2018
Sustainability Report

Terna

2018 SUSTAINABILITY REPORT
CONSOLIDATED NON-FINANCIAL STATEMENT
prepared in compliance with Legislative Decree 254/2016 as amended

TERNA'S MISSION

Energy is our responsibility.
Responsibility is our energy.

To play a leading role in the coming sustainable energy transition, by leveraging our distinctive innovation capabilities, competencies and technologies for the benefit of all stakeholders.

We are a major operator of grids used to transport energy.

We manage the high-voltage transmission of electricity in Italy, ensuring **security, quality and cost-effectiveness over time**.

We are working hard on **development of the electricity grid**, the achievement of ongoing improvements in operational efficiency and integration with the European grid.

We guarantee **equal access** to all grid users.

We are developing **Non-regulated Activities** and new business opportunities, building on the experience and technical expertise gained in managing complex systems and on our technological excellence.

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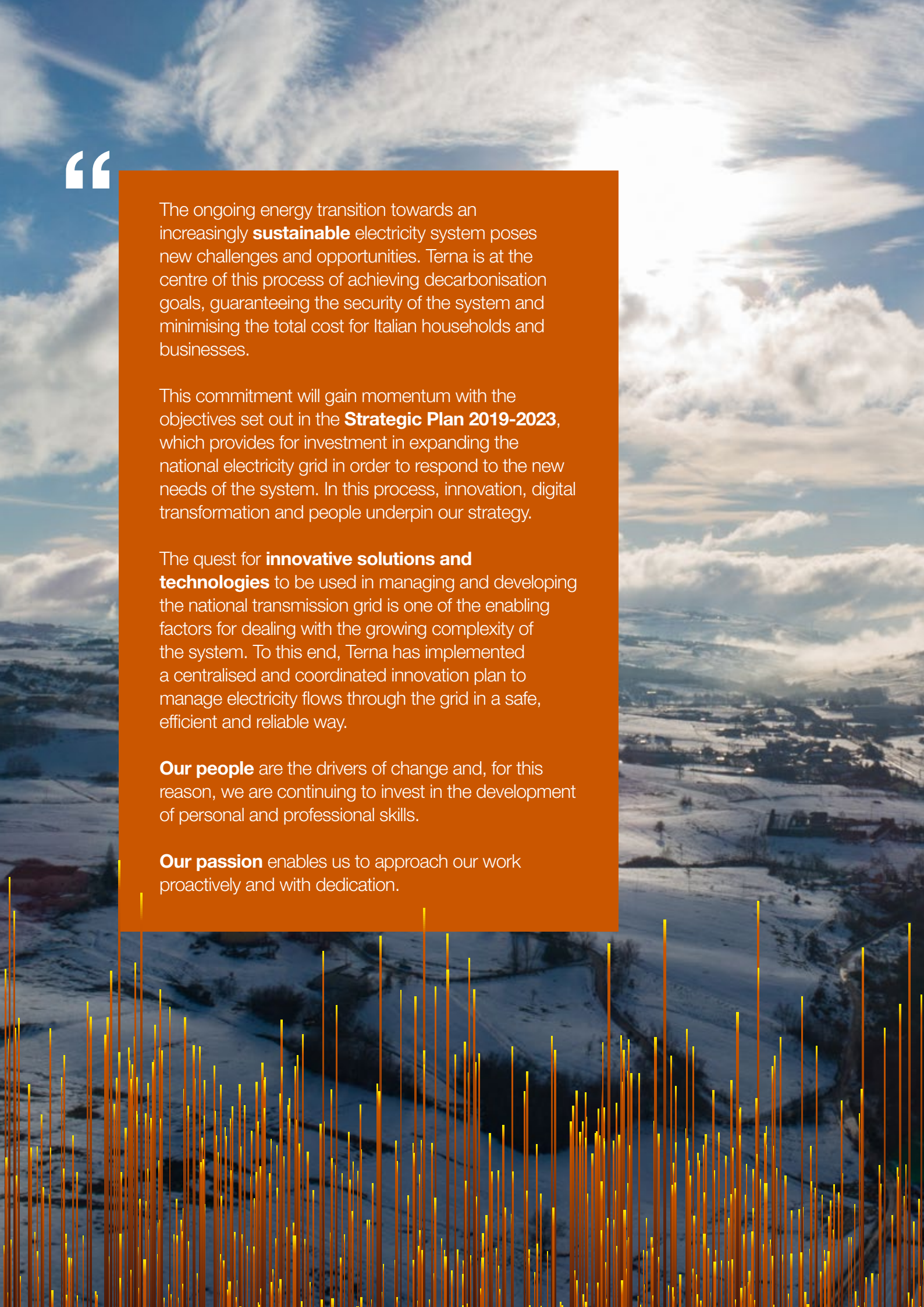

The ongoing energy transition towards an increasingly **sustainable** electricity system poses new challenges and opportunities. Terna is at the centre of this process of achieving decarbonisation goals, guaranteeing the security of the system and minimising the total cost for Italian households and businesses.

This commitment will gain momentum with the objectives set out in the **Strategic Plan 2019-2023**, which provides for investment in expanding the national electricity grid in order to respond to the new needs of the system. In this process, innovation, digital transformation and people underpin our strategy.

The quest for **innovative solutions and technologies** to be used in managing and developing the national transmission grid is one of the enabling factors for dealing with the growing complexity of the system. To this end, Terna has implemented a centralised and coordinated innovation plan to manage electricity flows through the grid in a safe, efficient and reliable way.

Our people are the drivers of change and, for this reason, we are continuing to invest in the development of personal and professional skills.

Our passion enables us to approach our work proactively and with dedication.

Statement to stakeholders from the Chairwoman and the Chief Executive Officer

We are convinced that investing in continuous training and bringing young people into the world of work are vital elements in the process of generating value.

Given the role the Company plays in the electricity system, Terna has a **responsibility** towards the entire community, both in its daily operations and over the medium to long term. Management and development of the grid is based on listening to stakeholders with a view to fostering mutual **trust and transparency**. Close interaction with **local communities** is one of our priorities, via a development model that is geared towards **dialogue** and pays ever greater attention to **local needs**.

The operating performance in 2018 demonstrates Terna's ability to deliver on pre-set objectives and to remain faithful to the commitments made when signing up to the UN Global Compact, showing how the need for a safe, efficient and sustainable electricity grid for Italy can be combined with positive returns for our shareholders.
The results presented in the financial statements also bear witness to the Group's economic and financial strength, allowing us to look towards the future with optimism and enthusiasm.”

Catia Bastioli
Chairwoman

Luigi Ferraris
Chief Executive Officer

Highlights

Sustainability is a strategic driver for Terna, expressed through our willingness to play a guiding role in enabling the energy transition, with a mission in keeping with Sustainable Development Goals (SDGs) 7 ("Affordable and clean energy"), 9 ("Industry, Innovation and Infrastructure") and 13 ("Climate action").

Terna's role as Italy's Transmission System Operator means that we are responsible for a service of general interest, made more complex by the growth in production from non-programmable renewable sources, and is at the root of efforts to create value for society.

99.99%
Average System Availability

5,617 hours
(64% of the annual total)
when the share of demand met by renewable sources exceeds the 30% threshold

€ 1,091 million
invested in the security, quality and resilience of the transmission service

284
newly recruited staff under the age of 30

Over 2,500 FTEs
employed by contractors working on Terna's projects

Sustainability also means that the way we manage our business is based on the concepts of integrity and professional excellence, applied each and every day, including through a close attention to environmental impacts.

86%
of waste recycled

ISO 55001
We are the first Italian company to receive ISO 55001 certification of our asset management

Terna Plastic Free
project

Helping to create a decarbonised economy also means achieving consistency in our approach to cutting greenhouse gas emissions from our activities.

0.38% **leakage rate for the greenhouse gas SF_6 (as a % of the total amount installed): our best ever performance**





To deliver on the objectives in its Strategic Plan, Terna invests in innovation, digitalisation and the development of distinctive competencies, focusing on both technical and managerial skills and workplace safety.

55 hours
of training per capita

"Zero Infortuni" training programme

Open innovation: Next Energy 3

The introduction of new infrastructure around the country often arouses local opposition. Terna has developed an approach that pays close attention to local communities, based on dialogue and the search for shared solutions designed to minimise the visual impact and the effects on the landscape and on biodiversity.

87 kilometres
of obsolete lines removed

53 kilometres
of new underground lines

207
meetings with local authorities

17
meetings with the public

Terna's environmental, social and governance performances, built up over time, boost the Group's reputational capital and the interest of socially responsible investors.

Terna launches our first Green Bond:
€ 750 million
in July 2018

Terna ranks as the Industry Leader - Electric Utilities sector - in the Dow Jones Sustainability Index
and is the only Italian electricity company to be included in the Bloomberg Gender Equality Index

Sustainable investors:
9.52%
of the free float
(8.32% in 2017)

The introduction to this Sustainability Report, which coincides with the Company's **Non-Financial Statement**, provides essential information on the principles and methodology applied during preparation in accordance with the GRI-Standards and on the scope of the Report. Particular importance is given to the description of the **materiality analysis**, the results of which are shown in the matrix used as the basis for selecting and prioritising the topics covered in the document as a whole. This section also includes two synoptic tables: the first cross-references topics that are significant for Terna and its stakeholders with the potential impacts; the second links the Non-Financial Statement requirements with material topics, the risks generated and incurred and the policies adopted in order to minimise such risks.

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Methodological note

Methodological note

Introduction

The 2018 Sustainability Report is Terna's fourteenth annual publication focusing on the Group's environmental, social and governance performance. As in the 2017 edition, the Report also has an additional role as the Group's "Non-Financial Statement", thus meeting the non-financial disclosure requirements set out in Legislative Decree 254/2016, as amended.

Reporting is based on the GRI Sustainability Reporting Standards published in October 2016 by the GRI-Global Reporting Initiative, applied in accordance with the "core" option.

In addition to the information that meets the "Non-Financial Statement" requirements, clearly identified in the table on page 16, the Report also contains additional voluntary disclosures in line with a general principle of maximum transparency.

As in previous years, the Report was approved by Terna S.p.A.'s Board of Directors and has undergone specific audit procedures.

The independent limited assurance report on the Non-Financial Statement, prepared by PricewaterhouseCoopers, is included on page 210.

The observation period is 2018 and all data refer to the year ended 31 December 2018. Significant events occurring up to 1 March 2019 are also included, with the sole exception being the changes to corporate governance on 20 March 2019.

Finally, any changes to the data published in previous editions are suitably indicated in the document.

Structure of the Report

The 2018 Sustainability Report has been partially reorganised in terms of the order of the various sections: the initial section, "Profile", containing all the information on the organisational and ownership structure, the business model and the Group's activities, is following by the section on "Responsible business management", focusing on the elements that constitute the Group's approach to sustainability, including its commitment to stakeholder engagement.

The central section, "The electricity service and innovation", deals with the various aspects of Terna's core business - the transmission and dispatching of electricity - and putting them within the context of the relevant SDGs, namely 7 ("Affordable and clean energy"), 9 ("Industry, innovation and infrastructure") and 13 ("Climate action"). The Report continues with two sections on "People" and "Environment".

As usual, in order to aid the reader, information corresponding to specific GRI indicators is denoted by the respective abbreviation in the margins of the text in the relevant passages (an indicator's abbreviation is placed next to the paragraph heading if the entire text is deemed relevant).

The focus on the subsidiary, Tamini Group, which operates in sectors different from those in which the rest of the Terna Group operates, reports on the results of the materiality analysis carried out at the beginning of 2019, and on the most significant environmental and social data (page 194).

The Report concludes with the "GRI Content Index", followed by a table linking the GRI indicators with the ten Global Compact principles.

The following are also attached to the report:

- the "Green Bond Report 2018", a document enabling Terna to comply with the commitment given, when issuing its green bond in July 2018, to report annually on the use made of the related proceeds and the environmental benefits resulting from the projects financed with those proceeds;
- a section that does not fall within the scope of the "Non-Financial Statement", consisting of "Key indicator tables", which reproduce the published GRI indicators, supplemented with additional ones.

