).
Organisational Unit Responsible for Safety	The unit is composed of a central coordination office and local heads in the area offices and on construction sites. It performs direct inspections of workplaces and construction sites, and continual analysis and monitoring of the risks deriving from corporate activities.
Supervisory Activities	The correct and full application of the procedures is subject to thorough inspections by the Safety, Prevention and Protection Managers internal compliance audits for all the Terna Group companies and external audits for confirmation of certification. An elected employee representative, responsible for verifying the application of regulations, is also present (Employee Safety Representatives, see indicator LA6). In regard to activities conducted on contract, Terna carries out inspections on its construction sites in order to verify the proper application of accident prevention rules by the responsible security professionals and the contractors.
Company Intranet "Environmental Safety & Security" Section	Within the corporate Intranet there is a database of legislation on occupational safety (national and regional regulations and technical standards issued by competent bodies).
Awareness and Training Activities	All personnel have access to the key concepts and changes on the subject of safety through various channels including the corporate Intranet and organised informative meetings. In 2016, more than 48,000 hours of training were devoted to health and safety, of which over 60% were aimed at the Company's blue-collar workers (further training indicators are available on pages 158 and 206). The equipment present in the Viverone (Biella) training centre makes it possible, in particular, to carry out training on safety for climbing pylons (through use of life-size training pylons) and for live-line work in a controlled environment.
Occupational Safety Performance Targets	The "occupational safety index" in the indicators system is made up of the injury rate and the lost-day rate linked to the variable remuneration of the departments involved.

Applied Research

A specific organisational unit of the Engineering Department tests safety materials and devices, measuring their reliability through resistance trials in extreme conditions (see also page 122).

Safety Improvement Plan: Near Miss

In regards to integrated environmental-safety security and the continuous safety improvement plan, in 2016 the "Near Miss: safety and environment" project was extended with the aim of identifying and analysing all unusual events, near misses and environmental accidents that occurred during working activities and that, although they had the potential to do so, did not harm people or the environment.
This project is an extremely important tool for prevention activities as it allows for corrective and improvement strategies and actions to be prepared which are necessary to prevent the recurrence of potentially damaging events in the future.
Significant targeted training and guidance concerning the introduction of the corporate procedure is an integral part of the project. It aims to raise awareness and promote the culture of reporting unusual events and foster the transition from a passive approach to safety, consisting exclusively of regulations, procedures and technical rules, to an active approach, which sees the human element at the centre of the safety system.

TERNA WINS THE "COMPANIES SAFETY PRIZE"

Terna has won the 4th edition of the "Companies Safety Prize" awarded by Confindustria and INAIL with patronage of the President of the Republic and the technical collaboration of APQI (Associazione Premio Qualità Italia - Italy Quality Prize Association) and Accredia (the Italian Accreditation Body) for highlighting and sharing a business culture based on health and safety.
This award, which was assigned after an in-depth examination of the policies and management structures of candidate companies, including direct interviews, is a clear recognition of Terna's leadership in using increasingly innovative solutions to protect worker health and safety, which are considered to be among the main indicators of a company culture that values safety as a strategic tool for maintaining and increasing its competitive advantage.

G4-LA6

G4-LA7

Occupational Injuries

As in previous years, in 2016 there were no fatal or grave occupational injuries suffered by the Group's employees. Also with reference to fatal or grave injuries in years prior to the reporting period, there were no cases in which company liability was definitively determined. The total number of injuries was 28. Both the injury frequency rate and the lost-day rate showed a reduction compared to the average for the previous three-year period. The absentee rate confirmed the downward trend (for more details on safety information and injury rates divided by type, see the Key Indicator Tables on page 208).

OCCUPATIONAL INJURIES – TERNA EMPLOYEES, GRI-ILO DEFINITIONS (*)

	2016	2015	2014
Injury Rate	1.00	0.84	1.27
Lost-Day Rate (1)	31.28	36.13	44.16
Absentee Rate (2)	6,831.4	7,186.1	7,092.3
Occupational Disease Rate(3)	0	0	0
Number of injuries	28	24	36
- of which serious	0	0	0
- of which fatal	0	0	0

(*) As required by GRI protocols, the definitions adopted are those provided for by the International Labour Organization (ILO). To facilitate comparison with other sources, the following notes show the figures of the same indicators calculated with alternative formulae. It was not considered necessary to further break down the data by region, because Terna operates only in Italy.
Injury Rate. This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). With this calculation method, the injury rate came out at **5.0 in 2016, 4.2 in 2015, and 6.3 in 2014**.
Lost-Day Rate. This is the ratio between the days not worked owing to injury and hours worked in the year, multiplied by 200,000. Days not worked are calendar days, counted from when the injury occurred. To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000. With this calculation method, the lost-day rate came out at **0.16 in 2016, 0.2 in 2015, and 0.2 in 2014**.
Absentee Rate. This is the number of days of absence owing to illness, strikes and injuries out of the number of days worked in the same period, multiplied by 200,000. To facilitate comparison with other sources, this indicator was also calculated as a percentage of days worked. With this calculation method, the absentee rate came out at **3.4 in 2016, 3.6 in 2015, and 3.6 in 2014**.
Occupational Disease Rate. This is the total number of cases of occupational disease divided by the hours worked in the year, multiplied by 200,000.

(1) To calculate the lost-day rate, the days not worked related to injuries occurring in 2016 were considered together with any continued absence related to injuries occurring during the previous years, following the criterion of annual accrual of days of absence.

(2) The reasons for absence considered do not include maternity leave, marriage leave, study leave, leave for trade union activities, other cases of paid leave, and suspensions.

(3) In 2016, as in previous years, no cases of work-related illness for Terna employees was ascertained. No hours of absence were ascribable to occupational disease because the type of activities carried out by Terna does not entail any work associated – on the basis of the official legal tables – with the possible onset of occupational diseases. Terna's occupational disease rate must therefore be considered to be always zero.

As demonstrated in the following table, in 2016 no fatal accidents occurred among employees of contractors and subcontractors.

OCCUPATIONAL INJURIES – CONTRACTORS AND SUBCONTRACTORS, GRI-ILO DEFINITIONS

	2016	2015	2014
Occupational injuries – contractors' employees	8	9	16
- of which serious	0	1	3
- of which fatal	0		2
Injury rate[1]	0.31	0.43	0.77

(1) This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). With this calculation method, the injury rate came out at **1.5 in 2016, 2.2 in 2015, and 3.8 in 2014**.

The health and safety systems in contractors' firms are described in the "Sustainability in the supply chain" section on pages 53-59.

G4-LA12

G4-LA13

Diversity and Equal Opportunities

Terna adopts systems for selecting, developing and paying personnel that recognise and reward merit. All forms of discrimination, beginning with the selection and hiring process, are explicitly forbidden by the Group's Code of Ethics.

A large majority of employees are men because of the traditional scarcity of female labour supply in more technical occupations. However, the presence of women is increasing, partly as a result of the general trend in the labour market which has seen a greater participation of women.

The percentage of female employees at Terna in Italy was 9.0% at the end of 2005 (the year in which Terna gained operating autonomy) and has grown continually to reach 11.7% at the end of 2016. 20.2% of all new employees, net of blue-collar workers, are women (16.2% in 2015).

The main indicators chosen by Terna to monitor the equal treatment of men and women show that the management and development systems adopted do not disadvantage women. In particular, we note that the percentage of women managers relative to total managers (17.3%) is again in 2016 higher than the ratio of women to all employees, net of blue-collar workers (16.6%). Remuneration figures also show limited gaps between white-collar workers and junior executives, with wider gaps for senior managers where, however, fewer individuals are considered and the differences in salary are therefore more influenced by individual figures.

EQUAL OPPORTUNITIES, MEN & WOMEN

Percentage values	2016	2015	2014
Gender pay gap, men & women % [1]			
Senior managers	70.6	73.5	72.5
Junior executives	96.4	96.9	97.1
White-collar workers	97.7	97.0	95.3
Gender remuneration gap, men & women % [2]			
Senior managers	67.3	67.5	71.2
Junior executives	98.3	100.1	100.9
White-collar workers	93.9	93.9	91.9

(1) The figure is the result of the ratio between the annual basic pay for women for the different grades and the annual basic pay for men for the same grades. The figure was not calculated for blue-collar workers because there are no women in that category.
(2) The figure is the result of the percentage ratio between the total annual remuneration for women for the different grades and the total annual remuneration for men for the same grades. The total remuneration includes, besides basic pay, production bonuses, the different types of incentives and the value of the benefits received over the year.

G4-EC6

Almost all employees are Italian citizens (only 14 employees have foreign citizenship).
As at 31 December 2016, 138 people belonging to protected categories (131 in 2015 and 140 in 2014) were employed, in line with the regulations applying to Terna. Further indicators of equal opportunities are available in the key indicator tables (page 207).

METHODOLOGICAL NOTE

METHODOLOGICAL NOTE

The Sustainability Report as at 31 December 2016 (hereinafter "Sustainability Report 2016") of the Terna Group was prepared according to the **GRI-G4 guidelines** and the G4 "Sector Disclosure-Electric Utilities" update issued in 2013 by GRI - Global Reporting Initiative. As in the last few years, the Report was approved by Terna S.p.A.'s Board of Directors and subjected to specific auditing procedures. The assurance report, prepared by PricewaterhouseCoopers, is provided as an annex.
The GRI-G4 guidelines were applied according to the **"CORE" option**.
The process of preparing the document involved identifying the significant aspects to report (see the "Materiality" paragraph below) and presenting the performance achieved by the Group in relation to such aspects and the sustainability targets.
The period of observation is the year 2016; all data refer to the financial year ending on 31 December 2016. At the descriptive level, the significant changes occurring up to 28 February 2017 have also been indicated.
In compliance with the principles outlined by the International Integrated Reporting Council (IIRC), Terna has published, with reference to 2016, the Integrated Report coinciding with the Report on Operations in the Annual Financial Report, which also refers to many of the subjects covered in this Sustainability Report. The discussion of the aforementioned topics is the same in both Reports, except where further detail is required pursuant, for example, to specific requirements in the GRI guidelines. The sustainability issues included in the Integrated Report were chosen based on materiality considerations.

Materiality

In 2013, Terna conducted a materiality analysis in line with the GRI-G4 standard, resulting in the matrix that offers a compact assessment of significance from the point of view of Group management and stakeholders. This matrix was updated in 2014 and then maintained in 2015.
Based on changes to the company, new tools activated by Terna to manage stakeholders and growing external emphasis on the issue (e.g. amendments made to the requirements for certain ISO certifications), in 2016 Terna decided it was appropriate to fully revise the analysis. The revision process began with updating the thematic tree, completed through the analysis of internal and external sources of data, making it possible to identify and detail significant issues at the current time.
In addition to a comprehensive review of the terminological description of the issues, one of the most important changes was the addition of "Strategic approach to stakeholder management" as a transversal aspect, which arose following the growing attention paid to this concept, on both a national and international scale.
After the thematic tree was updated, 22 interviews were carried out with management from all company departments to discuss relationships with stakeholders in general, and more specifically the relative significance of the issues to be placed on the materiality matrix.
In regard to the updating of the "Relevance for Terna" dimension, the interview concentrated on the importance attributed by management to the themes, considering how they are reflected in internal rules, procedures, policies and guidelines, targets and allocated resources, as well as actual projects and activities. This relevance actually conveyed the level of commitment already established by the Group and structured in relation to each theme.
The updating of the "Relevance for Stakeholders" dimension began with the information held by the departments related to the requests and opinions of stakeholders for which they are responsible, information that can be derived from many sources:

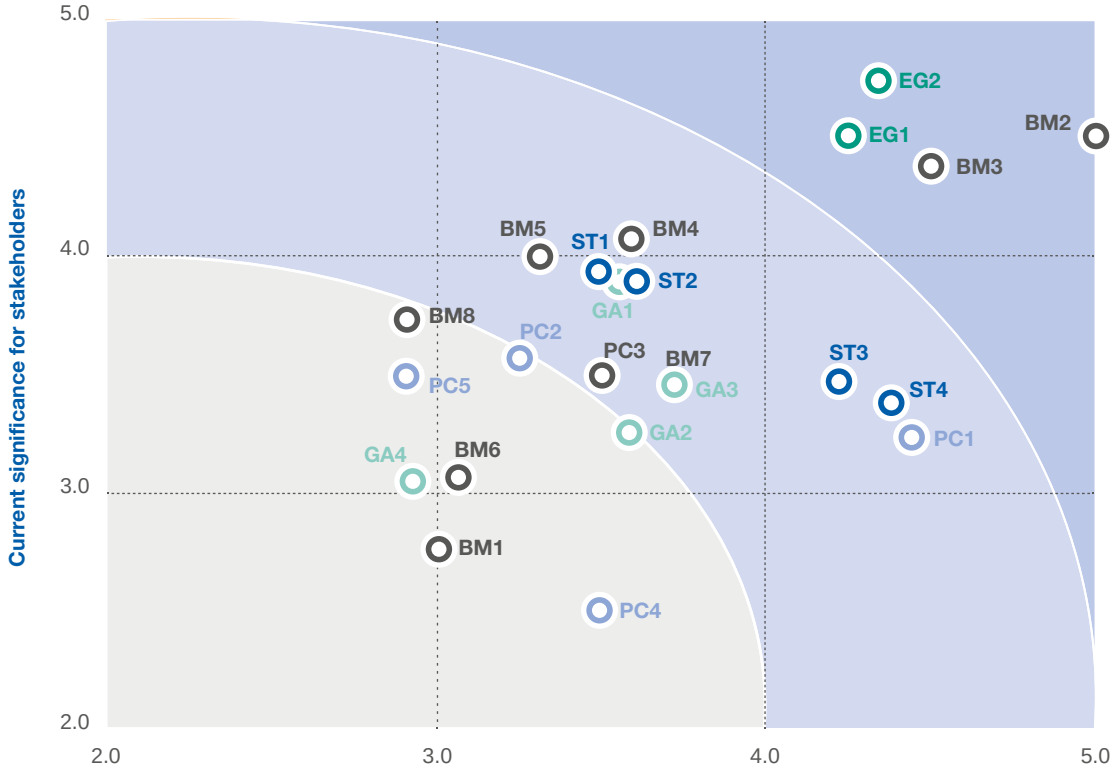
- direct, targeted and structured engagement initiatives (e.g. climate surveys, customer satisfaction surveys, focus groups)
- opinions expressed by stakeholders during the course of their relationship with Terna (e.g. e-mail exchanges, meeting minutes, alignment meetings)
- opinions expressed independently by stakeholders and passively acknowledged by Terna (e.g. press and web reviews, position papers, press releases)
- evaluations made on opinions gained over time in relation to stakeholders

The Materiality Matrix summarises corporate and stakeholder perspectives, allowing for:

- "material" themes to be identified, namely those most important for Terna and of the greatest interest to stakeholders
- the degree of alignment or misalignment between stakeholder perspectives and Terna's perspective on each theme

On the matrix, issues of greater importance are farther away from the origin, on both axes.

THE TERNA GROUP'S MATERIALITY MATRIX



ETHICS AND GOVERNANCE MODEL
EG1 Alignment to best practices on the subject of governance
EG2 Integrity in conducting business

TRANSMISSION SERVICE
ST1 Sustainable planning of NTG development
ST2 Integrating the electricity markets
ST3 Quality, security and continuity of the electricity service
ST4 Reducing electricity service costs

MANAGING ENVIRONMENTAL IMPACTS
GA1 Mitigating the visual, landscape and acoustic impact
GA2 Safeguarding biodiversity
GA3 Managing and monitoring electromagnetic fields
GA4 Reducing the Group's environmental footprint

BUSINESS MANAGEMENT
BM1 Strategic approach to stakeholder management
BM2 Observing the economic and financial targets
BM3 Careful risk management
BM4 Selectivity of investments and observance of the plans
BM5 Optimal management of relations with local stakeholders
BM6 Developing and diversifying the business
BM7 Environmental and social oversight of the supply chain
BM8 Innovation and Research

PEOPLE AND SOCIETY
PC1 Health and safety of workers and correct working practices
PC2 Developing human resources
PC3 Promoting wellbeing in the company
PC4 Promoting diversity and equal opportunities
PC5 Social commitment and positive impact on the country

In reviewing the materiality matrix, the single G4 aspects have been considered in constructing the thematic tree. It was therefore not deemed necessary to provide proof of the materiality of the same aspects with dedicated thematic matrices, as done for previous publications of the Sustainability Report.

Scope and Indicators

The data and information in the 2016 Sustainability Report refer to the Terna Group, that is to say the scope which includes Terna S.p.A. and the companies that were consolidated in the Consolidated Financial Statements for the year ending 31 December 2016. The Tamini Group companies are the exception - unless explicitly indicated otherwise. Compared to the Group's scope at 31 December 2016, the data in this Report covers 95.1% of the Group's revenue.

Certain environmental and social indicators are available for the Tamini Group, which are shown in the key indicator tables.

In accordance with the principle of materiality, the data included in the Sustainability Report include all the companies with a significant impact on sustainability (i.e. by size or rather the number of employees; or by potential impact on the environment and society or rather the number of operations/activities which took place during the year), over which Terna S.p.A. exercises control, directly or indirectly, that is to say for which it has the power to determine the financial and operational policies. There are no relations with joint-ventures, other subsidiaries or leased businesses that could significantly influence the boundary or the comparability of the environmental and social data.

The scope of environmental data for the Terna Group for 2016 does not include the impact of former RFI electrical substations acquired at the end of 2015. During 2016, in fact, these assets were managed via a contract stipulated with the previous owners and only at the end of the year were some of the substations integrated into the management scope of the Terna Group. From 2017, it will be possible to identify/estimate environmental data for substations progressively integrated into the scope of the Terna Group.

Throughout 2016, overseas activities did not involve any operations managed directly by the Group that were of significant external impact. For this reason, such activities have not been included in the calculation of the indicators published in this Report. Data for Montenegrin subsidiary Terna Crna Gora d.o.o. is included within the scope of sustainability indicators however, except where explicitly indicated otherwise.

The data were calculated precisely on the basis of the entries in the general accounting and Terna's other information systems. In the case of estimates in determining the indicators, the procedure followed is stated.

All the GRI indicators published are listed below in the GRI-G4 Content Index, which also includes any limitations relative to the requirements.

Comparative Analysis of Sustainability Performance

Convinced that a comparison of environmental, social and governance performance is of interest, not only to the Company itself, but also to its stakeholders, certain comparisons between Terna's results and those of other companies are included in the 2016 Sustainability Report, as was the case in previous years. The comparative sustainability indicators regard the following themes: CO_2 emissions, SF_6 leakage incidence rate, hours of training per capita provided to employees and the turnover rate on termination of personnel. Listed below are the main criteria adopted in the analysis, as an introduction to the reading and interpretation of the comparisons of individual indicators in the Report:

- three panels of companies were identified: the first was composed of the European transmission system operators and the major non-European operators in terms of kilometres of lines managed; the second, multi-sectoral in nature, is made up of large Italian companies (the 40 listed companies of the FTSE MIB at 13/09/2016); the third formed by the best international performers in the "Electric Utilities - ELC" sector (identified by the RobecoSAM sustainability rating agency and included in the Dow Jones Sustainability World Index of September 2016). The aim of the three panels it to ensure, also in relation to the type of indicator under examination, a comparison between companies with the same operating characteristics, an Italian comparison and a comparison with top international performers in the same sector; among the companies in the three panels, consideration has been given to those who publicise information that is useful for making comparisons on their website with the Sustainability Report (even if this has not been drafted according to GRI guidelines) or via other documentation (HSE Report, Financial Report, etc.). This led to a reduction in the sample compared to the number of companies in the starting panel: the comparative analysis entails reference to 2015 data, since the comparisons were drafted when the 2016 Reports were still being prepared, as was the case for Terna.

It must be noted that, despite the exclusion of data which were explicitly not consistent, in numerous cases doubts remain as to the actual comparability between companies, especially in instances where significant discrepancies exist between the declared data of some companies and the average value of the reference Group.
In the CO_2 emissions comparison, the data are expressed as physical quantities in absolute terms and therefore show very different levels depending on the type of production activity and the size of the company. In this case, the comparison provides information on the varying significance of the environmental aspects being considered for the individual companies, but does not fulfil the task of making the performance comparable.

GRI-G4 Content Index

The GRI-G4 content index is a table in which each indicator is associated with a page reference within the document where the information relating to it can be found.

		Page
1. Strategy and Analysis		
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6. Governance		
	G4-34	32-34, 46-47; Report on Corporate Governance and Ownership Structures
	G4-35	32-34, 46-47; Report on Corporate Governance and Ownership Structures
	G4-36	32-34, 46-47; Report on Corporate Governance and Ownership Structures
	G4-37	Report on Corporate Governance and Ownership Structures
	G4-38	Report on Corporate Governance and Ownership Structures
	G4-39	Report on Corporate Governance and Ownership Structures
	G4-40	Report on Corporate Governance and Ownership Structures
	G4-41	Report on Corporate Governance and Ownership Structures
	G4-42	32-34, 46-47; Report on Corporate Governance and Ownership Structures
	G4-44	Report on Corporate Governance and Ownership Structures
	G4-45	48-49, 135-137; Report on Corporate Governance and Ownership Structures
	G4-46	Report on Corporate Governance and Ownership Structures
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	G4-51	Report on Corporate Governance and Ownership Structures
	G4-52	Report on Corporate Governance and Ownership Structures
	G4-53	Report on Corporate Governance and Ownership Structures
7. Ethical Integrity		
	G4-56	31-33; Report on Corporate Governance and Ownership Structures
	G4-57	94-95; 44-45 (1)
	G4-58	94-95; 44-45 (1)

(1) These pages refer to the Code of Ethics, which is available online at www.terna.it

LIST OF G4 MATERIAL PERFORMANCE ASPECTS AND INDICATORS

ECONOMIC ASPECTS

Code	ASPECT/Indicator	Page	Limitation and notes
	ECONOMIC PERFORMANCE		
G4-EC1	Direct economic value generated and distributed.	88, 186 187, 188	
G4-EC2	Economic-financial implications connected to climate change.	136, 183 188	
G4-EC3	Coverage of the organization's defined benefit plan obligations	160	
G4-EC4	Significant governmental economic aid.	88	
	INDIRECT ECONOMIC IMPACTS		
G4-EC7	Impacts of infrastructure investments and supported services.	85, 88 104, 186 187	
G4-EC8	Understanding and describing significant indirect economic impacts, including the extent of impacts.	87, 186 187, 189	
	SUPPLIER MANAGEMENT		
G4-EC9	Proportion of spending on locally-based suppliers.	53, 188 194	

ENVIRONMENTAL ASPECTS

Code	ASPECT/Indicator	Page	Limitation and notes
	MATERIALS		
G4-EN1	Materials used by weight or volume.	148, 184 187, 188 202	
G4-EN2	Percentage of materials used that are recycled input materials.	184, 187 202	
	ENERGY		
G4-EN3	Energy consumption within the organisation divided by primary energy source.	137, 184 187, 188 202	
G4-EN5	Energy intensity.	137, 184 187, 188	Available as of 2014.
G4-EN6	Reduction in energy consumption.	145, 184 187, 188	
	BIODIVERSITY		
G4-EN11	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	132, 184 186, 188 204	
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	111, 132 184, 186 188	
G4-EN13	Habitats protected or restored.	131, 184 186, 188	
G4-EN14	Number of species included on the IUCN International Red List whose habitat is within the business' areas of operation, divided by extinction risk level.	133, 184 186, 188	Available as of 2015.