Materiality

Regarding the selection of non-financial content to be disclosed, Legislative Decree 254/2016 provides for coverage of "*environmental, social, and personnel-related matters, respect for human rights, and the fight against active and passive corruption, which are deemed relevant taking into account a company's activities and characteristics*". Such matters should be reported "insofar as is necessary to ensure understanding of a company's activities, performance, results and impacts", thereby introducing a materiality criterion into the process of determining the topics to be reported and the extent to which they should be dealt with.

The Decree specifies that information should be provided "*in accordance with the methods and principles laid down by the reporting standard used*". Having decided to adopt the GRI-Standards as a reference, Terna opted to follow the recommendations of the GRI 101 - Foundation standard, which contains the basic guiding principles regarding content definition and the quality of reporting. According to this standard, the "material" topics to be potentially included in reporting are those that reflect the significant impacts (positive and negative) of an organisation in the economic, environmental and social spheres, and which influence stakeholders' decisions.

The choice of topics on which this Report is based reflects the updated materiality analysis conducted in 2016, which led to a complete revision of the topic tree compared with the previous version of 2013.

In updating the **significance for Terna** aspect, the analysis looked at the degree of active management (the presence of policies, procedures, monitoring, objectives, etc.) of each topic. The Strategic Plan 2018 - 2022 and the "Sustainability initiatives and KPIs for the Strategic Plan 2019 - 2023" are the main contributors to the update of the internal survey of the 23 topics that make up the topic tree. This was conducted last year and involved the second-level heads of department. The results were then validated by senior management.

With regard to the **significance for stakeholder** aspect, understood to mean the degree to which a topic might influence decision-making, a number of documentary sources revealing stakeholders' perception of significance were taken into account. These break down as follows:

- direct engagement, namely the outcomes of initiatives carried out directly by Terna and aimed at its stakeholders in order to understand their perception of significance with regard to topics (for example, for staff, local communities and the customers of the Non-regulated Activities);
- general sources, namely standards, publications, position papers, assessment tools and products produced by stakeholders that reflect their perception of significance in relation to topics.

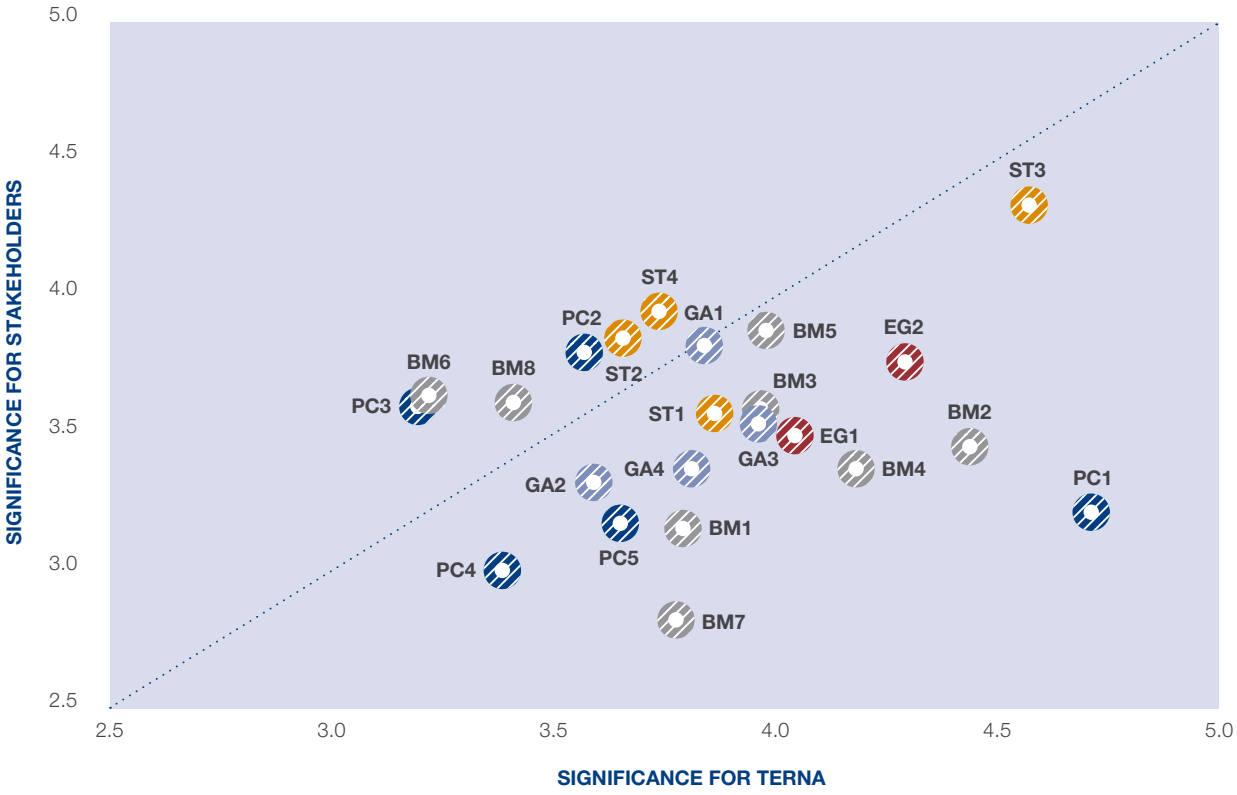
The score that summarises the significance of a topic for the majority of stakeholders was obtained by combining the assessments relating to each stakeholder category with the weighting of this category in terms of influence and mutual dependence in their relationship with the Group.

The summary of the points of view of the Company and stakeholders is expressed in the **Materiality Matrix**, which enables the identification of "material" topics, namely those that are most significant for Terna and stakeholders. It also highlights any differences between the viewpoints of stakeholders and of the Company on each topic. In the matrix, the most significant topics are those furthest away from the origin; the most important topics in absolute terms are the ones furthest from the origin and, at the same time, closer to the bisector.

Terna's Sustainability Report has always aimed to provide transparent and full disclosure. The same approach has also been adopted in this document, which serves to meet the requirements of Legislative Decree 254/16. However, given the emphasis placed by the standard on materiality, it should be pointed out that some of the topics shown in the matrix are not among those that are strictly necessary *"to ensure understanding of a company's activities, performance, results and impact"*. This regards in particular: business development

and diversification; the promotion of wellbeing within the Company; and the promotion of diversity and equal opportunities. These topics have been identified as falling below a minimum materiality threshold because: 1) by adding up the significance scores for stakeholders and Terna, the total materiality score is less than 7; and 2) the significance for Terna is less than 3.5. These topics - like all the significant ones - are also included in the Sustainability Report, but by virtue of the Company having opted for **voluntary disclosure**, rather due to the regulatory requirements of Legislative Decree 254/2016.

MATERIALITY MATRIX



Ethics and governance model

EG1: Alignment with best governance practices

EG2: Business integrity

Transmission service

ST1: Sustainable NTG planning

ST2: Electricity market integration

ST3: Quality, security and service continuity

ST4: Reduction in cost of service

Management of environmental impacts

GA1: Mitigation of visual impact

GA2: Protection of biodiversity

GA3: Management of electromagnetic fields

GA4: Reduction of environmental footprint

Business Management

BM1: Strategic approach to stakeholder management

BM2: Compliance with financial targets

BM3: Prudent risk management

BM4: Choice of investments and conformity with plan

BM5: Engagement with local stakeholders

BM6: Business and development and diversification

BM7: Sustainable supply chain management

BM8: Innovation and research

People and community

PC1: Health and safety

PC2: HR development

PC3: Promotion of wellbeing

PC4: Promoting diversity and equal opportunities

PC5: Social responsibility and impact on local communities

Risks and impacts

The significance of the various topics for Terna and its stakeholders is based on the impacts, both positive and negative, that are connected to them. In line with the requirement in Legislative Decree 254/2016 to explain "the main risks, generated or incurred, in connection with" the significant topics in terms of materiality, for each of the topics identified, the table below shows an example of the risk involved and the type of impact for Terna and for the specific categories of stakeholder affected. In the classification of impacts for Terna, the categories used in the Company's application of the Enterprise Risk Management model have been adopted, whilst the impacts for stakeholders are broken down into:

- Service quality
- Economic
- Health and safety
- Human rights
- Quality of life, wellbeing

TOPIC	EXAMPLE OF RISK MANIFESTATION	POTENTIAL IMPACT ON TERNA	STAKEHOLDERS POTENTIALLY IMPACTED	POTENTIAL IMPACT ON STAKEHOLDERS
Quality, security and electricity service continuity	Increase in malfunctions, grid inadequacy	- Strategic/operational - Reputational - Economic/financial	Community	*Service quality, economic*
Compliance with economic and financial objectives	Economic and financial performance below expectations	- Strategic/operational - Economic/financial	Shareholders, Lenders, Suppliers, Business partners, Personnel, Community	*Economic*
Business integrity	Behaviours in breach of statutory requirements	- Compliance - Reputational - Economic/financial	Shareholders / Other stakeholders who are damaged by Terna's conduct	*Shareholders: economic* *Other stakeholders: human rights, health and safety, economic*
Alignment with best governance practices	Below par governance	- Strategic/operational - Reputational	Shareholders, Lenders, Suppliers, Business partners, Personnel	*Economic (indirect)*
Reduction of electricity service costs	Increase in service costs (due to Terna)	- Reputational - Economic/financial in medium term - Strategic/operational	Community	*Economic*
Mitigation of visual, landscape and acoustic impacts	Insufficient consideration given to reducing visual impact	- Reputational	Local communities affected by the presence of Terna's infrastructure	*Quality of life, wellbeing*

TOPIC	EXAMPLE OF RISK MANIFESTATION	POTENTIAL IMPACT ON TERNA	STAKEHOLDERS POTENTIALLY IMPACTED	POTENTIAL IMPACT ON STAKEHOLDERS
Optimal management of engagement with local stakeholders	Tensions with local communities affected by grid development	- Reputational - Economic/financial - Strategic/operational	Local communities	*Quality of life, wellbeing*
Workers' health and safety and correct working practices	Occupational injuries	- Reputational - Economic/financial - Compliance	Personnel, Suppliers	*Health and safety, human rights*
Selective investment and on-time delivery	Failure to deliver infrastructure construction projects to budget and on time	- Economic/financial - Reputational - Strategic/operational	Shareholders, Community	*Shareholders: Economic* *The Community: Service quality*
Integration of electricity markets	Slowdown in European integration and interconnections	- Economic/financial - Reputational - Compliance	Community, Electricity sector operators	*Community: Service quality (security of supply); economic (service costs)* *Operators: economic*
Prudent risk management	Lack of risk management preparedness	- Economic/financial - Reputational - Strategic/operational	All (regarding the impact of related risks)	*Service quality; Health and safety; Human rights; Indirect economic*
Sustainable planning of NTG development	Planning with insufficient attention paid to environmental aspects	- Reputational - Compliance - Strategic/operational	Local communities, Environmental organisations	*Quality of life, wellbeing*
Management and monitoring of electromagnetic fields	Failure to comply with pertinent regulations	- Compliance - Reputational - Economic/financial	Local communities affected by the construction or presence of Terna infrastructure	*Health and safety*
Development of human resources	Inadequate human capital	- Strategic/operational - Economic/financial in medium to long term - Reputational	Shareholders; Terna's people	*The community: Service quality* *Shareholders and suppliers: Economic in the medium to long term*
Reduction of the Group's environmental footprint	Negative environmental externalities	- Reputational	Community	*Quality of life, wellbeing*
Innovation and Research	Insufficient innovation capacity for the energy transition and business growth	- Strategic/operational - Economic/financial in medium to long term - Reputational	Community, Shareholders, Suppliers	*Shareholders: Economic* *The Community: Service quality*
Strategic approach to stakeholder management	Failure to consider stakeholders' expectations	- Reputational - Strategic/operational	All	*- Reputational* *- Strategic/operational*
Monitoring of environmental and social aspects of the supply chain	Suppliers' behaviour not in line with Terna's sustainability policies	- Reputational - Economic/financial	Suppliers	*Human rights; Health and safety*

The following table links the Legislative Decree 254/2016 ("Non-Financial Statement") topics to the topics deemed to be material during Terna's materiality analysis and by the adopted reporting standard. In line with the changes to the above Legislative Decree 254/2016 introduced by Law 145/2018, the following table includes a new column showing exact references to how the Group manages the various risks generated or incurred.