	EMISSIONS		
G4-EN15	Total direct greenhouse gas emissions by weight (aim I).	140, 184 186, 188 200	
G4-EN16	Indirect greenhouse gas emissions by weight (aim II).	140, 184 186, 188 200	
G4-EN17	Other indirect greenhouse gas emissions (aim III).	143, 184 186, 188 201	
G4-EN18	Carbon intensity.	141, 184 188, 200	Disponibile dal 2015.
G4-EN19	Initiatives to reduce greenhouse gas emissions and reductions achieved.	144, 184 188	
G4-EN20	Emissions of ozone-depleting substances by weight.	184, 186 188, 201	
G4-EN21	NO_X, SO_X, and other significant air emissions by type and weight.	184, 186 188, 201	
	WASTE		
G4-EN23	Total weight of waste by type and disposal method.	149, 184 186	
G4-EN24	Total number and volumes of significant spills.	127, 184 186, 188	
	PRODUCTS AND SERVICES		
G4-EN27	Environmental impact mitigation of products and services.	84, 127 132, 184 186,188	
	COMPLIANCE		
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	49, 184 189	
	TRANSPORT		
G4-EN30	Significant environmental impacts of transporting other goods and materials used for the organization's operations, and transporting members of the workforce.	144, 184 188, 201	
	GENERAL (COSTS FOR THE ENVIRONMENT)		
G4-EN31	Total environmental protection expenditures and investments by type.	150, 184 187, 188 189, 204	
	SUPPLIER ENVIRONMENTAL ASSESSMENT		
G4-EN32	Proportion of new suppliers assessed on environmental criteria.	53, 184	
G4-EN33	Proportion of critical existing suppliers in terms of environmental impacts analysed for performance and corrective actions taken.	53, 184	
	ENVIRONMENTAL REPORTING MECHANISMS		
G4-EN34	Number of disputes concerning environmental impacts recorded, addressed and managed through formal resolution mechanisms.	94, 184 189, 194	

Social Aspects

APPROPRIATE WORKING PRACTICES AND CONDITIONS

Code	ASPECT/Indicator	Page	Limitation and notes
	EMPLOYMENT		
G4-LA1	Total number of employee hires and employee turnover by age group, gender and region.	154, 183 186, 187 205, 206	
G4-LA2	Benefits provided to permanent employees that are not provided for temporary or part-time employees.	160, 187	
G4-LA3	Return rate after parental leave by gender.	161, 183 186, 187	
	INDUSTRIAL RELATIONS		
G4-LA4	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	64, 183 187	
	OCCUPATIONAL HEALTH AND SAFETY		
G4-LA5	Percentage of total workforce represented in the health and safety committee.	64, 187	
G4-LA6	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities, by region	164, 186 187, 208	
G4-LA7	Employees at a high risk of work-related illness.	164, 186 187, 208	Available as of 2015
G4-LA8	Health and safety trade union agreements.	64, 187	
	TRAINING		
G4-LA9	Average hours of training per year per employee by gender and by employee category.	158, 183 186, 187 206	
G4-LA11	Percentage of employees who receive regular career performance and development assessments divided by gender.	159	
	DIVERSITY AND EQUAL OPPORTUNITIES		
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	154, 166 183, 186 187, 193 205, 207	
	EQUAL REMUNERATION FOR MEN AND WOMEN		
G4-LA13	Ratio of basic salary of women to men by employee category for each significant country.	166, 183 186, 187 207	
	SUPPLIER ASSESSMENT FOR LABOUR PRACTICES		
G4-LA14	Proportion of new supplier partners analysed in terms of labour practices and actions taken.	53, 186 187, 189	
G4-LA15	Proportion of critical existing suppliers analysed in terms of labour practices and actions taken.	53, 186 187, 189	
	REPORTING MECHANISMS FOR LABOUR PRACTICES		
G4-LA16	Number of disputes concerning labour practices recorded, addressed and managed through formal resolution mechanisms.	94, 189 194	

Human Rights

Code	ASPECT/Indicator	Page	Limitation and notes
	INVESTMENTS		
G4-HR1	Number and proportion of investments that include clauses concerning human rights.	52, 183	
G4-HR2	Total hours of employee training on policies and procedures concerning human rights and percentage of employees trained.	51, 183 206	
	NON-DISCRIMINATION		
G4-HR3	Total number of incidents of discrimination and actions taken.	52, 183 186, 187 189	
	ASSESSMENT		
G4-HR9	Identification and proportion of operations that were subject to assessments concerning human rights.	52, 183	
	SUPPLIER HUMAN RIGHTS ASSESSMENT		
G4-HR10	Proportion of new suppliers analysed in terms of labour practices concerning human rights.	53, 183	
G4-HR11	Proportion of critical existing suppliers analysed in terms of human rights and actions taken.	53, 183	
	REPORTING MECHANISMS FOR HUMAN RIGHTS		
G4-HR12	Number of disputes concerning human rights recorded, addressed and managed through formal resolution mechanisms.	94, 183 189, 194	

Company

Code	ASPECT/Indicator	Page	Limitation and notes
	LOCAL COMMUNITIES		
G4-SO1	Proportion of operations that implemented engagement programmes, impact assessments and local development programmes.	83, 183	
G4-SO2	Operations with potential or actual negative impacts on local communities.	85, 127 183, 186	
	ANTI-CORRUPTION		
G4-SO3	Proportion of business units analysed for the risk of corruption and risks identified.	50, 184 189	
G4-SO4	Notification on policies and staff training on anti-corruption.	51, 184 189, 206	
G4-SO5	Actions taken in response to incidents of corruption.	49, 50 184, 189	
	POLITICAL CONTRIBUTIONS (APPROACH TO POLITICS/ INSTITUTIONS)		
G4-SO6	Total value of financial and in-kind contributions to political parties, politicians, and institutions by country and beneficiary.	88, 184 189	
	ANTI-COMPETITIVE BEHAVIOUR		
G4-SO7	Total legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	49, 189	
	COMPLIANCE		
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	49, 186 189	

	SUPPLIER ASSESSMENT FOR IMPACT ON SOCIETY		
G4-SO9	Proportion of new suppliers analysed in terms of social performance.	53	
G4-SO10	Proportion of existing suppliers and other critical business partners analysed in terms of social performance and actions undertaken.	53, 183	
	REPORTING MECHANISMS FOR IMPACTS ON SOCIETY		
G4-SO11	Number of disputes concerning social impacts recorded, addressed and managed through formal resolution mechanisms.	94, 189 194	

Product Responsibility

Code	ASPECT/Indicator	Page	Limitation and notes
	PRIVACY POLICY		
G4-PR8	Number of complaints regarding breaches of customer privacy and losses of customer data.	103, 189	
	COMPLIANCE		
G4-PR9	Amount of fines for the violation of regulations concerning supply and the use of products and services.	49, 189	

LIST OF G4 MATERIAL PERFORMANCE INDICATORS PUBLISHED IN THE ELECTRIC UTILITIES SECTOR SUPPLEMENT (EUSS)

Code	ASPECT/Indicator	Page	Limitation and notes
	ORGANISATIONAL PROFILE		
EU3	Number of residential, industrial and commercial customer accounts.	70, 194	
EU4	Length of above and underground transmission and distribution lines by regulatory regime.	198	
	AVAILABILITY AND RELIABILITY		
	RESEARCH AND DEVELOPMENT		
	SYSTEM EFFICIENCY		
EU12	Transmission and distribution efficiency (grid losses) as a percentage of total energy.	143, 187 188	
	BIODIVERSITY		
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas.	130, 132 186, 188	
	EMPLOYMENT		
EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region.	156, 187	
EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities.	56, 205	
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training.	57	
	LOCAL COMMUNITIES		
EU22	Number of people physically or economically displaced, broken down by type of project, generation plants or transmission lines.	85, 186	
	SECURITY PRACTICES		
	CUSTOMER HEALTH AND SAFETY (COMMUNITY)		
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgements, settlements and pending legal cases of diseases.		
	ACCESS TO THE SERVICE		
EU28	Interruption frequency index (SAIFI).	199	
EU29	Average power outage duration (AIT).	199	

LIST OF OTHER G4 PERFORMANCE INDICATORS PUBLISHED

In line with previous years, it has been decided to publish some indicators despite the aspects they illustrate being assessed as under the materiality threshold (see the section on the materiality analysis on pages 140-142).

Code	Indicator	Page
G4-EC6	Proportion of senior management hired from the local community.	167, 187
G4-EN8	Total water withdrawal divided by source.	148, 184 186, 202
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights.	46, 56, 65 187
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labour and the measures taken regarding labour rights and the rights that contribute to the elimination of child labour.	46, 52, 56 183, 187 189
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of forced or compulsory labour.	46, 56, 183 187
G4-HR8	Total number of incidents of violations involving rights of indigenous people and actions taken.	52, 183

Correspondence Between the GRI-G4 Indicators and the Global Compact Principles

This table shows the correlation between the GRI G4 performance indicators applicable to Terna and each of the ten principles of the Global Compact. This is to facilitate the search for relevant information for stakeholders interested in evaluating Terna's implementation of the principles.

AREA	Global Compact Principle	GRI G4 Aspect and Indicators		Page of the Report
HUMAN RIGHTS	**Principle 1** Businesses should **support and respect** the protection of internationally proclaimed **human rights**.	**Human rights** "Investment" Aspect "Indigenous Rights" Aspect "Assessment" Aspect	 G4-HR2 G4-HR8 G4-HR9	 51, 206 52 52
		Company "Grievance Mechanisms" Aspect	G4-HR12	51, 194
		"Local Communities" Aspect	G4-SO1 G4-SO2 G4-SO10	83 85, 127, 186 53
	Principle 2 **Businesses should make sure they are not complicit in human rights abuses.**	**Human rights** "Investment" Aspect "Supplier Human Rights Assessment" Aspect	 G4-HR1 G4-HR10 G4-HR11	 52 53 53
LABOUR	**Principle 3** Businesses should **uphold the freedom of association and the effective recognition of the right to collective bargaining**.	**Human rights** "Investment" Aspect Aspect: "Supplier Human Rights Assessment"	 G4-HR1 G4-HR10 G4-HR11	 52 53 53
		Labour "Labour/Management Relations" Aspect	G4-LA4	64, 187
	Principle 4 Businesses should uphold the **elimination of all forms of forced and compulsory labour**.	**Human rights** "Forced or Compulsory Labour" Aspect	G4-HR6	46, 56, 187
	Principle 5 Businesses should uphold the **effective abolition of child labour**.	**Human rights** "Child Labour" Aspect	G4-HR5	46, 52, 56, 187 189
	Principle 6 Businesses should uphold the **elimination of discrimination** in respect of employment and occupation.	**Economic** "Market Presence" Aspect	G4-EC2	136, 188
		"Employment" Aspect "Training and Education" Aspect	G4-LA1	154, 186, 187, 205 206
		"Diversity and Equal Opportunity" Aspect	G4-LA3 G4-LA9 G4-LA12	161, 186, 187 158, 186, 187, 206 154, 166, 186, 187
		"Equal Remuneration for Women and Men" Aspect	G4-LA13	193, 205, 207 166, 186, 187, 207
		Human rights "Non-discrimination" Aspect	G4-HR3	52, 186, 187 189

AREA	Global Compact Principle	GRI G4 Aspect and Indicators		Page of the Report
ENVIRONMENT	**Principle 7** Businesses should support a precautionary **approach to environmental challenges**.	**Environment**		
		"Materials" Aspect	G4-EN1	148, 187, 188, 202
		"Energy" Aspect	G4-EN3	137, 187, 188, 202
		"Water" Aspect	G4-EN8	148, 186, 202
			G4-EN15	140, 186, 188, 200
			G4-EN16	140, 186, 188, 200
		"Emissions" Aspect	G4-EN17	143, 186, 188
			G4-EN20	186, 188, 201
			G4-EN21	186, 188, 201
		"Products and Services" Aspect	G4-EN27	84, 127, 132, 186 188
		"Overall" Aspect	G4-EN31	150, 187, 188, 189 204
	Principle 8 Businesses should undertake initiatives to promote **greater environmental responsibility.**	**Environment**		
		"Materials" Aspect	G4-EN1	148, 187, 188, 202
			G4-EN2	187, 202
		"Energy" Aspect	G4-EN3	137, 187, 188, 203
		"Energy" Aspect	G4-EN8	148, 186, 202
		"Biodiversity" Aspect	G4-EN11	132, 186, 188, 204
			G4-EN12	111, 132, 186, 188
			G4-EN13	131, 186, 188
			G4-EN14	133, 186, 188
		"Waste" Aspect	G4-EN15	140, 186, 188, 200
			G4-EN16	140, 186, 188, 200
			G4-EN17	143, 186, 188, 201
			G4-EN18	141, 188, 200
			G4-EN19	144, 188
			G4-EN20	186, 188, 201
			G4-EN21	186, 188, 201
		"Products and Services" Aspect	G4-EN23	149, 186
			G4-EN24	127, 186, 188
		"Compliance" Aspect i	G4-EN27	84, 127, 132 186, 188
		"Transport" Aspect	G4-EN29	49, 189
		"Overall" Aspect	G4-EN30	144, 188, 201
		Aspetto "Aspetti generali"	G4-EN31	150, 187, 188, 189 204
		"Supplier environmental criteria	G4-EN32	53
		Assessment" Aspect	G4-EN33	53
		"Grievance Mechanisms for Environmental Issues	G4-EN34	94, 189, 194
	Principle 9 Businesses should encourage the **development and diffusion of environmentally friendly technologies.**	**Environment**		
		"Energy" Aspect:	G4-EN3;	137, 187, 188, 202
			G4-EN5	137, 187, 188
			G4-EN6	145, 187, 18
		"Emissions" Aspect	G4-EN19	144, 188
		"Products and Services" Aspect	G4-EN27	84, 127, 132, 186 188
		"Overall" Aspect	G4-EN31	150, 187, 188, 189 204
ANTI-CORRUPTION	**Principio 10** Businesses should work **against corruption in all its forms**, including extortion and bribery.	**Company**		
		"Anti-corruption" Aspect	G4-SO3	50, 189
			G4-SO4	51, 189, 206
			G4-SO5	49, 50, 189
		"Public Policy" Aspect	G4-SO6	88, 189

Source: Source: Official site Global Compact (www.unglobalcompact.org/resources/306) "Making the Connection: Using the GRI G4 Guidelines to Communicate Progress on The UN Global Compact Principles" May 2013.