LEGISLATIVE DECREE 254/2016 TOPIC	TERNA MATERIAL TOPIC	RISKS IDENTIFIED	POLICIES ADOPTED AND HOW THE RISKS GENERATED OR INCURRED ARE MANAGED	TOPIC-SPECIFIC STANDARD	TOPIC-SPECIFIC STANDARD	NOTE
Environmental	Mitigation of visual, landscape and acoustic impact	See materiality risks table (page 14).	**"Environment" section:** Power lines and local communities (km of **lines demolished, power lines with reduced visual impact, underground lines, mitigation and natural engineering - pages 169-173); Demolition targets in the Strategic Plan** - page 169 **Reports and complaints regarding environmental concerns** - page 176 **"Electricity service and innovation" section:** Principal construction work carried out and expected benefits (**Benefits for the country as a whole and local communities** - page 124)	304; 413	304-1; 413-2; EU13	
	Management and monitoring of electromagnetic fields	See materiality risks table (page 15).	**"Responsible business management" section:** **Compliance with legislation** - page 70 **55001 certification** - page 61 **"Electricity service and innovation" section:** Asset management (**Inspection of lines** - page 133) **"Environment" section:** **Monitoring and supervision of electromagnetic fields** - page 176 Reports and complaints regarding environmental concerns - page 176	n/a	n/a a qualitative description of the actions taken is provided	
	Reduction of the Group's environmental footprint	See materiality risks table (page 15).	**"Electricity service and innovation" section:** 2019 Development Plan (**Reduction of CO_2 emissions in the electricity system; Cuts in CO_2 emissions in 2018; Progress in implementing previous Development Plans** - pages 119-125) **"Environment" section:** Direct and indirect CO_2 emissions (**Containment of direct emissions**: SF_6, **SF_6 leakage containment targets in Strategic Plan** - pages 181-184) Energy management system, energy efficiency in substations and offices - pages 186-187, Other indirect CO_2 emissions (**Grid losses**; LCA studies on power lines - pages 188-189	305; 201 301; 302	305-1; 305-2 305-4; 201-2 301-1; 302-1 302-3	

LEGISLATIVE DECREE 254/2016 TOPIC	TERNA MATERIAL TOPIC	RISKS IDENTIFIED	POLICIES ADOPTED AND HOW THE RISKS GENERATED OR INCURRED ARE MANAGED	TOPIC-SPECIFIC STANDARD	TOPIC-SPECIFIC STANDARD	NOTE
Social	Quality, security and service continuity	See materiality risks table (page 14).	**"Profile" section:** **Electricity transmission** (pages 36-38) **Dispatching of electricity** (pages 40-42) **"Responsible business management" section:** **Opportunities and risks connected with climate change** - pages 68-69 **"The Electricity service and innovation" section:** **Continuity and quality of service** - pages 114-115 **Grid development;** Development Plan - pages 119-120; Progress in implementing previous Development Plans- principal works carried out - pages 122-123; **Connecting new plants** - pages 126-127; **Overseas interconnections** - pages 128-131; **Asset Management** - pages 132-137; Innovation (factories - pages 139-141)	203	203-1; EU28; EU29	
	Optimal management of engagement with local stakeholders	See materiality risks table (page 15).	**"Responsible business management" section:** Sustainability objectives and targets - page 62; Local stakeholders (Local stakeholders z, **Sustainability objectives and targets** - page 62; landowners affected by NTG development; Dialogue with local communities overseas; Dialogue with local communities: **the most difficult cases and shared solutions** - pages 84-91) **"Environment" section:** Planning and **consultation** - page 170.	413	413-1; 413-2	
	Sustainable planning of NTG development	See materiality risks table (page 15).	**Electricity service and innovation" section:** **Investment and innovation for the SDGs** - pages 116-117 Grid development - page 118 **2019 Development Plan** - page 119; **emissions in the electricity system pages** - pag. 120-121; Overseas interconnections - pages 128-131 Innovation (factories - pages 138-141 **"Environment" section:** **Power lines and local communities** - page 169-173	413	413-1; 413-2	
Pertaining to personnel	Workers' health and safety and correct working practices	See materiality risks table (page 15).	**"Responsible business management" section:** **Respect for human rights** - pages 74-75 **"People" section:** **Protecting employees' safety** - pages 160-161; **Health and Safety target in Strategic Plan** - page 163	403	403-1; 403-2	
	Development of human resources	See materiality risks table (page 15)	**"People" section:** Development; **People for Performance target in Strategic Plan** - page 157	401; 404	401-1; 404-1; EU15	
Respect for human rights	Workers' health and safety and correct working practices/ Monitoring of environmental and social aspects of the supply chain	See materiality risks table (page 15)	**"Responsible business management" section:** **Guaranteeing safety, the environment, and human rights at contractors' construction sites** - pages 80-81; Procurement and suppliers - page 76-78; **Target for use of ESG criteria in tenders in Strategic Plan** - pages 78	406; 407 408; 409 412	406-1; 407-1 408-1; 409-1 412-1	
Fighting corruption	Business integrity	See materiality risks table (page 14)	**"Responsible business management" section:** Prevention of corruption **(Anti-corruption, 37001 Certification and Global Compliance programme** - pages 71-73	205; 206	205-1; 205-3 206-1	

Scope and indicators

The data and disclosures in the Sustainability Report 2018 refer to the Terna Group, meaning the scope that includes Terna S.p.A. and the companies consolidated on a line-by-line basis in its consolidated financial statements for the year ended 31 December 2018. Tamini Group companies, unless otherwise indicated, are excluded from the scope given that the Tamini Group's activities are not comparable with those of the rest of the Terna Group. Data for the Tamini Group are not consistent with the data for the Terna Group and the two sets of data cannot be aggregated, as this would not fully represent the specific nature of Tamini itself and assessment of the performance of the rest of the Group would be influenced by elements that would not permit a clear and realistic reading of the data. The Tamini Group's environmental and social indicators, which are useful in helping to understand its activities, performance, results and impact on the Group, are therefore presented in a specific section on page 194. This section reports on the initial results emerging from the materiality analysis conducted by the Tamini Group in 2018. The Terna Group acquired Avvenia (see page 27), a subsidiary of Terna Energy Solutions, in its turn controlled by Terna, in 2018. Data for Avvenia (16 staff at 31 December 2018) has not been consolidated for 2018, but work on their inclusion by the end of 2019 has already begun.

In accordance with the materiality principle, the data presented in the Sustainability Report cover all the companies with a significant impact on sustainability (for example, in terms of their size or number of personnel, their potential impact on the environment and the community or the number of transactions/activities that took place during the year), and where Terna directly or indirectly exercises control or has the power to govern their financial and operating policies. There are no joint ventures, other subsidiaries or leased assets that might significantly influence the scope or the comparability of the environmental and social data.

In 2018, information on the 232 electricity substations formerly owned by RFI (172 at the end of 2017) was included in the scope of the environmental data. Only the substations that, by 31 December 2018, had been integrated into the Terna Group's scope of operations have been consolidated. The remaining 122 electricity substations formerly owned by RFI were operated under an O&M (Operation & Maintenance) contract entered into with the previous owner.

The main impacts of the activities of the Group's overseas subsidiaries have been included in the Report. This data is reported separately from the information for the Parent Company due to the different impact of the related regulatory environment. Data for the Montenegro-based subsidiary, Terna Crna Gora d.o.o., has been included in the scope of the sustainability indicators, unless otherwise indicated.

The data has been calculated on the basis of Terna's general accounts and other information systems. Where estimates have been used in calculating the indicators, the method used has been described.

All the GRI indicators published are listed below in the "GRI content index", in which eventual limitations with respect to the relevant requirements are noted (see page 203).

Comparative analysis of sustainability performance

In the belief that a comparison of environmental, social and governance performance should not only concern the Company but also its stakeholders, as in previous years, this Report also includes comparisons between Terna's results and those of other companies. The comparative sustainability indicators regard the following topics: carbon intensity (new in the 2018 Sustainability Report), the SF_6 leakage rate, per capita hours of training and the staff turnover rate.

The main criteria adopted in the analysis, as a premise for reading and interpreting the comparisons of each of the indicators in the Report, are set out below:

- three company peer groups were chosen: the first consists of the leading European and non-European Transmission System Operators in terms of the number of kilometres of line operated; the second, covering a range of sectors, comprises large Italian companies (the 40 companies listed on the FTSE MIB on 8 September 2018); and the third consists of the international best performers in the Electric Utilities - ELC sector (identified by the sustainability rating agency, RobecoSAM, and included in the Dow Jones Sustainability World Index in September 2018). The purpose of the three peer groups - also in connection with the type of indicator examined - is to provide a comparison between companies with the same operating characteristics, including an Italian comparison and one with the top international performers from the same sector. Among the companies in the three peer groups, consideration has been given to the ones that publish useful information for comparison on their websites via their Sustainability Report (even if it has not been drawn up in accordance with the GRI guidelines) or via other documents (integrated reports, HSE reports, financial reports, etc.). This led to a reduction in the sample compared with the number of companies in the peer group at the outset. The comparative analysis necessarily refers to data for 2017, as the comparisons were made whilst the 2018 reports were being prepared, as was also the case for Terna.

It should be noted that, despite the exclusion of explicitly non-homogeneous data, in many cases doubts remain regarding the actual comparability between companies, especially in situations where significant discrepancies were found between the data reported by some companies and the average figure for the peer group.

This section presents Terna: Group's structure, its **ownership, governance, business model** and the relevant Sustainable Development Goals (SDGs). The description of Terna's activities introduces a distinction between Regulated Activities and Non-regulated Activities, which is key to understanding the financial and sustainability disclosures provided, and gives guidance on the content to be found in the following sections. The section ends with key details of the **economic impact** generated during the year.

SRI
(SOCIALLY RESPONSIBLE INVESTORS)

9.52%
OF THE FREE FLOAT
(8.32% IN 2017)

CAPEX

€1,091 million
(UP 5.5% VERSUS 2017)

PROCUREMENT

€1,183 million
(UP 80% VERSUS 2017)

2

Profile

About us

The Terna Group's main activities are electricity transmission and dispatching in Italy, where, under a government concession, it performs the role of TSO (Transmission System Operator).

Terna is thus responsible for the planning, construction and maintenance of the transmission grid, as well as management of the electricity that flows through it. These activities are carried out under a monopoly regime, in accordance with the regulations defined by the Regulatory Authority for Energy, Networks and the Environment (ARERA) and in implementation of the guidelines established by the Ministry for Economic Development (the MED).

Based in Rome, the Terna Group owns 99.7% of the National Transmission Grid (NTG), which is among the most modern and technologically advanced transmission grids in Europe. We are the largest independent electricity transmission network operator in Europe and one of the world's leading operators in terms of the number of kilometres of overhead line managed, with around 72,900 kilometres of high-voltage lines.

The Group is responsible for the long-term safety, quality and cost-effectiveness of the national electricity system, pursuing its development and integration with the European system. We ensure that all network users have equal access.

Alongside these activities (Regulated Activities), the Group also operates in a number of non-regulated sectors in Italy, leveraging the technical expertise acquired from operation of its core business and innovation (Non-regulated Activities).

Finally, the Group offers its expertise and services to overseas customers, including in collaboration with energy operators that have an established international presence. These initiatives focus on countries that require investment in transmission plant, and which also have stable political and regulatory frameworks and a risk-return profile in line with that of the Company.

In managing all its businesses, Terna pays great attention to the possible economic, social and environmental impacts, and adopt a sustainable approach to business in order to establish, maintain and consolidate relationships with its stakeholders that are based on mutual trust, with a view to creating shared value.

The Parent Company, Terna S.p.A., is listed on Borsa Italiana's screen-based trading system (*Mercato Telematico Azionario*) and, at approximately €9.9 billion [1], ranks among Italy's leading companies by market capitalisation.

[1] Market capitalisation at the close of trading on 28 December 2018.