The United Nations Sustainable Development Goals (SDGs)

Approved in September 2015 by the 193 member states of the United Nations, the 17 Sustainable Development Goals (SDGs) form the core of the 2030 Agenda, the global plan intended to eliminate poverty and promote economic prosperity, social development and environmental protection within the next 15 years.

Compared to the 8 Millennium Development Goals (MDGs) contained in the previous Agenda published in 2000, and which concluded in 2015, this new universal pact summarises the "5P" formula - People, Planet, Prosperity, Peace and Partnership - the major priorities of mankind: to eliminate the main causes of poverty and focus on lasting development for all via a sustainable route that is able to integrate economic, social and environmental aspects and to identify new opportunities for growth at the same time.

It is important to note that, unlike for the MDGs, the countries that adhered to the SDGs are required to formulate national support strategies. Therefore companies can also measure themselves against national targets, with which they can compare their undertakings. To that effect, an additional important change in regards to the past is constituted by Global Compact's active role in urging companies to accept the common challenge presented by the SDGs, thereby combining the capacity for identifying new business opportunities with responsible practices.

The 17 SDGs are divided into 169 sub-objectives that touch on many sustainability issues (see "Transforming our World: the 2030 Agenda for Sustainable Development"[30]). The following table shows the relationship between the issues and the GRI indicators published within this Report, which is the result of the adoption of the "SDG Compass" guide prepared by GRI, UN Global Compact and the World Business Council for Sustainable Development (WBCSD)[31].

(30) https://sustainabledevelopment.un.org/post2015/transformingourworld.
(31) http://sdgcompass.org/wp-content/uploads/2015/12/019104_SDG_Compass_Guide_2015.pdf

RELATIONSHIP BETWEEN SDGs AND GRI INDICATORS

GOAL 1 – No poverty End poverty in all its forms everywhere.	
Topic	**GRI Indicator**
Access to the land	G4-SO2
The availability of products and services for people on a low income	G4-SO8
Earnings, salaries and benefits	G4-EC5
Economic development in high-poverty areas	G4-EC8
Economic inclusion	G4-DMA-b – Procurement Practices Guide
Access to electricity	EU28; EU29
GOAL 2 – Zero hunger End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	
Topic	**GRI Indicator**
Access to the land	G4-SO2
Change the productivity of organisations, sectors or the entire economy	G4-EC8
Investments in infrastructure	G4-EC1; G4-EC7
Physical or economic relocation	EU22
GOAL 3 – Health and well-being Ensure healthy lives and promote well-being for all at all ages.	
Topic	**Indicatore GRI**
Access to medicine	G4-EC8
Air quality	G4-EN15; G4-EN16; G4-EN17; G4-EN20 G4-EN21
Occupational health and safety	G4-LA6; G4-LA7
Spills	G4-EN24
GOAL 4 – Quality education Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	
Topic	**GRI Indicator**
Professional education and training	G4-LA9
GOAL 5 – Gender equality Achieve gender equality and empower all women and girls	
Topic	**GRI Indicator**
Economic inclusion	G4-DMA-b – Procurement Practices Guide.
Equal remuneration for men and women	G4-LA13
Gender equality	G4-LA1; G4-LA9; G4-LA12
Investments in infrastructure	G4-EC1; G4-EC7
Non-discrimination	G4-HR3
Parental leave	G4-LA3
Women holding managerial positions	G4-38; G3-40; G4-LA15
Harassment and violence at work	G4-LA14; G4-LA15
GOAL 6 – Clean water and sanitation Ensure availability and sustainable management of water and sanitation for all.	
Topic	**GRI Indicator**
Spills	G4-EN24
Sustainable water withdrawal	G4-EN8; G4-EN27
Waste	G4-EN23
Water-related ecosystems and biodiversity	G4-EN11; G4-EN12; G4-EN13; G4-EN14 G4-EN24; EU13

GOAL 7 – Affordable and clean energy Ensure access to affordable, reliable, sustainable and modern energy for all.	
Topic	**GRI Indicator**
Access to electricity	EU28; EU29
Energy efficiency	G4-EN3; G4-EN5; G4-EN6; EU12
Investments for the environment	G4-EN31
Investments in infrastructure	G4-EC1; G4-EC7
Renewable energy sources	G4-EN3
GOAL 8 – Decent work and economic growth Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	
Topic	**GRI Indicator**
Elimination of child labour	G4-HR5
Availability of a skilled workforce	EU15
Change the productivity of organisations, sectors or the entire economy	G4-EC8
Change the productivity of organisations, sectors or the entire economy	G4-EC8
Diversity and equal opportunities	G4-LA12
Earnings, salaries and benefits	G4-EC5; G4-LA2
Economic inclusion	G4-DMA-b – Procurement Practices Guide
Economic performance	G4-EC1
Elimination of forced or compulsory labour	G4-HR6
Professional education and training	G4-LA9
Employment	G4-10; G4-EC6; G4-LA1
Energy efficiency	G4-EN3; G4-EN5; G4-EN6; EU12
Equal remuneration for men and women	G4-LA13
Freedom of association and collective bargaining	G4-11; G4-HR4
Indirect impact on the creation of new jobs	G4-EC8
Jobs within the supply chain	G4-EC8
Labour practices within the supply chain	G4-LA14; G4-LA15
Industrial Relations	G4-LA4
Efficiency of materials used	G4-EN1; G4-EN2
Non-discrimination	G4-HR3
Occupational health and safety	G4-LA5; G4-LA6; G4-LA7; G4-LA8
Parental leave	G4-LA3
Improve the efficiency of resources for products and services	G4-EN27
Youth employment	G4-EC1
GOAL 9 – Industry, innovation and infrastructure Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	
Topic	**GRI Indicator**
Investments for the environment	G4-EN31
Investments in infrastructure	G4-EC1; G4-EC7
Research and development	G4-EC1; G4-EN31
GOAL 10 – Reduce inequalities Reduce inequality within and among countries.	
Topic	**GRI Indicator**
Economic development in high-poverty areas	G4-EC8
Equal remuneration for men and women	G4-LA13
Direct investments abroad	G4-EC8

GOAL 11 – Sustainable cities and communities Make cities and human settlements inclusive, safe, resilient and sustainable	
Topic	**GRI Indicator**
Investments in infrastructure	G4-EC1
Sustainable transport	G4-EN30

GOAL 12 – Responsible consumption and production Ensure sustainable consumption and production patterns	
Topic	**GRI Indicator**
Air quality	G4-EN15; G4-EN16; G4-EN17; G4-EN20; G4-EN21
Energy efficiency	G4-EN3; G4-EN5; G4-EN6; EU12
Investments for the environment	G4-EN31
Efficient utilisation/material recycling	G4-EN1; G4-EN2
Tender practices	G4-EC9
Improve the efficiency of resources for products and services	G4-EN27
Spills	G4-EN24
Transport	G4-EN30
Waste	G4-EN23; G4-EN27

GOAL 13 – Climate action Take urgent action to combat climate change and its impacts.	
Topic	**GRI Indicator**
Energy efficiency	G4-EN3; G4-EN5; G4-EN6; EU12
Investments for the environment	G4-EN31
GHG emissions	G4-EN15; G4-EN16; G4-EN17; G4-EN18 G4-EN19; G4-EN27; G4-EN30
Climate change risks and opportunities	G4-EC2

GOAL 14 – Life below water Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	
Topic	**GRI Indicator**
Investments for the environment	G4-EN31
Marine biodiversity	G4-EN11; G4-EN12; G4-EN13; G4-EN14; EU13
Ocean acidification	G4-EN15; G4-EN16; G4-EN17; G4-EN18 G4-EN19; G4-EN21; G4-EN27; EU12
Spills	G4-EN24

GOAL 15 – Life on land Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	
Topic	**GRI Indicator**
Investments for the environment	G4-EN31
Forest degradation	G4-EN15; G4-EN16; G4-EN17; G4-EN18 G4-EN19; G4-EN21; G4-EN27
Mountain ecosystems	G4-EN11; G4-EN12; G4-EN13; G4-EN14; EU13
Degradation of natural habitats	G4-EN11; G4-EN12; G4-EN13; G4-EN14; EU13
Spills	G4-EN24
Terrestrial ecosystems and fresh water	G4-EN11; G4-EN12; G4-EN13; G4-EN14; EU13

GOAL 16 – Peace, justice and strong institutions Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	
Topic	**GRI Indicator**
Elimination of child labour	G4-HR5
Anti-corruption	G4-SO3; G4-SO4; G4-SO5; G4-SO6
Compliance with laws and regulations	G4-EN29; G4-SO7; G4-SO8; G4-PR8; G4-PR9
Effective, responsible and transparent governance	G4-39; G4-41
Ethics and integrity	G4-56; G4-57: G4-58
Reporting mechanisms	G4-EN34; G4-LA16; G4-HR12; G4-SO11
Inclusive decision-making process	G4-37; G4-38; G4-40; G4-45; G4-53
Non-discrimination	G4-HR3
Privacy policy	G4-PR8
Harassment and violence at work	G4-LA14; G4-LA15
GOAL 17 – Partnerships for the goals **Strengthen the means of implementation and revitalize global partnership for sustainable development.**	
Topic	**GRI Indicator**
Investments for the environment	G4-EN31
Direct investments abroad	G4-EC8

KEY INDICATOR TABLES

KEY INDICATOR TABLES

The following tables present the indicators provided for by the G4 "*Sustainability Reporting Guidelines*", together with additional indicators which Terna believes it is important to publish in order to show its Corporate Social Responsibility performance. Some data already presented in the body of the Report are also shown for completeness.

For each indicator, the tables show:

- the unit of measure
- the figures for 2016, 2015 and 2014
- if significant, the absolute change between 2016 and 2015
- if significant, the percentage change between 2016 and 2015. It is possible that this change does not correspond to that calculable from the tabulated figures which are generally rounded to one decimal place

Data are usually calculated as of 31 December and flow indicators regard the entire year.
To facilitate reading the indicators, the following table shows the units of measure in which they are expressed. See also the table of acronyms found after the indicators.

Units of Measure Key

#	Category
%	Percentage
€	Euro
€/000	Thousands of Euro
€/Mln	Millions of Euro
GJ	Gigajoule
GWh/anno	Gigawatt hours per year
GWh	Gigawatt hours
H	Hours
Kg	Kilograms
Km	Kilometres
Min	Minutes
MW	Megawatt
n°	Number
Ton	Tonnes
Ton CO_2	Tonnes of carbon dioxide
y	Years

Terna Company Profile

Corporate governance (1)

G4-LA12

BOARD OF DIRECTORS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Board of Directors						
Total members of BoD	no.	9	9	9	-	-
Presence of independent Directors in the BoD	no.	6	6	6	-	-
Presence of Directors chosen by minority shareholders	no.	3	3	3	-	-
BoD meetings	no.	9	9	10	-	-
Remuneration Committee meetings	no.	3	4	4	-1	-25
Audit, Risk and Corporate Governance Committee Meetings	no.	8	5	3	3	60
Related-Party Transactions Committee Meetings	no.	3	3	3	-	-
Appointments Committee Meetings	no.	2	5	1	-3	-60

COMPOSITION OF THE BOARD OF DIRECTORS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Composition of the Board of Directors						
Men	%	77.8	77.8	77.8	-	-
Women	%	22.2	22.2	22.2	-	-
Under 30 years old	%	44.4	77.8	77.8	-33.4	-43
Between 30 and 50 years old	%	55.6	22.2	22.2	33.4	150
Over 50 years old	%	22.2	22.2	22.2		

(1) For more details on the corporate governance of Terna S.p.A., refer to the "Report on Corporate Governance and Ownership Structures" published on the website (www.terna.it)

Economic performance

MAIN ECONOMIC RESULTS FOR THE GROUP (1)	Units	2016	2015	2014	Change 16-15	Change % 16-15
Revenue	€/mln	2,103.2	2,082.1	1,996.4	21.1	1
EBITDA	€/mln	1,544.7	1,539.2	1,491.5	5.5	-
EBIT	€/mln	1,036.0	1,022.4	1,010.9	13.6	1
EBT	€/mln	933.2	881.3	883.0	51.9	6
Net profit	€/mln	633.1	595.5	544.5	37.6	6

(1) The data refers to the Group's 2016 Reclassified Income Statement.

G4-HR12
G4-SO11
G4-EN34
G4-LA16

Relations with Stakeholders

People in the Organisation

EMPLOYEE TRADE UNION MEMBERSHIP	Units	2016	2015	2014	Change 16-15	Change % 16-15
Trade union membership rate	%	50.2	49.6	55.3	0.6	1

TRADE UNION AGREEMENTS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Trade union agreements signed during the year	no.	27	11	20	16	146

EU3

Electricity Service Operators

CUSTOMER PORTFOLIO REGULATED MARKET	Units	2016	2015	2014	Change 16-15	Change % 16-15
Interruptible users	no.	286	275	290	11	4
Distributors directly connected to the NTG	no.	25	25	25	-	-
Input dispatching users (Producers and Traders)	no.	135	120	107	15	13
Withdrawal dispatching users (Traders and end customers, including the Single Buyer)	no.	182	185	164	-3	-2

G4-EC9

Suppliers

NUMBER AND QUALIFICATION OF SUPPLIERS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Number of suppliers						
Number of contracted suppliers	no.	1,818	1,857	2,003	-39	-2
Procurement of materials and services						
Supplies	€/mln	277	600	260	-323	-54
Works	€/mln	106	168	235	-62	-37
Services	€/mln	147	126	136	21	17
Supplier origin (% of total involved)						
Italian suppliers	%	95.4	78.5	91.9	16.9	21
Foreign suppliers	%	4.6	21.5	8.1	-16.9	-78
Awarding procedures adopted (1)						
European tenders	%	60.9	75.3	62.3	-14.4	-19
Non-European tenders	%	21.7	13.0	16.7	8.7	67
Fixed (2)	%	14.2	10.0	19.2	4.2	42
Atypical contracts (3)	%	*3.2*	*1.7*	*1.8*	*1.5*	*91*
Qualification						
Companies qualified for entry in supplier register	no.	392	403	360	-11	-3
Qualified categories	no.	44	44	44		
Instances of monitoring	no.	743	768	703	-25	-3

(1) This is the percentage on the amounts awarded.
(2) The 2014 data concerning fixed contracts has been revised following on from the introduction of the “Atypical contracts” category.
(3) The “Atypical contracts” category includes: sponsoring and donations, payments to public bodies and subcontracting.

Shareholders

COMPOSITION OF SHAREHOLDER BASE	Units	2016	2015	2014	Change 16-15	Change % 16-15
CDP Reti S.p.A.(1)	%	29.85	29.85	29.85	-	-
Other Institutional + Retail Investors	%	70.15	70.15	70.15	-	-
of which Main Institutional Investors(2)	%	5.12	2.01	2.01	3.11	155

SOCIALLY RESPONSIBLE INVESTMENTS(3)	Units	2016	2015	2014	Change 16-15	Change % 16-15
% of SRI of share capital held by the institutional investors identified.	%	10	10	10	-	-

SHARE PERFORMANCE	Units	2016	2015	2014	Change 16-15	Change % 16-15
Financial share performance	%	-8.5	26.5	3.5	-35.0	-132
Terna in the stock exchange indices						
FTSE MIB	%	2.1	2.1	2.1	-	-

SHAREHOLDER'S RETURN	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total Shareholder Return (TSR)						
- from IPO	%	429.5	453.3	317.7	-23.8	-5
- from the beginning of the year	%	-4.3	32.5	8.9	-36.8	-113

COMMUNICATION WITH SHAREHOLDERS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Meetings/conference calls with investors (buy-side)	no.	345	258	100	87	34
Meetings/conference calls with investors (sell-side)	no.	195	230	233	-35	-15
Meetings with dedicated investors and/or with space for CSR issues	no.	16	16	20	-	-
Retail shareholders' requests for information(4)	no.	12	7	11	5	71

(1) Subsidiary of Cassa Depositi e Prestiti S.p.A.
(2) Shareholders who - on the basis of the available information and on the communications received from Consob - have a stake in Terna S.p.A. share capital above the thresholds indicated in Consob Resolution No 11971/99.
(3) Investments made on the basis of ethical/ESG (Environmental, Social and Governance) criteria, as well as on the basis of traditional criteria. Further details on socially responsible investors are given on page 35 in the "Profile" chapter of this Report.
(4) The figure includes the requests received via e-mail.

Lenders

DEBT	Units	2016	2015	2014	Change 16-15	Change % 16-15
Financial debt(1)	€/mln	7,959	8,003	6,966	-44	-1
Equity(2)	€/mln	3,555	3,346	3,093	209	6
Debt to Equity	%	223.9	239.2	225.0	-15.3	-6

EUROPEAN INVESTMENT BANK (EIB) LOANS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Residual debt relative to EIB loans	€/mln	1,612	1,725	1,707	-113	-7

(1) We must specify that some equity balances of the financial statements at 31 December 2014, provided for comparison, have been restated, without, however, altering the equity figures at 31 December 2014.
(2) The Equity data at 31 December 2016 and at 31 December 2015 includes the third-party equity figure regarding the Tamini Group, equal to € 19.8 million at 31 December 2016 and € 25.0 million at 31 December 2015.

Reports and Complaints

IMPLEMENTATION OF THE CODE OF ETHICS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total reports received [1]	no.	2	2	1	-	-
Areas of reports received [2]						
- Employee management	no.	1	1	1	-	-
- Supplier management	no.	1	1	1	-	-
Environment and Safety	no.	-	1	-	-	-
- Corruption/Corporate loyalty	no.	-	-	-	-	-
- Terna's/Other compliance	no.	1	-	-	-	-
Outcome of reports						
- Unfounded	no.	2	2	1	-	-
- Provision [3]	no.	0	0	0	-	-
Under assessment	no.	0	0	0	-	-

ENVIRONMENTAL COMPLAINTS	Units	2016		2015		2014		Change 16-15	Change % 16-15
		Received	Processed	Received	Processed	Received	Processed	Received	Received
Total complaints received	**no.**	**34**	**29**	**19**	**16**	**36**	**31**	**15**	**79**
Environmental aspect of complaints received									
- Waste	no.	1	1	0	0	1	1	1	-
- Noise	no.	14	11	9	7	9	6	5	56
- Biodiversity	no.	0	0	0	0	0	0	-	-
- Landscape	no.	2	1	0	0	1	1	2	-
- Electrical and magnetic fields	no.	8	7	3	2	17	17	5	167
- Lighting	no.	0	0	0	0	0	0	-	-
- Vegetation control	no.	6	6	5	5	5	4	1	20
- Other	no.	3	3	2	2	3	2	1	50

(1) Of the two 2016 indications, one was submitted to the Audit Committee and one to the Ethics Committee; 2015 and 2014 indications were submitted to the Ethics Committee.
(2) Each report or violation may regard more than one management area.
(3) The provision may consist in applying a sanction and/or in other action – such as reviewing procedures, internal monitoring, etc. – aimed at avoiding that the event that caused the report reoccurs.

Legal Disputes

ENVIRONMENTAL LEGAL DISPUTES	Units	2016	2015	2014	Change 16-15	Change % 16-15
Pending litigation	no.	96	107	117	-11	-10
Existing litigation	no.	6	5	8	1	20
Settled litigation	no.	17	15	22	2	13

SUPPLIER LITIGATION	Units	2016	2015	2014	Change 16-15	Change % 16-15
Pending litigation	no.	22	24	23	-2	-8
Existing litigation	no.	0	3	2	-3	-100
Settled litigation	no.	2	2	2	-	-

CUSTOMER LITIGATION	Units	2016	2015	2014	Change 16-15	Change % 16-15
Pending litigation	no.	17	16	14	1	6
Existing litigation	no.	1	2	0	-1	-50
Settled litigation	no.	0	0	0	-	-

LITIGATION WITH EMPLOYEES	Units	2016	2015	2014	Change 16-15	Change % 16-15
Pending litigation with employees	no.	12	3	6	9	300
Existing litigation with employees	no.	11	3	4	8	267
Settled litigation with employees	no.	2	6	8	-4	-67

Value Added [1]

G4-EC1

DETERMINATION AND REDISTRIBUTION OF VALUE ADDED [2]	Units	2016	2015	2014	Change 16-15	Change % 16-15
A – Staff Remuneration	€	327,152,165	303,071,673	340,455,415	24,080,492	8
B – Remuneration of public authorities	€	320,643,092	309,537,047	355,659,934	11,106,045	4
C – Return on borrowed capital	€	105,508,004	179,544,713	189,666,491	-74,036,709	-41
D – Return on risk capital [3]	€	414,058,352	401,998,400	401,998,400	12,059,952	3
E – Remuneration of the Company	€	213,870,808	193,314,279	142,535,590	20,556,529	11
TOTAL NET VALUE ADDED	€	1,381,232,421	1,387,466,112	1,430,315,830	-6,233,691	

(1) Value-added is a measurement of the income of a company, and that of a whole economy, during a given period (usually one year). In corporate accounting terms, value added is calculated by subtracting costs incurred for procuring intermediary goods and services necessary for production from the value of production itself (revenue associated with goods and services produced during the year). These costs do not include labour costs, which are instead part of the value the company adds, through its activities, to intermediary goods and services. The difference between sales revenue from the final product and the cost of raw materials (and support services) is value added. Other than the cost of labour, value added also includes profits and the share of income allocated to paying interest on debts or taxes.

(2) The amounts relative to the creation and distribution of the value added are taken from the Consolidated Financial Statements, which were prepared according to the international accounting standards IFRS/IAS. Specifically, the Terna Group has used the IFRS/IAS international accounting standards since 2005.

(3) Return on capital for 2016 refers to the advance distributed in November 2016 (€ 144.9 million) and to the balance proposed to the Meeting of the BoD in the session on 15 March 2017 (€ 269.1 million).

Electricity Service

EU4

The Grid

ELECTRICAL SUBSTATIONS [1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
380 kV						
Substations	no.	161	159	157	2	1.3
Power transformed	MVA	110,708	109,508	108,098	1,200	1.1
220 kV						
Substations	no.	150	150	150	-	
Power transformed	MVA	30,837	30,692	29,826	145	0.5
Lower voltages (≤ 150 kV)						
Substations	no.	544	541	184	3	0.6
Power transformed	MVA	3,911	3,815	3,152	96	2.5
Total						
Substations	no.	855	850	491	5	0.6
Power transformed	MVA	145,456	144,015	141,076	1,441	1.0

POWER LINES [1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
380 kV						
Length of circuits	km	12,314	12,118	12,099	196	1.6
Line length	km	11,238	11,105	11,086	133	1.2
220 kV						
Length of circuits	km	11,698	11,721	11,700	-23	-0.2
Line length	km	9,363	9,482	9,456	-119	-1
Lower voltages (≤ 150 kV)						
Length of circuits	km	48,832	48,760	40,094	72	0.1
Line length	km	45,765	45,685	37,330	80	0.2
Total						
Length of circuits	km	72,844	72,599	63,893	245	0.3
in underground cable	km	1,804	1,736	1,567	68	3.9
in undersea cable	km	1,422	1,348	1,348	74	5.5
in 200, 400 and 500 kV direct current	km	2,066	2,066	2,066		
Line length	km	66,366	66,272	57,872	94	0.1
in underground cable	km	1,804	1,736	1,567	68	3.9
in undersea cable	km	1,422	1,348	1,348	74	5.5
in 200, 400 and 500 kV direct current	km	1,746	1,746	1,746	-	-

(1) The 2016 and 2015 data includes the electricity grid assets of Ferrovie dello Stato, acquired by Terna in December 2015. For this reason, the 2015 values differ from those published in the 2015 Sustainability Report.

Service Quality

GRID EFFICIENCY	Units	2016 [1]	2015 [1]	2014	Change 16-15	Change % 16-15
Power supplied	GWh/year	310,251	316,897	309,006	-6,646	-2.1

EU28

EU29

TECHNICAL QUALITY	Units	2016	2015	2014	Change 16-15	Change % 16-15
Service continuity indices						
ASA (Average Service Availability)[2]	%	n.d.	99.99986	99.99988	-	-
SAIFI + MAIFI (System Average Interruption Frequency Index) Terna[3]	no.	n.d.	0.24	0.18	-	-
SAIFI + MAIFI (System Average Interruption Frequency Index) Terna Rete Italia[3]	no.	n.d.	0.18	0.13	-	-
AIT (Average Interruption Time) Terna[4]	min.	n.d.	0.52	0.34	-	-
AIT (Average Interruption Time) Terna Rete Italia [4]	Min.	n.d.	0.24	0.27	-	-
RENS (Regulated Energy Not Supplied) Terna[5]	MWh	n.d.	488	685	-	-
RENS (Regulated Energy Not Supplied) Terna Rete Italia[5]	MWh	n.d.	545	556	-	-

(1) The 2015 figure was recalculated with the final data from the same year, for this reason it is different from the one given in the 2015 Sustainability Report. The data on power supplied for 2016 should be considered as provisional.