Terna and the SDGs

Approved by 193 member states of the United Nations in September 2015, the 17 Sustainable Development Goals (SDGs) form the heart of the 2030 Agenda. This global plan aims to eradicate poverty and promote economic prosperity, social development and protection of the environment, via a sustainable path that brings together economic, social and environmental aspects and, at the same time, identifies new opportunities for growth.

They cannot be achieved without the commitment of governments, civil society, non-governmental organisations (NGOs) and companies.

The activities and mission of Terna, which plays a vital enabling role in the transformation of the energy system towards one based on forms of production using renewable energy sources, coincide almost entirely with a number of the SDGs and the related targets. These are SDG 7 ("Affordable and clean energy - Ensure access to affordable, reliable, sustainable and modern energy for all"), SDG 9 ("Industry, innovation and infrastructure - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation") and SDG 13 ("Climate action - Take urgent action to combat climate change and its impacts"), whose implementation depends primarily on delivery of the National Transmission Grid Development Plan.

For this reason, the section on the "Electricity service and innovation" is structured in such a way as to highlight Terna's activities that contribute to implementation of the relevant SDGs, starting with preparation of the 2019 Development Plan and the description of the progress made with respect to the previous Plans.

The SDGs, especially Goal 8 ("Decent work and economic growth"), Goal 12 ("Responsible consumption and production"), Goal 15 ("Life on land"), Goal 16 ("Peace, justice and strong institutions") and Goal 17 ("Partnership for the Goals"), are also a benchmark for the approach Terna adopts in managing its activities. This is founded on objectives such as the efficient use of natural resources, respect for the environment, cuts in emissions, waste reduction and recycling, respect for human rights, efforts to foster innovation, partnerships to combat corruption, and transparent reporting.

Other links between Terna's activities and the SDGs are described in the section on "Community initiatives".

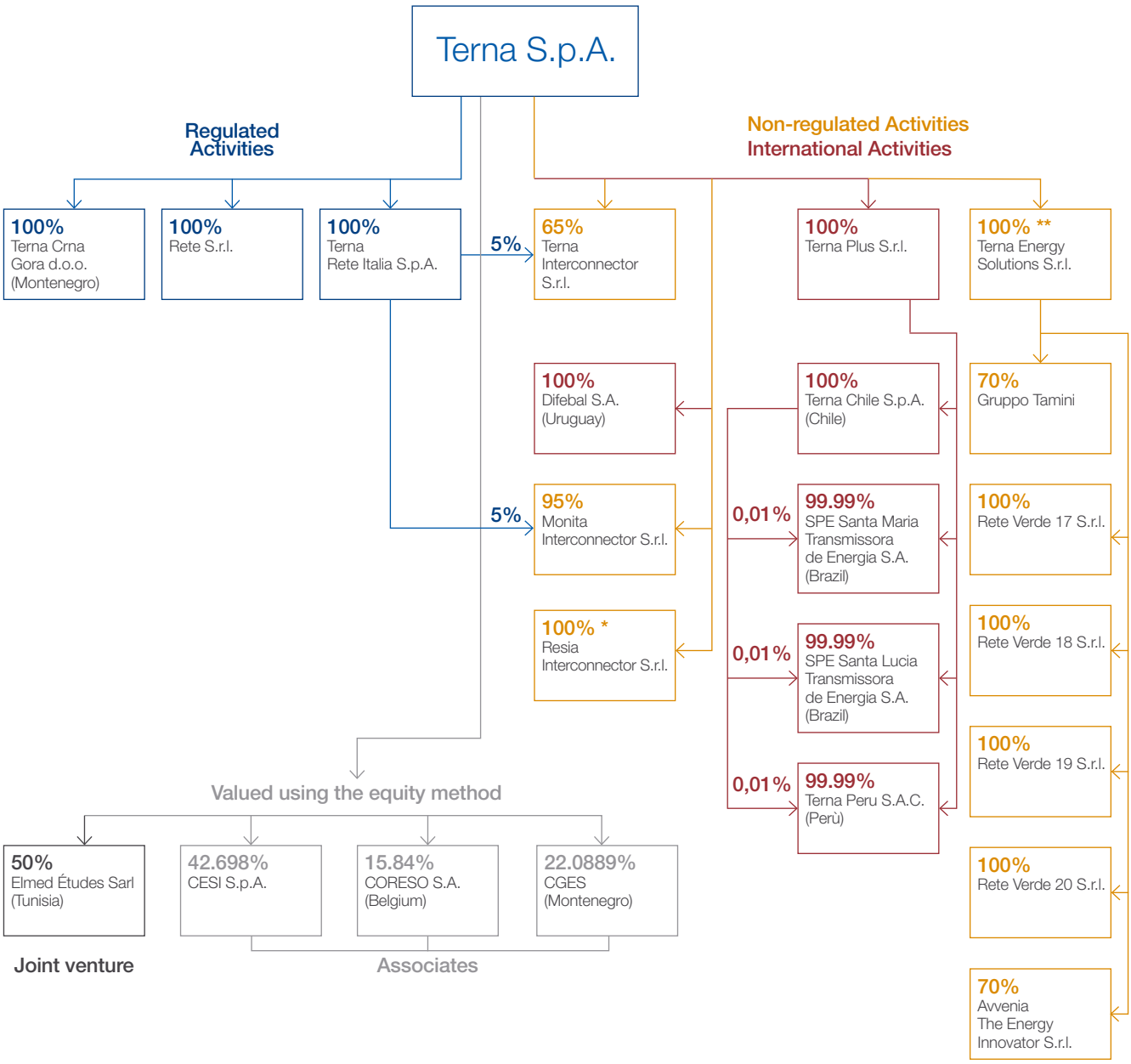
BENCHMARK SDGs FOR TERNA

			SDGs
Ensure access to affordable, reliable, sustainable and modern energy for all.	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.	Take urgent action to combat climate change and its impacts.	Target

BENCHMARK SDGs FOR THE MANAGEMENT OF TERNA'S ACTIVITIES

					SDGs
Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	Ensure sustainable consumption and production patterns.	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	Promote peaceful and more inclusive societies for sustainable development; provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	Promote peaceful and more inclusive societies for sustainable development; provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	Target

Structure of the Group



Compared with 31 December 2017:

* On **16 July 2018, Resia Interconnector S.r.l.** was incorporated. This company will be involved in construction of the private Italy-Austria interconnector, for which the process of obtaining the necessary consents for the Passo Resia - Glorenza cable section is currently underway.

** On **2 August 2018, the partial demerger of Terna Plus S.r.l.** (a wholly-owned subsidiary of the parent, Terna S.p.A.), and the transfer of the demerged assets to a newly established company named Terna Energy Solutions S.r.l., came into effect. The demerged business is focused on Non-regulated Activities and on the energy solutions activities already carried out by Terna Plus which, following the demerger, is responsible for the Group's South American activities. The transaction also resulted in the transfer of equity interests in the companies that carry out Non-regulated Activities in Italy: Tamini Trasformatori S.r.l., Rete Verde 17 S.r.l., Rete Verde 18 S.r.l., Rete Verde 19 S.r.l., Rete Verde 20 S.r.l. and Avvenia The Energy Innovator S.r.l. (acquired on 15 February 2018).

SUBSIDIARIES WITH REGULATED ACTIVITIES			
Company	Business		Revenue
Terna Rete Italia S.p.A.	All regulated activities related to operation, routine and extraordinary maintenance, management and development of the National Transmission Grid.	3,150	€445.5m
Rete S.r.l.	Acquired in 2015 from Ferrovie dello Stato Italiane (Italian State Railways) group, the company owns 8.3% of the National Transmission Grid infrastructure.	0	€139.2m
Terna Crna Gora d.o.o. *Company incorporated under Montenegrin law*	Management of construction of the Italy-Montenegro interconnector, on the Montenegrin side.	9	€0.0m

SUBSIDIARIES WITH NON-REGULATED ACTIVITIES IN ITALY			
Company	Business		Revenue
Terna Energy Solutions S.r.l.	Development of new activities and business opportunities in the Italian Non-regulated market.	45	€3.7m
Tamini Trasformatori S.r.l.	Production and marketing of industrial and power transformers via six production plants located in Italy in Legnano (MI), Melegnano (MI), Novara, Valdagno (VI), Ospitaletto (BS) and Rodengo (BZ).	355	€120.8m
Rete Verde 17 S.r.l.	Development of renewable energy initiatives.	0	€0.0m
Rete Verde 18 S.r.l.	Development of renewable energy initiatives.	0	€0.0m
Rete Verde 19 S.r.l.	Development of renewable energy initiatives.	0	€0.0m
Rete Verde 20 S.r.l.	Development of renewable energy initiatives.	0	€0.0m
Avvenia The Energy Innovator S.r.l.	Implementation of energy efficiency projects, including via EPC (Energy Performance Contract) solutions.	16	€10.7m
Terna Interconnector S.r.l.	Development and construction of private infrastructure for interconnections with other countries.	0	€94.6m
Monita Interconnector S.r.l.	Construction and management of the Italy-Balkans interconnection as part of the Interconnector Project	0	€0.0m
Resia Interconnector S.r.l.	Construction and operation of the Italy-Austria interconnector as part of the Interconnector Project.	0	€0.0m

SUBSIDIARIES WITH NON-REGULATED ACTIVITIES OVERSEAS

Business		Revenue	Company
Development of new activities and business opportunities in the non-regulated international market, in particular in South America.	0	€7.0m	**Terna Plus S.r.l.**
Management of activities involved in the design, construction and maintenance of electricity infrastructure.	0	€19.1m	**Terna Chile S.p.A.** *Company incorporated under Chilean law*
Management of activities involved in the design, construction and maintenance of electricity infrastructure.	4	€19.1m	**SPE Santa Maria Trasmissora de Energia S.A.** *Company incorporated under Brazilian law*
Company incorporated under Brazilian law	13	€73.8m	**SPE Santa Lucia Trasmissora de Energia S.A.** *Company incorporated under Brazilian law*
Management of activities involved in the design, construction and maintenance of electricity infrastructure.	5	€1.2m	**Terna Perù S.A.C.** *Company incorporated under Peruvian law*
Management of activities involved in the design, construction and maintenance of electricity infrastructure.	7	€38.7m	**Difebal S.A.** *Company incorporated under Uruguayan law*

ASSOCIATES OR JOINT VENTURES

Business		Revenue	Company
Pure and applied scientific research aimed at making advances in the electro technical, energy, electronic and IT sectors.	665	€121.8m	**CESI S.p.A.**
Management of daily forecasting and real-time analysis of energy flows in central and western Europe, identifying possible critical issues and promptly informing the TSOs concerned.	35	€9.2m	**CORESO S.A.**[2] *Company incorporated under Belgian law*
TSO for Montenegro's electricity market. Investment acquired as part of the Italy-Balkans interconnector project	311	€29.0m	**CGES**[3 4]
Jointly controlled by Terna and the Tunisian company, STEG, the company is engaged in carrying out preparatory studies for construction of the infrastructure required to connect the Tunisian and Italian electricity systems.	2	€0.0m	**Elmed Études Sarl**

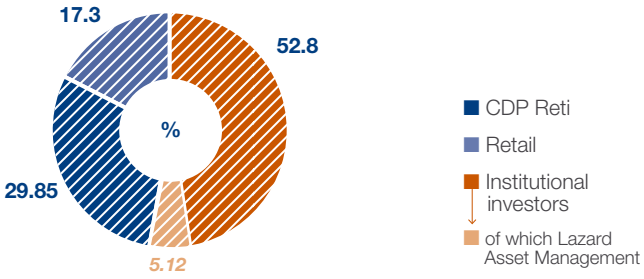
[2] Although the stake is less than 20%, the investment remains relevant based on the assumption that the Parent Company exerts significant influence. The shareholders include Terna and the operators in France (RTE), Belgium (Elia) and the UK (National Grid), each with 15.84% interests, in addition to the German operator, 50 Hertz Transmission, with 7.90%.
[3] In full, "Crnogorsk Elektroprenosmi Sistem Ad".
[4] Data refer to 2017.