(2) The ASA indicator measures NTG service availability. Calculated as the ratio between the sum of energy not supplied to users connected to the NTG (ENS) and the energy put into the grid. As of the date of drafting this document, the 2016 values have not yet been totalled or approved by the AEEGSI.

(3) Average number of short and long blackouts. Calculated as the ratio between number of users directly connected to the NTG involved in the outages and number of users of the NTG. As of the date of drafting this Report, the 2016 values are not yet available.

(4) Average duration of electricity system (NTG) power outage in a year. Calculated as a ratio between energy not supplied in a given period (ENS figure) and average power absorbed by the electricity system during the considered period. The 2016 values are not available at the time of publishing this Report.

(5) The index also includes energy not supplied to directly connected users as a result of events regarding other connection grids that are not part of the NTG and a figure for energy not supplied owing to events of force majeure or significant incidents ("significant incident" is taken to mean any blackout with net energy not supplied of more than 250 MWh. The figure that impacts on the RENS index is the percentage that decreases, as the energy not supplied for the single incident identified increases). The lower the level of the indicator, the better the service performance. At the time of publication, the totals for the RENS indicator for 2016 had not yet been released by AEEGSI.

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G4-EN16

Environment

Quantities and Emissions

SF_6 [1] QUANTITY AND EMISSIONS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Amount of SF_6	kg	588,113	567,563	536,094	20,550	4
- in operating equipment	kg	543,781	518,474	492,064	25,306	5
- in cylinders	kg	44,333	49,089	44,030	-4,756	-10
Percentage of SF_6 leakage out of total	%	0.39	0.44	0.55	-0.05	-11
SF_6 greenhouse gas emissions	kg	2,302	2,488	2,972	-186	-7

TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS [2]	Units	2016	2015	2014	Change 16-15	Change % 16-15
SF_6 Leakage	tonnes of CO_2	54,102	58,478	69,831	-4,376	-7
Refrigerant gas leaks (R22, R407C, R410A)	tonnes of CO_2	479	488	0	-10	-2
Petrol for vehicles	tonnes of CO_2	38	32	6	6	20
Diesel for vehicles	tonnes of CO_2	5,731	5,959	6,308	-228	-4
Jet fuel for helicopters [3]	tonnes of CO_2	500	507	0	-7	-1
Natural gas for heating	tonnes of CO_2	459	562	485	-103	-18
Oil for heating and generators	tonnes of CO_2	685	774	729	-89	-12
Total direct emissions	**tonnes of CO_2**	**61,992**	**66,799**	**77,361**	**-4,808**	**-7**
Indirect CO_2 emissions (tonnes)						
Electricity	tonnes of CO_2	74,716	70,326	66,324	4,390	6

CARBON INTENSITY – EQUIVALENT TONNES OF CO_2 / REVENUE (MILLION OF EURO)	Units	2016	2015	2014	Change 16-15	Change % 16-16
Total emissions (direct and indirect) compared to revenue	tonnes of CO_2/ (million euro)	65.0	65.9	72.0	-0.9	-1

(1) In 2014, the impact from leakage included an event that occurred in a substation which resulted in the loss of 784.1 kg of SF_6, equivalent to 26% of the total losses recorded.

(2) The conversion of direct energy consumption and SF_6 (sulphur hexafluoride) and refrigerant gas leaks to equivalent CO_2 emissions is calculated this year using the parameters indicated in the IPCC Fifth Assessment Report (AR5) and Greenhouse Gas Protocol (GHG) Initiative. This led to a change in the equivalent tonnes of SF_6 and refrigerant gas and total direct emissions compared to that which was previously published. Until 2014, data on refrigerant gas leaks was only collected for R22. Data collection for R407C and R410A began in 2015 (it is estimated that the percentage of coverage for the total data is equal to 85%). In 2015 there were no R22 leaks. Indirect consumption of electricity is converted taking into account the proportion of thermoelectric production in the total Italian electricity production for 2015. The reference for the division of the production mix is the "Monthly Report on the Electricity System" with the results for December 2015, available on the website www.terna.it.

(3) The Terna helicopter fleet has been operational since 2015.

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G4-EN20
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G4-EN30

Quantities and Emissions

COOLANT GAS - QUANTITY AND EMISSIONS [1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
R22 quantity	kg	73	250	539	-177	-71
R22 leaks	kg	0	0	0	0	0
R407C quantity	kg	2,846	2,677	3,133	169	6
R407C leaks	kg	205	187	0	18	10
R410A quantity	kg	7,870	7,484	5,867	386	5
R410A leaks	kg	76	96	0	-20	-21
Other coolant gases quantity	kg	1,688	896	1,206	792	88

INDIRECT EMISSIONS OF CO_2 RELATED TO STAFF AIR MILES [2]	Units	2016	2015	2014	Change 16-15	Change % 16-15
Type of flight						
Domestic	tonnes of CO_2	815	853	899	-38	-4
International	tonnes of CO_2	263	250	249	13	5
Intercontinental	tonnes of CO_2	300	194	120	106	55
Total emissions	**tonnes of CO_2**	**1,379**	**1,297**	**1,268**	**82**	**6**

QUANTITIES AND EMISSIONS OF MOTOR VEHICLES [3]	Units	2016	2015	2014	Change 16-15	Change% 16-15
HYBRIDS	no.	10	10	10	-	-
EURO 5	no.	1,213	1,405	1,246	-192	-14
EURO 4	no.	5	12	13	-7	-58
EURO 3 or lower	no.	95	87	157	8	9
Total vehicles	**no.**	**1,323**	**1,514**	**1,426**	**-191**	**-13**
Nitrogen oxide emissions (NO_x) [4]	kg	8,260	8,980	9,100	-720	-8

(1) Until 2014, data on refrigerant gas leaks was only collected for R22. Data collection for R407C and R410A began in 2015 (it is estimated that the percentage of coverage for the total data is equal to 85%).
(2) In order to evaluate CO_2 deriving from the air travel of employees, the conversion factors indicated by the Greenhouse Gas Protocol Initiative have been used.
(3) The table shows the vehicles in the Terna fleet which, in the period in question, filled up at least once as recorded on the fuel card. Only operating vehicles are considered. For information on the consumption of the company fleet, see the following fuel consumption tables.
(4) The figure is calculated on the basis of the values provided by car manufacturers in logbooks and on the mileage estimates of said vehicles. The value expressed in the table represents 68.2% of the company fleet for 2015 (in 2014, it referred to 66.2% of the fleet and, in 2013, 62.7%).

G4-EN1
G4-EN2
G4-EN3
G4-EN8

Consumption

DIRECT AND INDIRECT ENERGY CONSUMPTION BROKEN DOWN BY PRIMARY SOURCE	Units	2016	2015	2014	Change 16-15	Change % 16-15
Petrol for vehicles [1] [2]	tonnes	12	10	2	2	19
Diesel for vehicles [1]	tonnes	1,787	1,858	1,967	-71	-4
Jet fuel for helicopters [3]	tonnes	158	160	0	-2	1
Natural gas for heating	thousands of cubic metres	205	257	222	-52	-20
Oil for generators and heating	tonnes	213	241	227	-28	-12
Electricity	GWh	195	191	186	4	2

DIRECT AND INDIRECT ENERGY CONSUMPTION BROKEN DOWN BY PRIMARY SOURCE – GIGAJOULES	Units	2016	2015	2014	Change 16-15	Change % 16-15
Petrol for vehicles [4]	GJ	545	455	91	90	20
Diesel for vehicles [5]	GJ	77,431	80,514	85,238	-3,083	-4
Jet fuel for helicopters [6]	GJ	7,031	7,134	0	-104	-1
Natural gas for heating	GJ	8,184	10,022	8,659	-1,838	-18
Oil for generators and heating	GJ	9,250	10,455	9,850	-1,204	-12
Total direct consumption	**GJ**	**102,440**	**108,580**	**103,837**	**-6,140**	**-6**
Electricity for powering substations and offices[7]	GJ	702,287	687,968	668,808	14,319	2

WATER CONSUMPTION	Units	2016	2015	2014	Change 16-15	Change % 16-15
Water consumption per source	m3	162,272	171,264	173,692	-8,991	-5

PAPER CONSUMPTION	Units	2016	2015	2014	Change 16-15	Change % 16-15
Certified paper (100% recycled)	tonnes	60	63	58	-2	-4

MAIN MATERIALS IN SUPPLIES	Units	2016	2015	2014	Change 16-15	Change % 16-15
Porcelain	tonnes	193	336	327	-143	-43
Polymeric	tonnes	93	102	114	-9	-9
Copper	tonnes	461	1,380	1,019	-919	-67
Aluminium	tonnes	2,858	5,077	2,946	-2,219	-44
Steel	tonnes	13,253	13,275	29,675	-22	-
Glass	tonnes	859	1,474	3,525	-615	-42
Dielectric oil	tonnes	227	682	408	-455	-67
SF_6	tonnes	34	31	28	3	10

PCB CONCENTRATION	Units	2016	2015	2014	Change 16-15	Change % 16-15
PCB > 500ppm[8]	tonnes	0	0	0.7	0	0
50ppm < PCB < 500ppm	tonnes	0.18	0.46	0.35	-0.30	-61

(1) Only the consumption of operating vehicles is considered.
(2) The increase in petrol consumption is attributable to the increased utilisation of hybrid vehicles.
(3) The Terna helicopter fleet has been operational since 2015.
(4) Only the consumption of operating vehicles is considered.
(5) The increase in petrol consumption is attributable to the increased utilisation of hybrid vehicles.
(6) The Terna helicopter fleet has been operational since 2015.
(7) The reference for the division of the production mix is the "Monthly Report on the Electricity System" with the results for December 2015, available on the website http://www.terna.it/en-gb/homepage.aspx.
(8) The 2014 values are relative to the PCB concentration > 500ppm, which refer to appliances analysed during decommissioning.

G4-EN23

Waste

WASTE MANAGEMENT [1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
Waste produced	tonnes	4,942	5,112	4,490	-171	-3
Waste recovered	%	93	92	81	1	1
Non-hazardous special waste						
Machines, equipment, pylons, conductors, cables						
- quantity produced	tonnes	2,527	1,339	1,042	1,188	89
- quantity delivered for recycling	tonnes	2,510	1,349	1,044	1,161	86
Packing						
- quantity produced	tonnes	318	248	323	70	28
- quantity delivered for recycling	tonnes	321	240	319	82	34
Other						
- quantity produced	tonnes	255	618	474	-364	-59
- quantity delivered for recycling	tonnes	190	449	154	-259	-58
Total non-hazardous special waste						
- quantity produced	tonnes	3,099	2,205	1,839	894	41
- quantity delivered for recycling	tonnes	3,021	2,037	1,517	984	48
Hazardous special waste						
Machines, equipment, pylons, conductors, cables	tonnes					
- quantity produced	tonnes	1,044	1,957	1,427	-912	-47
- quantity delivered for recycling	tonnes	1,028	1,933	1,416	-904	-47
Oils						
- quantity produced	tonnes	558	717	937	-158	-22
- quantity delivered for recycling	tonnes	475	617	525	-143	-23
Lead batteries						
- quantity produced	tonnes	29	47	111	-19	-40
- quantity delivered for recycling	tonnes	29	47	111	-19	-40
Waste deriving from materials containing asbestos						
- quantity produced	tonnes	0	0	0	0	0
Other						
- quantity produced	tonnes	211	184	176	28	15
- quantity delivered for recycling	tonnes	29	46	85	-17	-37
Total hazardous special waste						
- quantity produced	tonnes	1,843	2,907	2,651	-1,064	-37
- quantity delivered for recycling	tonnes	1,561	2,643	2,136	-1,082	-41

(1) This includes only the special waste from the production process, not that produced by service activities (urban waste). This does not include waste relative to sewage and waste deriving from septic tanks, coming from substations not connected to the sewer network. The amount of sewage and septic tanks amounted to 789 tonnes in 2016, 680 tonnes in 2015 and 383 tonnes in 2014. In 2014, waste identified as “Other emulsions” (amounting to 857 tonnes) produced during an accident that occurred in an operating area was also excluded.