Ownership structure

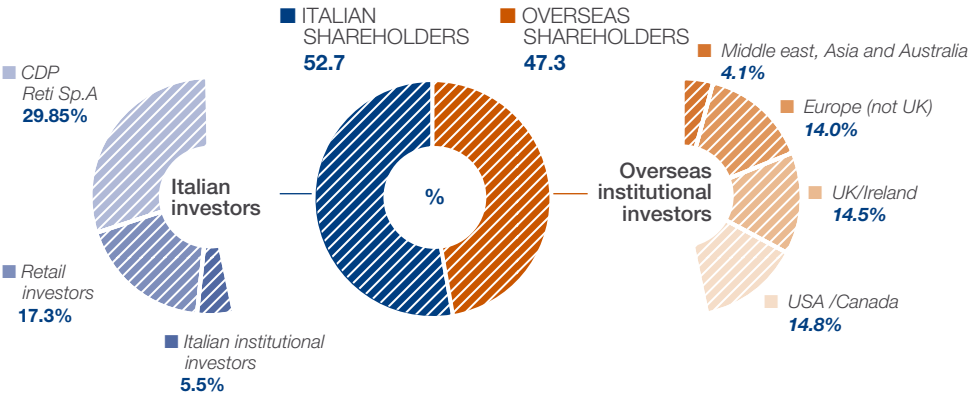
Terna S.p.A.'s share capital amounts to €442,198,240, comprising 2,009,992,000 fully paid-up ordinary shares with a par value of €0.22 each.

Based on information from the shareholders' register and other data collected as at February 2019, Terna's shareholder structure breaks down as follows.

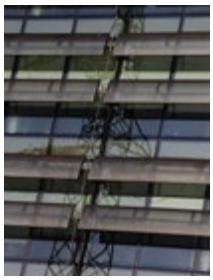
SHAREHOLDERS BY CATEGORY



SHAREHOLDERS BY GEOGRAPHICAL AREA AND CATEGORY





Socially responsible investors

At the end of 2018, 109 socially responsible investors (SRIs), compared with 103 in 2017, had invested in Terna's shares using an approach that takes into account ESG (Environmental, Social, Governance) aspects. Overall, at the end of 2018, SRIs represented 9.52% of Terna's free float (8.32% at the end of 2017) and 12.86% of the capital held by identifiable institutional investors (approximately 11% at the end of 2017).

Terna has adopted a policy that envisages payment of dividends twice a year. The interim dividend for 2018 was 7.87 euro cents (paid on 21 November 2018), while the final dividend to be proposed to shareholders by the Board of Directors at the Annual General Meeting on 8 May 2019 is 15.45 euro cents. Further information on the dividend history may be found at www.terna.it.

The Annual General Meeting of 4 May 2018 was attended by 1,448 shareholders (of which 8 in person and 1,440 by proxy), holding a total of 1,301,488,973 shares, equal to 64.750953% of the share capital, all of which bearing voting rights.

Information on the ownership structure, restrictions on the transfer of shares, securities that grant special rights, and restrictions on voting rights, as well as on shareholder agreements, is provided in the "Report on Corporate Governance and Ownership Structures" for 2018, published together with the Annual Report of Terna and the Terna Group. This is available in the "Investor Relations" section of Terna's website.

Fourteen requests for information were received by e-mail from non-institutional shareholders (12 in 2017 and 12 in 2016), regarding information on the dividend policy, the share price performance, information on the dates and availability of Terna's corporate documents and/or documents relating to General Meetings and/or other information material on the Company.

Corporate governance

The governance system is substantially in line with the principles contained in the Code of Conduct[5] for listed companies adopted by Terna, with the related recommendations made by the CONSOB and, more generally, with the international best practices the Company uses as a benchmark.

The current structure of the Board of Directors requires the presence of one Chief Executive Officer, to whom the Board granted the necessary authority via a resolution approved on 27 April 2017, in which the Board defined the scope, limitations and means by which to exercise such authority.

The activities of the Board of Directors are coordinated by the Chairman. The Board of Directors consists of nine members, whose terms of office will end with approval of the financial statements for the year ended 31 December 2019. On 10 August 2018, the Director Stefano Saglia, resigned and, on 15 February 2019, Paolo Calcagnini was co-opted on to the Board as his replacement. On 20 March 2019, the date on which this document was approved, the Board of Directors made changes to the composition of the Committees.

Board of Directors

Chairwoman
Catia Bastioli

Chief Executive Officer
Luigi Ferraris

Directors
Paolo Calcagnini (dal 15/2/2019)
Fabio Corsico
Luca Dal Fabbro
Paola Giannotti
Yunpeng He
Gabriella Porcelli
Stefano Saglia (fino al 10/8/2018)
Elena Vasco

Board of Statutory Auditors

Chairman
Riccardo Enrico Maria Schioppo

Standing Auditors
Vincenzo Simone
Maria Alessandra Zunino de Pignier

Alternates
Davide Attilio Rossetti
Cesare Felice Mantegazza
Renata Maria Ricotti

Independent Auditors

PricewaterhouseCoopers S.p.A.

Board Committees

Audit, Risk, Corporate Governance and Sustainability Committee
Luca Dal Fabbro[6] (Chairman, independent)
Elena Vasco (independent)
Paola Giannotti (independent)

Remuneration Committee
Fabio Corsico (Chairman, independent)
Gabriella Porcelli (independent)
Elena Vasco[7]

Nominations Committee
Gabriella Porcelli (Chairwoman, indipendent)[8]
Yunpeng He
Fabio Corsico (independent)

Related Party Transactions Committee
Paola Giannotti (Coordinator, independent)[9]
Luca Dal Fabbro (independent)
Gabriella Porcelli (independent)

[5] Edition last revised in July 2018 and available on Borsa Italiana S.p.A.'s website at the following link: https://www.borsaitaliana.it/comitato-corporate-governance/codice/2018clean.pdf. The Code was drawn up by the Corporate Governance Committee for listed companies established by ABI, Ania, Assonime, Assogestioni, Borsa Italiana and Confindustria.

[6] Following the resignation of the Director, Stefano Saglia, from the positions he held on the Board of Directors of Terna S.p.A., the Board of Directors on 9 November 2018 appointed the independent, non-executive Director, Luca Dal Fabbro, representing minority shareholders, as Chairman of the Audit, Risk, Corporate Governance and Sustainability Committee.

[7] Following the previously mentioned resignation of Stefano Saglia as a Director, on 20 March 2019, the Board of Directors appointed the Director, Elena Vasco, to the Remuneration Committee.

[8] On 20 March 2019, the Board of Directors appointed the Director, Gabriella Porcelli, as Chairwoman of the Nominations Committee in place of the Director, Luca Dal Fabbro.

[9] Whilst leaving the composition of the Related Party Transactions Committee unchanged, on 20 March 2019, the Board of Directors appointed Paola Giannotti as the Committee's Coordinator.

COMPOSITION OF THE BOARD OF DIRECTORS AS AT 20 MARCH 2019

< 405-1

	Unità	
Men	**%**	55.6
Women	**%**	44.4
Under 30	**%**	-
Between 30 and 50	**%**	22.2
Over 50	%	77.8

Aspects worthy of note include:
- the high level of attendance of Directors;
- the presence of sustainability goals in the remuneration packages of the Chief Executive Officer and management.

Further information on Terna's corporate governance may be found in:
- the "Report on Corporate Governance and Ownership Structures", which was approved by the Board of Directors on 20 March 2019, and is available in the "Investor Relations" section of Terna's website;
- the "Remuneration Report".

Group's new organisational structure

The Group's new organisational structure, in place from 1st July 2018, aims to support Terna's central role in the integrated electricity system, with the aim of:
- optimising and integrating real-time dispatching activities and long-term planning;
- optimising the management of tangible assets and maximising operational excellence in their design, construction, operation and maintenance.

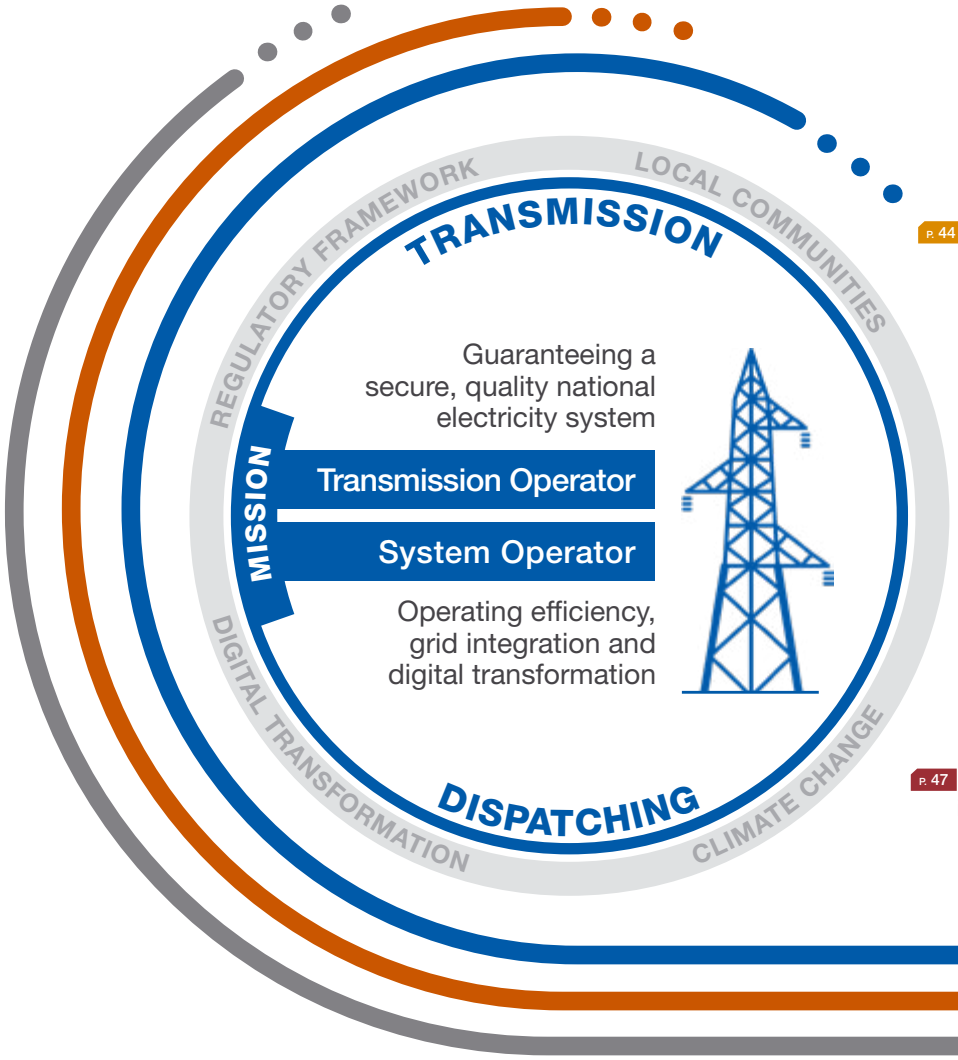
In particular, the following two organisational units which report directly to the Chief Executive Officer were redefined:
- "Strategy, Development and Dispatching", which includes system strategy, grid planning, dispatching and regulatory affairs;
- "National Transmission Grid", which includes asset management and plant design, construction, operation and maintenance, as well as procurement and ICT.

The new organisational structure also strengthens the Group's innovation capabilities through the creation of a new department reporting directly to the Chief Executive Officer, called "Innovation, Digital and Energy Solutions".

Finally, the "External Relations and Sustainability" function has been expanded in view of the Group's growing role at international and European level in the development of energy strategies.

Business model and activities

ROLE ACTIVITIES



P. 44 New business opportunities

Non-regulated Activities

8.9% of revenue

Development and maintenance of the HV grid

P. 118 **Regulated Activities in Italy**

Balancing supply and demand and investment in development

90.5% of revenue

International Activities

0.6% of revenue

P. 47 Leveraging competencies in overseas markets

BUSINESS
SUSTAINABILITY
STRATEGY

Terna plays a central role in the energy transition process underway: in a context of radical change with decarbonisation emerging as a global objective, the electricity grid is one of the main enabling factors.