G4-EN11

Biodiversity

DISSUADERS FOR BIRDLIFE PRESENT ON THE NTG	Units	2016	2015	2014	Change 16-15	Change % 16-15
Lines affected	km	212	205	193	7	3
Total number of dissuaders	no.	14,472	13,866	13,397	606	4

LINES IN PROTECTED AREAS[1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
Lines interfering with protected areas	km	5,512	5,541	5,625	-29	-
Lines interfering as a total of lines managed by Terna	%	10	10	10	-	-

(1) The percentage of lines located in protected areas is calculated using the "ATLARETE" database, which may present non-significant misalignments with the data in the indicator tables showing the number of plants.

G4-EN31

Costs for the Environment

COSTS FOR THE ENVIRONMENT - INVESTMENT AND OPERATING COSTS [1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
Environmental offsets	€/mln	15	1	13	14	1,400
Environmental-impact studies	€/mln	2	5	2	-3	-60
Environmental activities – new plants	€/mln	4	6	4	-2	-33
Environmental activities – existing plants	€/mln	8	7	10	1	14
Demolitions	€/mln	1	1	5	-	-
Total investments	**€/mln**	**30**	**20**	**34**	**10**	**50**
Costs						
Costs for environmental activities	€/mln	19	19	19	-	-
Total operating expenses	**€/mln**	**19**	**19**	**19**	**-**	**-**

(1) For details on the accounting method, see page 150.

Personnel

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G4-LA1
G4-LA12

Number and Composition of Employees

PERSONNEL CHANGES	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total employees	**no.**	**3,468**	**3,333**	**3,437**	**135**	**4**
Employees recruited during the year	no.	186	369	68	-183	-50
Employees who left during the year	no.	51	473	73	-422	-89
- men	no.	45	441	64	-396	-90
- women	no.	6	32	9	-26	-81
- under 30 years old	no.	11	4	0	7	175
- between 30 and 50 years old	no.	11	18	9	-7	-39
- over 50 years old	no.	29	451	64	-422	-94
Turnover rate on termination [1]						
Total	**%**	**1.5**	**13.8**	**2.1**	**-12.2**	**-89**
- men	%	1.4	12.8	1.9	-11.5	-90
- women	%	0.2	0.9	0.3	-0.8	-81
- under 30 years old	%	0.3	0.1	0.0	0.2	184
- between 30 and 50 years old	%	0.3	0.5	0.3	-0.2	-37
- over 50 years old	%	0.9	13.1	1.9	-12.3	-93

PERSONNEL COMPOSITION	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total employees	**no.**	**3,468**	**3,333**	**3,437**	**135**	**4**
By contract type						
- permanent	no.	3,466	3,331	3,382	135	4
- temporary	no.	2	2	55	0	-
By employment type						
- full-time	no.	3,440	3,303	3,404	137	4
- part-time	no.	28	30	33	-2	-7
By gender						
- men	no.	3,062	2,942	3,042	120	4
- women	no.	406	391	395	15	4
By age						
- under 30 years old	no.	622	586	375	36	6
- between 30 and 50 years old	no.	1,539	1,412	1,506	127	9
- over 50 years old	no.	1,307	1,335	1,556	-28	-2
Average age of personnel (years)						
Average age	y	43.5	43.5	46.6		
Average corporate age [2]	y	17.5	17.6	21.2	-0.1	

PERSONNEL COMPOSITION BY CATEGORY	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total	**no.**	**3,468**	**3,333**	**3,437**	**135**	**4**
Senior managers	no.	64	63	61	1	2
Junior executives	no.	549	498	541	51	10
White-collar workers	no.	1,830	1,813	1,887	17	1
Blue-collar workers	no.	1,025	959	948	66	7

(1) The turnover rates report the termination flows with respect to the number of employees as at 31 December of the previous year.
(2) The average corporate age takes into account previous employment in the case of employees joining Terna following acquisitions of business units.

Number and Composition of Employees

PERSONNEL COMPOSITION BY SCHOOLING	Units	2016	2015	2014	Change 16-15	Change % 16-15
University degree	%	26.1	25.9	23.1	0.2	1
High school diploma	%	52.3	53.4	47.6	-1.0	-2
Vocational school diploma	%	13.4	12.0	15.4	1.4	12
Elementary/Middle school	%	8.2	8.7	13.9	-0.5	-6

FLEXIBLE EMPLOYMENT CONTRACTS AND TERMS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Diffusion of temporary contracts	%	0.1	0.1	1.6	0.0	
Trainees and interns working at Terna	no.	33	16	32	17	106
Diffusion of part-time employment	%	0.8	0.9	0.96	-0.1	-10
Incidence of overtime	%	8.1	7.98	7.96	0.12	2

CONTRACTORS AND SUBCONTRACTORS' EMPLOYEES[1]	Units	2016	2015	2014	Change 16-15	Change % 16-15
Days worked	no.	680,805	550,661	547,660	130,144	24
Full-time equivalent	no.	3,095	2,503	2,489	592	24

(1) The data take into account the term of construction contracts and the variations in the workforce required, and relate to various types of Terna work contracts, from large construction sites to cutting vegetation under power lines. The days worked and the FTE units are estimated on the basis of the average daily presences at the largest construction sites and the amounts paid for contracted work on smaller sites. No further information is available on the types of contracts used by contractors.

G4-HR2
G4-LA9
G4-LA1
G4-SO4

Personnel Development

TRAINING	Units	2016	2015	2014	Change 16-15	Change % 16-15
Hours of training						
- per employee [1]	h	61	56	43	5	9
Per category [2]						
- executives	h	31	20	16	11	55
- junior executives	h	49	30	29	19	63
- office staff	h	48	49	34	-1	-2
- blue-collar workers	h	90	87	70	3	3
By gender [3]						
- men	h	61	53	45	8	15
- women	h	31	26	19	5	19
Coverage of employees [4]	%	99	97	91	2	2
Hours provided						
Total	**h**	**203,066**	**190,807**	**148,955**	**12,259**	**6**
- hours of internal teaching	h	132,126	133,042	98,212	-916	-1
Hours of training by type of course						
- education	h	5,214	3,429	3,283	1,785	52
- context and Business Model	h	42,150	47,055	8,602	-4,906	-10
- training	h	155,703	140,323	137,070	15,380	11
Participants in Model 231 courses	no.	423	128	103	295	231
Participants in sustainability courses	no.	1,702	748	333	954	128

(1) Ratio between total training hours and average number of employees.
(2) Ratio between total training hours per category and average number of employees per category.
(3) Ratio between total training hours by gender and the total number of employees throughout the year (including those employed by the company for a period of less than a year) by gender.
(4) Percentage of employees who took at least one training course during the year.

Personnel Development

COMPENSATION	Units	2016	2015	2014	Change 16-15	Change % 16-15
Average cost per employee [1]	€	78,271	80,116	79,848	-1,845	-2
Executive employees with Long-Term Incentives (LTI)	no.	50	44	46	6	14
Variable remuneration as % of fixed pay [2]	%	12	10	9	2	17
MBO	no.	210	184	199	26	14

CORPORATE CLIMATE	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total spontaneous resignations	no.	20	12	11	8	67
Absences per employee [3]	h	52.1	55.0	53.8	-2.9	-5
Absentee Rate [4]	%	6,831.4	7,186.1	7,092.3	-354.7	-5

AVERAGE YEARS OF EMPLOYMENT FOR EMPLOYEES LEAVING THE COMPANY [5]	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total terminations	**y**	**23.1**	**36.6**	**32.8**	**-13.6**	**-37**
- Men	y	24.5	36.9	33.1	-12.4	-34
- Women	y	12.3	31.9	30.8	-19.6	-61
- Under 30 years old	y	0.9	2.0	0.0	-1.1	-55
- Between 30 and 50 years old	y	4.7	8.7	6.8	-4.0	-46
- Over 50 years old	y	38.4	38.0	36.5	0.4	1

(1) "Per employee" includes all company employees, including executives.
(2) The figures regard the incentives paid to all employees, including executives. Fringe benefits are excluded.
(3) This figure regards the number of non-contractual absences during the year (illness, accident, leave of absence, strike, unpaid absence).
(4) This is the number of days of absence owing to illness, strikes and injuries out of the number of days worked in the same period, multiplied by 200,000. To facilitate comparison with other sources, this indicator was also calculated as a percentage of days worked. With this calculation method, the absentee rate came out at **3.4 in 2016, 3.6 in 2015, and 3.6 in 2014**. The reasons for absence considered do not include maternity leave, marriage leave, study leave, leave for trade union activities, other cases of paid leave, and suspensions.
(5) The duration of employment takes into account previous employment, in the case of employees joining Terna following acquisitions of business units.

G4-LA12

G4-LA13

Equal Opportunities

EQUAL OPPORTUNITIES	Units	2016	2015	2014	Change 16-5	Change % 16-15
Women out of total employees						
- women out of total	%	11.7	11.7	11.5	-	-
- women out of total net of blue-collar workers	%	16.6	16.5	15.9	0.2	1
- female senior executives out of total senior executives	%	15.6	15.9	16.4	-0.3	-2
- female senior and junior executives out of total senior and junior executives	%	17.3	18.2	17.6	-0.9	-5
Employment growth %						
- annual change: women	%	3.6	-1.0	0.3	4.6	454
- annual change: men	%	4.1	-3.3	-0.2	7.4	225
Outflows (1)						
- outflows: women	%	1.5	8.1	2.3	-6.6	-81
- outflows: men	%	1.5	14.5	2.1	-13.0	-89
Inflows (1)						
- inflows: women	%	5.1	7.1	2.5	-2.0	-28
- inflows: men	%	5.6	11.2	1.9	-5.6	-50
Managerial positions						
- female senior executives out of total women	%	2.5	2.6	2.5	-0.1	-4
- male senior executives as % of male employees (excluding production workers)	%	2.7	2.7	2.4		
Grade promotions (2)						
- promotions to junior executive as % of previous grade: women	%	0.7	0.0	2.1	0.7	-
- promotions to junior executive as % of previous grade: men	%	3.2	0.0	2.7	3.2	-
Gender pay gap (3)						
- executives	%	70.6	73.5	72.5	-2.9	-4
- junior executives	%	96.4	96.9	97.1	-0.5	-1
- office staff	%	97.7	97.0	95.3	0.7	1
Gender remuneration gap % (4)						
- executives	%	67.3	67.5	71.2	-0.2	-0.2
- junior executives	%	98.3	100.1	100.9	-1.9	-2
- office staff	%	94	94	92		

(1) The outflows (inflows) for women and men show the ratio of employees divided by gender who left (joined) in the year to total employees divided by gender at 31 December of the previous year.

(2) The figure is obtained from the ratio between promotions to junior executive that occurred during the year and employees categorised as white-collar workers in the previous year, calculated by gender. Promotions from blue-collar worker to white-collar worker and from junior executive to senior executive were not considered, because the number was not significant on an annual basis.

(3) The figure is the result of the ratio between the annual basic pay for women for the different grades and the annual basic pay for men for the same grades. The figure was not calculated for blue-collar workers because there are no women in that category.

(4) The figure is the result of the percentage ratio between the total annual remuneration for women for the different grades and the total annual remuneration for men for the same grades. The total remuneration includes, besides basic pay, production bonuses, the different types of incentives and the value of the benefits received over the year.

G4-LA6
G4-LA7

Health and Safety

OCCUPATIONAL INJURIES - TERNA EMPLOYEES, GRI-ILO DEFINITIONS	Unità	2016	2015	2014	Var 16-15	Var % 16-15
Injury rate [1]	%	1.00	0.84	1.27	0.15	18%
Lost-Day Rate [2]	%	31.28	36.13	44.16	-4.85	-13%
Occupational Disease Rate [3]	%	0	0	0		
Number of injuries	no.	28	24	36	4	17%
- of which serious	no.	0	0	0	-	-
- of which fatal	no.	0	0	0	-	-

OCCUPATIONAL INJURIES, EMPLOYEES – BROKEN DOWN BY GENDER	Units	2016	2015	2014	Change 16-15	Change % 16-15
Number of injuries	no.	28	24	36	4	17%
- of whom men	no.	27	24	35	3	13%
- of whom women	no.	1	0	1	1	-
Injury rate – **male** employees	%	1.07	0.94	1.37	0.13	14%
Injury rate – **female** employees	%	0.35	0	0.35	0.35	-
Lost-Day Rate – **male** employees	%	31.15	40.23	49.08	-9.09	-23%
Lost-Day Rate – **female** employees	%	32.81	0	0.69	32.81	-

INSPECTIONS AND INVESTIGATIONS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Periodic health inspections	no.	2,882	2,692	2,744	190	7%
Examinations by assigned doctor	no.	248	278	374	-30	-11%
Inspections and checks [4]	no.	72	104	111	-32	-31%

HOURS OF TRAINING ON WORKERS' HEALTH AND SAFETY	Units	2016	2015	2014	Change 16-15	Change % 16-15
Total	h	48,692	73,613	66,627	-24,921	-34%
Senior managers	h	70	202	80	-132	-65%
Junior executives	h	2,046	3,623	4,889	-1,577	-44%
White-collar workers	h	15,251	25,100	26,315	-9,849	-39%
Blue-collar workers	h	31,325	44,688	35,343	-13,363	-30%

OCCUPATIONAL INJURIES – CONTRACTORS AND SUBCONTRACTORS	Units	2016	2015	2014	Change 16-15	Change % 16-15
Occupational injuries – contractors' employees	no.	8	9	16	-1	-11%
- of which serious	no.	0	1	3	-1	-100%
- of which fatal	no.	0	0	2	-	-
Injury rate [5]	%	0.31	0.43	0.77	-0.12	-28%

(1) This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). With this calculation method, the injury rate came out at **5.0 in 2016, 4.2 in 2015, and 6.3 in 2014**.