ENABLERS ····· VALUE CREATION ····· SYSTEM EFFECTS

PEOPLE

at the centre of our business

- Competencies
- Integrity & Values
- Safety

INNOVATION

in response to the growing complexity of the system

- Digital solutions
- New technologies
- Open innovation

P. 99 **Shareholder value with constant,** predictable growth in returns over a five-year period

P. 20 **Risk control** through prevention and real-time response

P. 60 **Value for money** of the prices charged to end users

P. 57 **Quality of service** to provide the community with a reliable electricity supply, minimising outages

P. 48 **Resilience** in the face of the increasingly complex challenges posed by climate change

P. 46 **Checks on the impact of our activities** in our approach to every stakeholder

P. 48 **Grid development and maintenance** to maximise the reliability of the service

P. 26 PROGRESSIVE DECARBONISATION

P. 26 GROWING INTEGRATION OF RENEWABLES

P. 28 CONTRIBUTION TO ACHIEVING THE UN'S SDGs

A key role in **ENERGY TRANSITION**

P. 26





Terna's business

Terna's business model focuses primarily on its **Regulated Activities in Italy**, consisting of the transmission and dispatching of electricity. By leveraging the expertise developed in managing its core business, the Company's **Non-regulated Activities** and **International Activities** help to boost growth, taking advantage of the opportunities resulting from innovation and from energy sector trends in Italy and abroad.

Terna's Strategic Plan, which focuses on the long term, sets out targets, priorities and investments in line with medium- and long-term trends and identifies sustainable solutions capable of creating value over time. Good examples are bringing the electricity transmission grid into line with changing energy scenarios, and the increasing integration of grid operation at European level (see page 128).

The **Regulated Activities in Italy**, **Non-regulated Activities** and **International Activities benefit** from Terna's financial resources and the technical expertise of its personnel, which is often unique in the electricity sector and represents an example of distinctive human capital. Against a rapidly changing external environment (e.g. economic conditions, the evolution of the electricity system, technological upgrades, social issues and environmental challenges), **innovation, quality of service and the minimisation of environmental impacts** play a key role in driving the Group's performance.

As well as avoiding the risk of failing to become aware of potential problems in a timely manner, stakeholder engagement, based on reciprocal trust and transparency, strengthens the Group's social capital and enhances the sustainability of the business model over both the medium to long term.

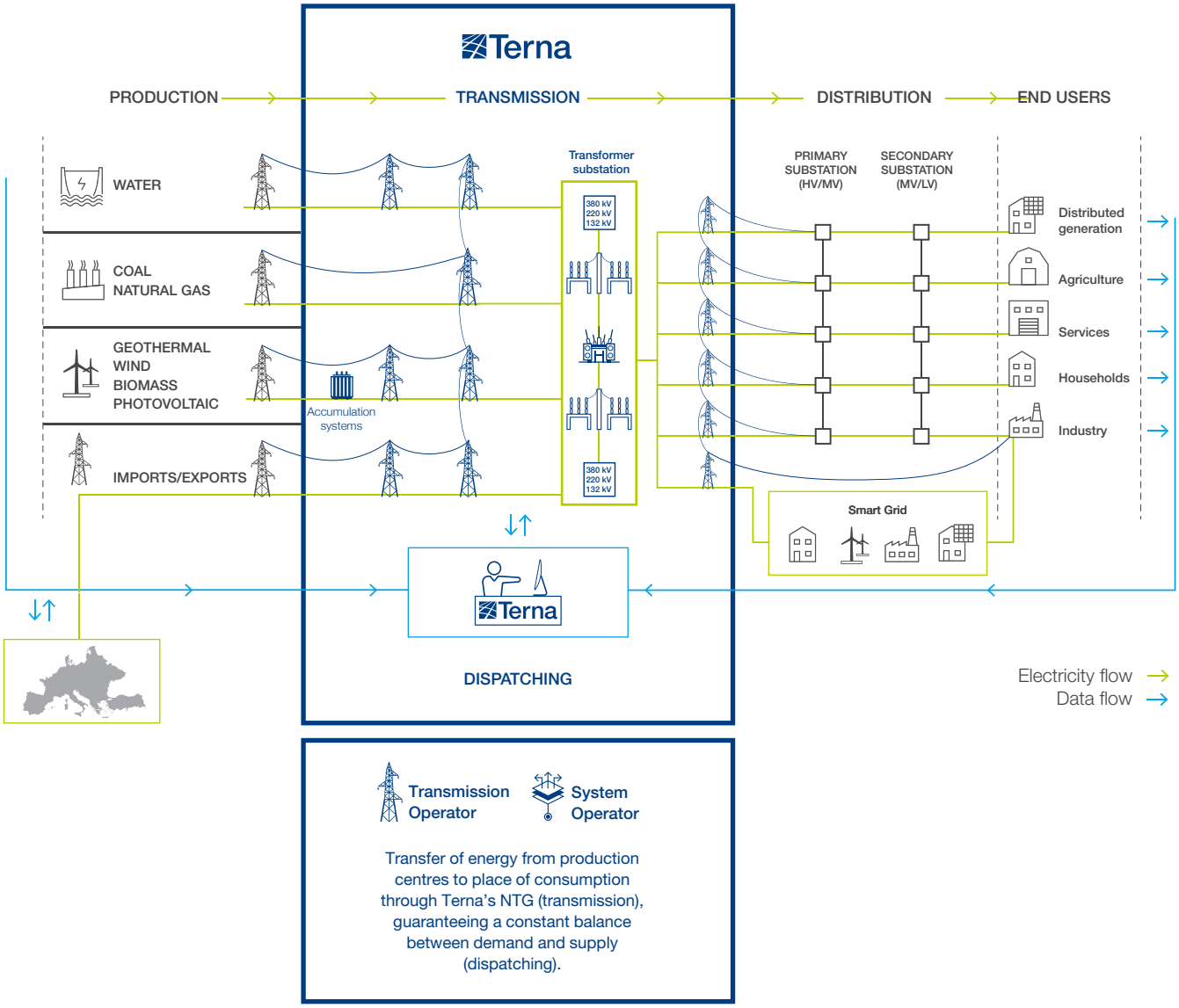
Electricity transmission

The Italian electricity supply chain consists of four segments: production, transmission, distribution and the sale of electricity.

This chart illustrates Terna's core business, to which most of this Report is dedicated: transmission. This is a vital segment of the electricity service which, while not perceived as such by end users, the customers of companies that distribute and sell electricity, makes it ethically responsible towards the whole community.

For Terna, this requires a sustainable approach to its businesses, which is primarily expressed through responsible management of the NTG.

NATIONAL ELECTRICITY SYSTEM CHAIN



Terna's infrastructure

881
ELECTRICITY SUBSTATIONS

74,442
KM OF CIRCUITS

67,671
KM OF LINES
(95% overhead)

N° 4
CONTROL CENTRES

723
TRANSFORMERS

5
STORAGE SITES

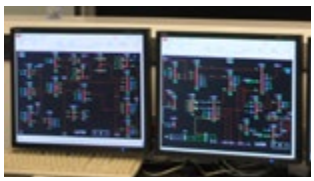
6,310
BAYS

Electricity transmission breaks down into the following activities:

Planning	Close analysis of electricity flows through the grid, and the development of supply and demand projections, allow Terna to prevent the occurrence of problems and to schedule new projects needed to ensure that the system is fit for purpose over the medium and long term, in relation to the safety of operations, reducing congestion and improving quality and continuity of service. Network planning must be consistent with the objective of maximising the safe and secure integration of renewable energy sources. This means that all existing regulatory resources, including exports and imports and power generation controls, must be taken advantage of. The new works to be carried out are included in the NTG Development Plan, presented annually to the Ministry for Economic Development for approval, also taking into account the consultation process carried out by ARERA. Terna follows the complex authorisation process (see pages 84 and 170).
Implementation of development initiatives	Responsibility for the design and construction of the works included in the Development Plan has been assigned to Terna Rete Italia S.p.A., which decides on the need for external resources and establishes the related solutions and the technical specifications for the components and materials to be used, in compliance with the technical regulations in force. Terna Rete Italia also defines the engineering standards for plants connected to the grid, above all standards of construction and the performance standards for equipment, machinery and substation and power line components. The construction of new plants is usually outsourced, whilst maintaining strict control over contractors' approaches to environmental and social concerns. Development initiatives also include the construction of interconnectors with other countries (see page 128).
Dispatching	Dispatching ensures a balance between the quantity of electricity injected into and withdrawn from the system, between energy supply and demand, round the clock, 365 days a year. This activity has become more complex over time, partly due to significant growth in non-programmable renewable sources, requiring greater flexibility, especially in situations where the supply from renewable sources is very high and demand for energy is low (see page 40).
Infrastructure maintenance and renewal	The maintenance of power lines, substations and storage systems is carried out by Terna Rete Italia, which is also responsible for defining the technical criteria and standards for the maintenance and the renewal of assets (see pages 61 and 130).

As the TSO, Terna is also responsible for managing producers' registers, handling the data on injections and withdrawals for use in determining the related revenues and costs, and for processing statistics on the Italian electricity industry. This entails having access to confidential data regarding operators in the system, especially electricity producers. To protect this data, Terna has adopted the best data protection practices in order to prevent the information it holds from being accessible or disclosed to unentitled third parties.





Dispatching of electricity

Dispatching is the set of activities necessary to ensure that there is a balance between supply and demand in the country's electricity system.

The high degree of complexity and coordination necessary to guarantee the correct operation of the system require the presence of a central coordinator, the provider of the dispatching service. This coordinator has control over a high number of both supply-side and demand-side players, and in the last few years also over production from non-programmable renewable sources.

Dispatching includes planning for the unavailability of the grid and of production plants over different time-scales, forecasting national demand for electricity, comparing demand for consistency with planned production in the free energy market (the Power Exchange and over-the-counter contracts), the acquisition of resources for dispatching and monitoring power transported for all the power lines that make up the grid.

This area of operation also includes management of the Dispatching Services Market (DSM), through which the resources for dispatching services are procured.

In particular, "real-time" control of the National Electricity System is ensured by the National Control Centre, the nerve centre for Italy's National Electricity System, which coordinates the other centres around the country, monitors the system and dispatches electricity. The Centre intervenes, by issuing instructions to producers and Remote Centres, in order to modify supply and capacity on the grid. To avoid the risk of prolonged power outages, it may also intervene in an emergency to reduce demand.

KEY EVENTS IN 2018

Review of market zones

On 1st January 2019, the new zonal configuration came into force. Compared to the past, the new arrangement has combined the production nodes with limited capacity in Brindisi, Foggia and Priolo with neighbouring zones (the South and Sicily zones, respectively), as well as transferring the Gissi node from the South to the Central-South zone. This change was made in accordance with the European CACM Regulation, which all the regulatory authorities and TSOs of European Union member states must comply with. In particular, the changes made are aimed at ensuring safe operation of the transmission system, as well as boosting the efficiency and cost-effectiveness of the electricity market. In Resolution 386/2018/R/eel, ARERA has approved Terna's proposed revision of the zonal configuration following the review process carried out in 2018 pursuant to the European CACM Regulation and ARERA Resolution 22/18/R/eel.

TERRE project

The TERRE (Trans-European Replacement Reserve Exchange) project began in 2013 as an early implementation of the Electricity Balancing Guideline (EB GL) regarding the design, development, implementation and management of a platform to share balancing resources among European countries.
The project involves 11 countries of which nine are full members (France, the UK, Switzerland, the Czech Republic, Poland, Spain, Portugal, Romania and Italy) and two are observers (Bulgaria and Hungary).
The platform that will manage the TERRE process, called Libra, will enable the sharing of Replacement Reserves (RR) among participating countries which, in the current Italian dispatching market, corresponds to the share of the tertiary reserve that can be activated in more than 15 minutes.
Access to Libra is only granted to TSOs, which will be responsible for collecting offers from their respective local operators and then submitting them to the platform, together with the capacity available among the market zones and the TSO's own RR needs. The introduction of Libra will contribute to the creation of a single European balancing market, thereby increasing the security of the electricity system in terms of the availability of reserves that may be activated.