(2) This is the ratio between the days not worked owing to injury and hours worked in the year, multiplied by 200,000. Days not worked are calendar days, counted from when the injury occurred. To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000. With this calculation method, the lost-day rate came out at **0.2 in 2016, 0.2 in 2015, and 0.2 in 2014**. To calculate the lost-day rate, the days not worked related to injuries occurring in 2016 were considered together with any continued absence related to injuries occurring during the previous years, following the criterion of annual accrual of days of absence.

(3) This is the total number of cases of occupational disease divided by the hours worked in the year, multiplied by 200,000. In 2016, as in previous years, no cases of work-related illness for Terna employees was ascertained. The type of activities carried out by Terna does not entail any work associated – on the basis of the official legal tables – with the possible onset of occupational diseases. Terna's occupational disease rate must therefore be considered to be always zero.

(4) Inspections performed by the SPPM (Safety, Prevention and Protection Managers) and the Operational Transmission Area Managers.

(5) This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). With this calculation method, the injury rate came out at **1.5 in 2016, 2.2 in 2015, and 3.8 in 2014**.

Tamini Group

Data concerning the Tamini Group, which was acquired on 20 May 2014 by the subsidiary Terna Plus, has been published in this Report.

Environmental Data

CONSUMPTION

	Units	2016	2015	Change 16-15	Change % 16-15
Electricity	GWh	5.2	5.8	-0.6	-10%
Methane gas	thousands of cubic metres	1,001	1,148	-148	-13%
Water	cubic metres	30,259	39,051	- 8,792	-23%

WASTE

	Units	2016	2015	Change 16-15	Change % 16-15
Total special waste produced	tonnes	1,666	1,349	317	23%
- of which special hazardous waste produced	tonnes	381	152	229	150%
- of which non-hazardous special waste produced	tonnes	1,285	1,197	88	7%

Social Data

PERSONNEL COMPOSITION AT 31.12

	Units	2016	2015	Change 16-15	Change % 16-15
Total	**no.**	**428**	**431**	**-3**	**-1%**
Senior managers	no.	12	13	-1	-8%
Junior executives	no.	18	16	2	13%
White-collar workers	no.	149	155	-6	-4%
Blue-collar workers	no.	249	247	2	1%

OCCUPATIONAL INJURIES - TERNA EMPLOYEES, GRI-ILO DEFINITIONS

	Units	2016	2015	Change 16-15	Change % 16-15
Injury rate (1)	%	3.9	4.5	-0.6	-13%
Lost-Day Rate (2)	%	106.6	116.7	-10.1	-9%
Injuries	no.	17	17	-	-
of which fatal	no.	0	0	-	-

(1) This is the number of injuries with at least one day's abstention from work divided by the number of hours worked during the year and multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000,000 instead of 200,000 (consequently obtaining an injury rate five times that of the ILO). With this calculation method, the injury rate came out at **19.52 in 2016 and 22.49 in 2015**.

(2) This is the ratio between the days not worked owing to injury and hours worked in the year, multiplied by 200,000. Days not worked are calendar days, counted from when the injury occurred. To facilitate comparison with other sources, this indicator was also calculated using a multiplication factor of 1,000. With this calculation method, the lost-day rate came out at **0.53 in 2016 and 0.58 in 2015**.

ACRONYMS

ACRONYMS

VHV	Very High Voltage
ACEA	Azienda Comunale Energia e Ambiente [Municipal Energy and Environment Company]
AEEGSI	Italian Regulatory Authority for Electricity, Gas and Water
AGCM	Autorità Garante della Concorrenza e del Mercato [Italian Antitrust Authority]
AIT	Average Interruption Time
AOT	Area Operativa Trasmissione [Operational Transmission Area]
ASA	Average System Availability
HV	High Voltage
AU	Acquirente Unico [Italian Single Buyer]
BoD	Board of Directors
CdP	Cassa Depositi e Prestiti
CEI	Comitato Elettrotecnico Italiano [Italian Electro-technical Committee]
CESI	Centro Elettrotecnico Sperimentale Italiano [Italian Electro-technical Testing Centre]
CIGRE	Conseil International des Grands Réseaux Électriques à Haute Tension
NCC	National Control Centre
CONSOB	Commissione Nazionale per le Società e la Borsa [National Commission for Companies and the Stock Exchange]
CSR	Corporate Social Responsibility
PPE	Personal Protective Equipment
DPS	Dividend Per Share
EBIT	Earnings Before Interest and Taxes
EMS	Energy Management System
ENS	Energy Not Supplied
ENTSO-E	European Network Transmission System Operators for Electricity
EPS	Earnings Per Share
ERPA	Exclusion, Repulsion, Problems, Attraction
DT	Distance training
GAAP	Generally Accepted Accounting Principles
GIS	Geographic Information System
EMO	Electricity Market Operator
GRI	Global Reporting Initiative
GRTN	Gestore della Rete di Trasmissione Nazionale [National Transmission Grid Operator]
GSE	Gestore del Sistema Elettrico [Electricity System Operator]
IBA	Important Bird Areas
IEA	International Energy Agency
IPO	Initial Public Offering
ISPRA	Istituto Superiore per la Protezione e la Ricerca Ambientale [Italian Institute for Environmental Protection and Research]
SRI	Socially Responsible Investment
ISTAT	Italian National Statistics Institute
MPA	Italian Ministry for Productive Activities (now the Ministry for Economic Development – MED)
MELS	Italian Ministry for the Environment, Land and Sea

MBI	Maintenance and Business Intelligence
MBO	Management By Objectives
MEF	Italian Ministry of Economy and Finance
DAM	Day Ahead Market
MED	Italian Ministry of Economic Development
DSM	Dispatching Services Market
N.A.	Not applicable
OECD	Organization for Economic Cooperation and Development
PCBs	Polychlorinated biphenyls
PCTs	Polychlorinated terphenyls
DP	Development Plan of the National Transmission Electricity Grid
EPSES	Emergency Plan for the Security of the Electricity System
ROACE	Returns On Average Capital Employed
NTG	National Transmission Grid
SCADA	Supervisory Control and Data Acquisition
SETSO	South European Transmission System Operators
SISTAN	Italian National Statistics System
S&P	Standard&Poor's
TFR	Termination benefits
TSO	Transmission System Operator
TSR	Total Shareholder Return
UCTE	Union for the Co-ordination of Transmission of Electricity
SEA	Strategic Environmental Assessment
EIA	Environmental Impact Assessment
SPZ	Special Protection Zone

The glossary is available on the site www.terna.it on the "Tools" page using the following link: www.terna.it/default/Home/sostenibilita2/strumenti_sostenibilita.aspx.

EXTERNAL ASSURANCE

TERNA SPA

INDEPENDENT REPORT ON THE LIMITED ASSURANCE ENGAGEMENT OF THE SUSTAINABILITY REPORT 2016

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INDEPENDENT REPORT ON THE LIMITED ASSURANCE ENGAGEMENT OF THE SUSTAINABILITY REPORT 2016

To the Shareholders of
Terna SpA

We have carried out a limited assurance engagement on the Sustainability Report (hereinafter the "Report") of Terna Group (hereinafter the "Group") for the year ended 31 December 2016.

Responsibility of the Directors for the Report

The Directors are responsible for preparing the Report in compliance with the *G4 Sustainability Reporting Guidelines* defined in 2013 by the *GRI - Global Reporting Initiative* and by the *G4 Sector Disclosure - Electric Utilities* defined in 2013, as indicated in the paragraph "Methodological note" of the Report, and for that part of internal control that they consider necessary to prepare a sustainability report that is free from material misstatement, whether due to fraud or unintentional behaviours or events. The Directors are also responsible for defining the sustainability performance targets of Terna Group, for reporting the sustainability results, as well as for identifying the stakeholders and the significant aspects to be reported.

Auditor's responsibility

We are responsible for the preparation of this report on the basis of the work performed. We conducted our engagement in accordance with *International Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements other than Audits or Reviews of Historical Financial Information (ISAE 3000)*, issued by the IAASB (*International Auditing and Assurance Standards Board*) for limited assurance engagements. The standard requires that we comply with applicable ethical requirements, including professional independence, and that we plan and perform our work to obtain limited assurance that the Report is free from material misstatement. The procedures consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the Report, analysis of documents, recalculations and other verification procedures.

Our company applies the *International Standard on Quality Control 1* (*ISQC (*Italy) 1) and, therefore, maintains an overall quality control system that includes directives and procedures on the compliance with the ethical principles, with the professional principles and with the applicable laws and regulations.

PricewaterhouseCoopers Advisory SpA

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The procedures we performed consisted in verifying compliance of the Report with the principles for defining the content and the quality of a sustainability report set out in the *G4 Sustainability Reporting Guidelines* and in the *G4 Sector Disclosure - Electric Utilities*, and are summarised as follows:

- comparing the financial information reported in chapter "Relations with Stakeholders" and in the attachment "Key indicator tables – Terna Company Profile / Relations with Stakeholders" of the Report with the information included in the Group's consolidated financial statements as of 31 December 2016 on which we issued our audit opinion, in accordance with articles 14 and 16 of legislative decree n° 39 of 27 January 2010, on 05 April 2017;
- analysing, through inquiries, the governance system and the process for managing the sustainability issues relating to the Group strategy and operations;
- analysing the process aimed at defining the significant reporting areas to be disclosed in the Report, with regard to the methods for their identification, in terms of priority for the various stakeholders, as well as the internal validation of the process findings;
- analysing the processes underlying the generation, recording and management of quantitative data included in the Report. In detail, we carried out:
  - meetings and interviews with the representatives of Terna SpA to achieve a general understanding of the information, accounting and reporting systems in use to prepare the Report, as well as of the internal control processes and procedures supporting the collection, aggregation, processing and submission of the information to the function responsible for the Report preparation;
  - a sample-based analysis of the documents supporting the preparation of the Report, in order to obtain evidence of the reliability of processes in place and of the internal control system underlying the treatment of the information relating to the objectives disclosed in the Report;
- analysing the internal consistency of the qualitative information described in the Report and its compliance with the guidelines identified in the preceding paragraph "Responsibility of the Directors for the Report";
- analysing the engagement of stakeholders and its results through the existing documentation concerning the significant matters arisen during the Group dialogue initiatives;
- obtaining a representation letter, signed by the legal representative of Terna SpA, on the compliance of the Report with the guidelines identified in the paragraph "Responsibility of the Directors for the Report", as well as the reliability and completeness of the disclosed information.

Our limited assurance work was less in scope than a reasonable assurance engagement performed in accordance with ISAE 3000 (*reasonable assurance engagement*) and, consequently, it does not provide us with a sufficient level of assurance necessary to became aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

Conclusion

Based on the work performed, nothing has come to our attention that causes us to believe that the Sustainability Report of Terna Group as of 31 December 2016 has not been prepared, in all material respects, in compliance with the *G4 Sustainability Reporting Guidelines* defined in 2013 by the GRI - *Global Reporting Initiative* and by the *G4 Sector Disclosure - Electric Utilities* defined in 2013 as disclosed in the paragraph "Methodological note" of the Report.

Turin, 10 April 2017

PricewaterhouseCoopers Advisory SpA

Signed by

Paolo Bersani
(Partner)

This report has been translated from the original, which was issued in Italian, solely for the convenience of international readers.

Coordination and Development by Terna S.p.A.

Graphic design: Interno Otto, The Visual Agency | Copy-editing, translation and DTP: Intrawelt
Printing: Marchesi Grafiche Editoriali

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Terna
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