UVAC/UVAM

Following the approval by ARERA of Resolution 300/2017/R/eel, in 2017, two pilot projects regarding UVAC (Aggregate Virtual Consumption Units) and UVAP (Aggregate Virtual Production Units) were launched in order to diversify the type of enabled resources for the Dispatching Services Market (DSM), in line with the principle of technological neutrality, and to increase the amount of resources available to ensure greater reliability and security of supply.
On 1 November 2018, the two projects were merged into a new pilot project relating to UVAM (Aggregate Virtual Mixed Units) which enables aggregate participation in the DSM, not only regarding electricity demand and distributed generation, but also storage systems (including charging stations for e-mobility).
The dispatching services for which the authorisation of UVAMs may be requested, both upstream and downstream, are: congestion resolution, the "rotating" tertiary reserve, the "replacement" tertiary reserve and balancing.





KEY EVENTS IN 2018 *(continued)*

Black start simulations	Black start simulations are needed to check that the electricity system is working properly and to improve its efficiency by ensuring a rapid reboot of the system in the event of a blackout. In 2018, four blackouts were successfully simulated, followed by the related black starts. The simulations involved all of Terna's regional areas; two were carried out in the North-west Area (including one in Sardinia), one in the North-east Area and one in the Central-South Area.
Dynamic Rating	With a view to ensuring ever greater flexibility in the management of our assets, in line with the activities carried out in 2017, the National Dispatching department and the North-west and Central-South Offices studied new Dynamic Thermal Rating (DTR) applications in 2018. By exploiting the cool conditions of the lines concerned, above all during the winter when loads are highest, the DTR is able to increase load capacity so as to meet demand in the short term. The increase in capacity also has the advantage of supporting increased production from renewables plants. Therefore, as with other DTR applications already in service, a system for recording weather and temperature conditions has been installed.

Regulated revenue

Regulated revenue in Italy of €1,989.6 million represents approximately 86% of Terna's total revenue. It is determined on the basis of ARERA resolutions establishing the structure and criteria to be used. Each year, the regulator revises the criteria, if necessary.

THE THREE MAIN TYPES OF ALLOWED COST

Determined on the basis of the Regulated Asset Base (RAB) and the Weighted Average Cost of Capital (WACC). The RAB represents net invested capital for regulatory purposes. It is revalued annually on the basis of data from ISTAT (Italy's Office of National Statistics) on the change in the deflator applied to gross fixed investment and revised on the basis of the performance of investment and disposals. The WACC represents the weighted average cost of equity and debt. The methods of determining and revising the WACC are established by the regulator.	To cover the return on capital (RAB)
Allowed depreciation (calculated on the basis of an asset's useful life for regulatory purposes) is revalued annually based on the change in the deflator applied to gross fixed investment.	To cover depreciation
Allowed costs are determined by the regulator at the beginning of the regulatory period, based on operating costs recognised during the relevant year (which, in the case of the first regulatory sub-period 2016-2019 - NPR1 - was 2014) and increased by any remaining portions of additional efficiencies achieved in the previous two regulatory periods. The resulting amount is revalued annually on the basis of inflation and reduced by an efficiency factor designed to ensure that additional efficiencies are, over time, passed back to end users in full.	To cover operating costs

For further details regarding the main types of costs recognised and the fees for transmission and dispatching services, reference should be made to the "Annual Report 2018".

In 2018, the Ministry for Economic Development paid Terna €47,053,291 as an advance on grants for projects financed from the National Operational Programme (*Programma Operativo Nazionale* or PON). A further €14,499,449.49 was received from the Sicily Regional Authority, again as advances on grants for projects financed from the Regional Operational Programme (*Programma Operativo Regionale* or POR). Terna has also received government grants of €4,627,096 to fund required modifications to its infrastructure.

< 201-4

GOVERNMENT GRANTS	2018	2017	2016
Grants related to assets received from the Public Sector (*)	19,126,545	6,699,644	134,139
MED-funded projects (*)	47,053,291	11,311,452	9,564,389.65
EU-funded projects (*)	0	76,996,616	33,000,000

(*) These grants are deducted directly from the carrying amount of the related assets.

Pass-through items

As part of its dispatching operations, Terna manages the cost and revenue items relating to the purchase and sale of energy from and to operators in the electricity market. These are the so-called "pass-through" items that do not affect the Terna Group's profitability, as the revenues equal the costs.
In 2018, the Terna Group's pass-through revenues and expenses amounted to a total of €5.171.8 million. For further details, reference should be made to the "Annual Report 2018".

Incentive mechanisms

Terna monitors continuity of the service provided through a range of indicators, as defined by ARERA (Resolution 250/04) and in Terna's Grid Code. These continuity indicators are important to the system, as they record the frequency and impact of events on the electricity network and linked to faults or external factors, such as weather events. All of the indicators are shown over a four-year period, in which there were no significant changes, providing confirmation of the high level of quality achieved (see also page 114).
The principal continuity indicators are Regulated Energy Not Supplied (RENS) and Average Service Availability (ASA).

Other activities in Italy

The Terna Group pursues business opportunities that go beyond its Regulated Activities. Exploitation of these opportunities depends on establishing relations with a specific category of stakeholder: the customers of Non-regulated Activities who are the source of the Group's revenue diversification.
These Italian activities regard services for external customers, private interconnector projects with other countries and transformers.

SERVICES FOR THIRD PARTIES

During 2018, Terna continued to provide its services to external customers in the areas of **Energy Solutions** (the development of technical solutions and the supply of innovative services), **Telecommunications** (IRU - Indefeasible Right of Use, the housing of telecommunications equipment and maintenance services for fibre networks) and **O&M** (operation and maintenance of high-voltage and very high-voltage infrastructure).
As regards Engineering services, Terna obtained several **EPC** (Engineering, Procurement and Construction) contracts: this model involves the design, development and implementation of solutions to meet the growing demand for infrastructure and grid connections.

Energy Solutions

Key events during 2018 include:

- The inauguration in October, of the first heat recovery plant belonging to Laterlite (a leading company in the production of light, premixed and insulating expanded clay for the construction industry), which was designed and built in collaboration with Avvenia at the Rubbiano di Solignano plant (Parma). This innovative energy efficiency project, aimed at improving environmental sustainability, will enable optimisation of the qualitative and environmental performance of the production of light expanded clay aggregate (LECA), allowing up to 83% of heat to be reused in the production cycle, with a reduction in the consumption of natural gas and a corresponding reduction in atmospheric emissions of approximately 1,400 tonnes of CO_2 per year.
- "Smart Island" is the innovative solution devised by Terna for providing power to small islands not connected to the national transmission grid. Through "Smart Island", Terna has made the energy transition from a diesel production system (generators) to a decarbonised one by integrating renewable energy sources, using energy storage systems, boosting energy efficiency, the use of electric vehicles and the adoption of other hi-tech solutions to manage active demand. This enables islands to progressively and sustainably move towards energy independence. In 2018, the "Smart Island" solution was rolled out for the first time on the island of Giannutri (Grosseto). At the Ecomondo Expo, the leading event organised to promote the green and circular economy in Europe and the Mediterranean area, the project was named "Good Practice of the Year 2018 - Environmental Protection".

Telecommunications

Key activities during 2018 include:

- **IRU fibre optic project**:
  - This project involves Terna's concession of an IRU (Indefeasible Right of Use) to the customer, Open Fiber, for a minimum volume of 21,000 km in the period 2017-2024 and the provisions of ancillary services, namely Housing and Maintenance. The backbones connecting the 13 national PoPs has been delivered, whilst the 41 regional rings that will connect the regional PoPs (cluster A&B) have been designed and in part delivered. With respect to the terms of the contract, envisaging that Open Fiber would purchase a minimum of 2,500 km of fibre in 2018, a total of 5,200 km of regional rings have been delivered to the customer. The most significant portion of the fibre optic regional ring requirements have been met by using Terna's overhead power lines, which were also set up during the year, and through the selected acquisition of fibre optic sections from third parties (swap transactions with RETELIT and FASTWEBF).
  - For Fastweb: long-distance fibre-optic infrastructure was designed and made available to Fastweb along 760 km of Terna's overhead lines.
  - For Retelit: long-distance fibre-optic infrastructure was designed and made available to Retelit along 1,150 km of Terna's overhead lines.
- **Rai Way tender:** Terna was awarded Lot 2 of the dual carrier tender.
- **Smart Tower Innovation project:** implementation of the experimental project to extract value from high voltage pylons by using them for environmental monitoring (smart towers) was completed with installation of the first seven smart tower pylons in Sicily and the acquisition of computer systems that were set up at two substations. Another smart tower has been set up in the province of Belluno to meet the needs of the electricity system, while completion of the four remaining installations in Sicily including the activation of computer systems, as well as the installation of a smart tower in Abruzzo to meet the needs of the electricity system, are expected at the beginning of 2019.
- **Extracting value from pylons by installing antennae:** in 2018, preparations began for the testing of new business models designed to extract value from pylons by using them to support mobile network operators. In particular, negotiations were concluded regarding the installation of antennas on Terna pylons to cover remote areas (a contract with Open Fiber for up to a maximum of 500 pylons in the three-year period 2019-2021). Negotiations with TIM and Fastweb regarding mobile radio solutions have also begun (the trialling of 5G solutions). The related contracts are being finalised, in preparation for the conclusion of broader framework agreements.

Plant operation for third parties (O&M)

Key O&M activities during 2018 include:

- Non-regulated Activities Control Centre: implementation of a platform that gathers and processes data deriving from the assets managed by Terna in the Energy Solutions segment, which optimises their performance and maintenance processes. The software development and supply contract was finalised in September 2018. The system has been configured, in collaboration with the ICT department, in compliance with the defined technical and functional specifications. The software is running in parallel with the current photovoltaic management system.
- Renegotiated plant maintenance contracts with RTR were signed in October.
- Contracts are being drawn up with Eolica Cancellara regarding the O&M service for the final Cancellara wind farm substation.

EPC (Engineering, Procurement, Construction)

Key EPC activities during 2018 include:

- A subcontract agreement was signed with Macchiareddu Energy regarding the design and "turnkey" construction of the HV/MV substation and the connection line to the future substation and the National Transmission Grid of the "Cilea" and "Tosti" photovoltaic plants located in the municipality of Civita Castellana (VT).
- The HV/MV substation for the final connection of a 42 MW wind farm to the National Transmission Grid for Eolica Cancellara S.r.l., and the HV/MV substation for connection of a 27 MW wind farm to the National Transmission Grid for AM Renewable Energy, have been energised.

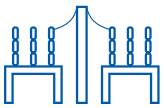




PRIVATE INTERCONNECTORS

Since 2009, with Law 99/2009 ("Provisions for the Development and Internationalisation of Enterprises and Energy"), Italy has implemented the EU requirement to give undertakings other than grid operators the possibility of creating interconnections with other countries, with the aim of promoting the development of a single electricity market. A total of five interconnectors are currently planned for the borders with France, Montenegro (both nearing completion), Austria, Switzerland and Slovenia (currently awaiting the necessary consents). Details of the state of progress are provided on page 131.

TRANSFORMERS (TAMINI)



FIRST TRANSFORMER USING VEGETABLE OIL TO BE MANUFACTURED IN ITALY

Tamini Trasformatori S.r.l. operates in the electromechanical sector and is a leader in the design, production, commercialisation and repair of power transformers for electricity transmission and distribution grids, of industrial transformers for the steel and metals industry and of special transformers for convertors used in electrochemical and electrolytic production. In 2018, Tamini acquired transformer orders amounting to approximately €123 million, up 12% on 2017, in line with expectations. As regards "sustainable" transformers using vegetable oil, two 250 MVA transformers were installed during the year. Finally, Tamini was awarded a contract to manufacture a 400 MVA transformer using vegetable oil. For further information see the section "Focus on the Tamini Group" on page 194.

ACQUISITIONS

In February 2018, Terna - via its subsidiary, Terna Plus - completed the acquisition of 70% of a New. Co. to which Avvenia's principal assets are to be transferred. Avvenia, a strategic consulting company classified as an Energy Service Company (ESCo) and certified UNI CEI 11352, is a leader in the energy efficiency sector, with one of the highest numbers of efficiency projects completed and operated in Italy, including in the form of EPC (Energy Performance Contract) solutions.

International activities

In line with the guidelines in the Strategic Plan, and also in collaboration with energy operators that have an established overseas presence, the Terna Group takes advantage of opportunities for international expansion by leveraging its core competencies developed in Italy as a TSO. These opportunities are sought in countries with a stable political and regulatory framework that need to build electricity infrastructure.

Terna has set itself three strategic priorities with regard to its International Activities:

- **Europe:** to strengthen its presence (assessing and monitoring M&A opportunities and developing merchant interconnector projects);
- **Latin America:** To complete ongoing projects in Brazil, Uruguay and Peru and consolidate its position in the countries of interest;
- **To give priority to "capital-light"** services developed to take advantage of the technical expertise Terna has acquired in Italy.

Overseas initiatives of interest to the Terna Group are:

- **Concessions:** this model envisages the acquisition and operation of transmission systems abroad by taking part in international concession and/or secondary market awards, leveraging the core competencies and experience developed in the international arena;
- **Technical assistance:** this involves the provision of consulting and technical assistance services regarding a TSO's core activities, as well as the definition and implementation of regulatory and market frameworks in the local energy context, with a view to exporting and taking advantage of the distinctive expertise acquired in Italy;
- **Energy Solutions:** this includes all high value-added non-traditional activities aimed at exporting the experience Terna has in Italy in the fields of Energy Storage and Smart Solutions;
- **EPC Management:** Engineering, Procurement, Construction Management (EPCM) activities enable leveraging of infrastructure management expertise and implementation of projects overseas.

ACTIVITIES IN 2018

Chile

The project to connect a 90 MW photovoltaic plant to the electricity grid was completed with the delivery of the additional works in February 2018, in line with expectations.

Uruguay

During 2018, work continued on the construction of the 213 km Melo-Tacuarembò 500 kV transmission line.

The engineering activities were completed and load testing of all types of pylons was successfully completed. The process of receiving and obtaining customs clearance for materials, with a special focus on pylon structures, is still in progress.

As regards construction, civil works are underway on the Melo-Tacuarembó line. At the end of the year more than 60% of the foundations had been completed, and assembly of the pylons began during the second half of the year.

In October 2018, the status of *Proyecto de Inversion* (Investment Project) was obtained, in order to qualify for the related tax benefits.

Over 50% of the works have been carried out, with completion expected by the end of 2019.

ACTIVITIES IN 2018 (continued)

 Brazil	Construction of the lines and substations for the two concessions, Santa Maria Transmissora de Energia (SMTE) in the State of Rio Grande do Sul and Santa Lucia Transmissora de Energia (SLTE) in the State of Mato Grosso, continued in 2018. In October 2018, the concessions' entry into commercial service was formally authorised by ONS (Operador Nacional Do Sistema Eletrico - the Brazilian regulator), and operation and maintenance activities regarding the concessions are in progress. 80% of the 158 km line was built using single-pole cable-stayed pylons with a low environmental impact. In February 2019, two months ahead of schedule, the line was inaugurated by the CEO of Terna, Luigi Ferraris, at a corporate event attended, among others, by Italy's ambassador to Brazil and representatives from leading Brazilian energy sector organisations.
 Perù	Work began in 2017 on construction of 132 km of new 138 kV lines between Aguaytìa and Pucallpa and continued in 2018. The structural engineering works begun in 2017 were completed in 2018 and the environmental certification process has been launched. This is expected to be completed by the end of the first quarter of 2019. As far as permits and consents are concerned, the final socio-environmental public hearing with the local population was successfully held, and the documentation relating to the environmental impact study for the authority responsible for issuing the environmental certification (Senace) was completed. In terms of the acquisition of easements, all the land forming part of the line's buffer zone has been surveyed and recorded, and the process of acquiring easements and land along the route has begun (see page 87). Procurement of transmission line materials has also begun. The project is expected to be completed by the end of 2020.

Revenue from other Italian and international activities

In 2018, the other activities carried out by the Group generated revenue of €194.9 million from Non-regulated Activities (including €103.4 million generated by the Tamini Group) and €12.5 million from International Activities (directly including the margin earned on overseas concessions), which primarily reflect investment in assets operated under concession in Brazil.

Strategic Plan 2019-2023

On 21 March 2019, Terna approved the Strategic Plan for the five-year period 2019-2023, which sets out this mission: "to play a leading role in the sustainable energy transition, by leveraging our distinctive innovation capabilities, competencies and technologies for the benefit of all stakeholders".

The electricity sector is rapidly evolving as a result of the radical transition underway, which aims to achieve challenging objectives linked to sustainability, competitiveness and security. In particular, the expected increase in global electricity consumption, in a context of progressive decarbonisation, will see strong development of renewables, resulting in measures designed to integrate them within the electricity system. The pursuit of energy security by strengthening interconnections, the development of power grid resilience and, finally, greater competitiveness in the market, will be the determining factors in the management of complex trading relations between TSOs and other parties operating within the system.
In this context, Terna has redesigned the strategy set out in the 2018-2022 Plan by further stepping up infrastructure investment to meet the new requirements of the electricity system, as part of an integrated approach based on sustainability values, community engagement, skills development and the promotion of innovation.

Consequently, the strategic guidelines for the various areas of the Group have been strengthened:

- **Regulated Activities in Italy:** to give top priority to all the activities that enable Italy to tackle its energy challenges in a safe, efficient and sustainable way by leveraging the specific characteristics of local areas;
- **Non-regulated Activities:** to launch new services to support the energy transition, taking advantage of opportunities beyond our core activities, to be pursued in line with Terna's mission, and if distinctive and/or of high added value;
- **International Activities:** to leverage the core competencies developed in Italy as a TSO through growth opportunities overseas.

Strategy

TO PLAY A LEADING ROLE IN THE COMING SUSTAINABLE ENERGY TRANSITION, BY LEVERAGING OUR DISTINCTIVE INNOVATION CAPABILITIES, COMPETENCIES AND TECHNOLOGIES FOR THE BENEFIT OF ALL STAKEHOLDERS

Pillars

Stronger core business in italy	New services to support the transition	Overseas use of core competencies

Enablers

Digital transformation and innovation leadership

Insourcing of key competencies and flexibility in operations

A key driver of this strategy will be investment in the innovation and digital solutions needed to facilitate proactive management of the system. Attention will also be paid to the development and insourcing of the strategic skills required to cope with projects of growing size and complexity.

The guidelines identified for the Group's various strategic business areas have been divided into appropriate priority actions to be carried out over the life of the Plan.

With reference to **Regulated Activities in Italy**, the system needs a new investment drive to respond to developing needs, with a focus on maximising long-term use and sustainability. The role of proactive system operator in defining the grid's structure and in digitally managing assets should also be strengthened by combining Terna's specialist expertise with the experience gained in the most advanced markets.

Non-regulated Activities will be geared towards supporting the energy transition, especially as an energy solutions provider, involving the development of a portfolio of solutions for companies in the energy efficiency and grid infrastructure sectors, and taking advantage of value added market opportunities for traditional and renewable energy customers.

The connectivity business will continue to be aimed at pursuing opportunities based on leveraging the Group's infrastructure assets.

International Activities will focus on the execution of projects in progress and the management of projects in operation, taking advantage of the Group's specialist expertise by leveraging the new organisational structure. Among the priority actions, the main focus will be on selecting international growth opportunities with a high technological content (a key aspect for Terna) and involving potential agreements/partnerships, including the management of assets without the need to tie up large amounts of capital.

Maintenance of a strong capital structure through robust cash generation will also help to support an attractive dividend policy.

	Plan 2019-2023	Plan 2018-2022
Net capex	~€6.2bn	~€5.3bn
RAB (end of Plan)	~€18.5bn	~€17.5bn
CAGR RAB*	> 4%	> 3%
EBITDA	> €400m	~€350m
Capex	> €300m	~€300m
EBITDA**	€150m	~€150m
Capex**	~€700m	~€600m
CAGR EBITDA	> 4%	> 3%
CAGR EPS	> 3%	~3%

Regulated Italy

Non-regulated

International

Digital transformation and innovation

Efficiency and value creation

(*) Calendar RAB, including work in progress.
(**) Includes financial income on Uruguay project.
(***) Investment already included in Development Plan for Regulated Activities in Italy.

Main economic impacts

> 201-1

Value added[10]

Value added measures the value created by an enterprise, but also by an entire economy, over a certain period, usually a year. In corporate accounting terms, value added is calculated by subtracting the costs of purchasing the intermediate goods and services used in operations from the value of production (revenue attributable to the goods and services produced during the year). These costs do not include personnel expenses, which instead form part of the value added by the enterprise to the intermediate goods and services as a result of its operations. The difference between revenue generated by the sale of the final product and the cost of the raw materials (and the related support services) is the value added, which, in addition to personnel expenses, also includes any profit and the share of income used to pay the interest on any debt and income taxes.

MEASUREMENT AND REDISTRIBUTION OF VALUE ADDED (*)

	UNIT	2018	2017	2016	CHANGE 18-17	% CHANGE 18-17
A - Remuneration of employees	€	313,038,619	322,058,429	327,152,165	-9,019,810	-3
B - Payments to the government	€	302,842,820	301,533,096	320,643,092	1,309,724	0
C - Payments to credit providers	€	104,044,756	97,746,883	105,508,004	6,297,873	6
D - Payments to providers of risk capital (**)	€	468,730,134	442,198,240	414,058,352	26,531,894	6
E - Retained by the Company	€	242,888,183	252,011,601	213,870,808	-9,123,418	-4
TOTAL NET VALUE ADDED	€	**1,431,544,513**	**1,415,548,249**	**1,381,232,421**	**15,996,264**	**1**

(*) Amounts relating to the creation and distribution of value added have been taken from the consolidated financial statements prepared in accordance with IFRS/IAS. In particular, the Terna Group has used IFRS/IAS since 2005.

(**) Payments to capital providers in 2018 regard the interim dividend paid in November 2018 (€158.2 million) and the final dividend that the Board of Directors decided on 21 March 2019 to propose to shareholders at the Annual General Meeting (€310.5 million).

[10] This section, including the table, shows the values regarding Terna Crna Gora and the Tamini Group.

Taxes paid overseas

With regard to taxes paid overseas by the Group's subsidiaries in 2018, the following should be noted:

- **Terna:** with reference to the activities relating to the Italy-Greece interconnector[11], income taxes totalling €2,775,999 paid in Greece.
- **Terna Crna Gora:** during the year, the company paid property taxes totalling €29,675 (of which €26,201 in the municipality of Kotor relating to plots of land owned, and the remainder in the municipality of Podgorica in relation to the company's headquarters).
- **Gruppo Tamini:** €10,389 was paid, primarily including taxes on services and withholding tax.
- **Terna Chile:** the Group's Chilean subsidiary paid municipal tax of 6,254,430 Chilean pesos.
- **Difebal S.A.:** the company paid 13,542,056 Uruguayan pesos, primarily in the form of value added tax of 8,780,713 Uruguayan pesos and income tax on non-residents of 4,127,360 Uruguayan pesos.
- **Terna Perù** pais value added tax of US$796,116 and income tax on non-residents of US$26,314.
- **Brazil:** the Brazilian subsidiaries, Santa Maria Transmissora de Energia (SMTE), in the state of Rio Grande do Sul, and Santa Lucia Transmissora de Energia (SLTE), in the state of Mato Grosso, paid total income tax of 1,010,660 Brazilian reals in 2018, in addition to financial transaction tax totalling 415,934 Brazilian reals.

Procurement

As well as providing a service of general importance, Terna's activities help to generate downstream supply chain activity, creating significant economic value and social benefits.

In 2018, total expenditure on the procurement of services, supplies and works amounted to over €1,183[12] million, spread across 2,148 suppliers contracted during the year. In terms of a breakdown of procurement by origin, 93% of the Group's suppliers are Italian and the remaining 7% are overseas.

[11] Terna's presence in Greece consists of a series of plants and infrastructure assets that provide the DC interconnection between the Italian and Greek electricity systems (the section of submarine cable in Greek territorial waters, as well as the terrestrial connection from the terminal for the Greek cable to the Arachtos substation, which is also owned by Terna). As there is a production facility in Greece, a permanent company (or branch) has been established in that country.

[12] The figure refers to the amount ordered during the year. This means the sum of the amounts allocated for all contracts (works, supplies and services) signed during the year.

Economic impact on the community

By developing the electricity network, Terna provides a strategic service that contributes towards Italy's economic growth.

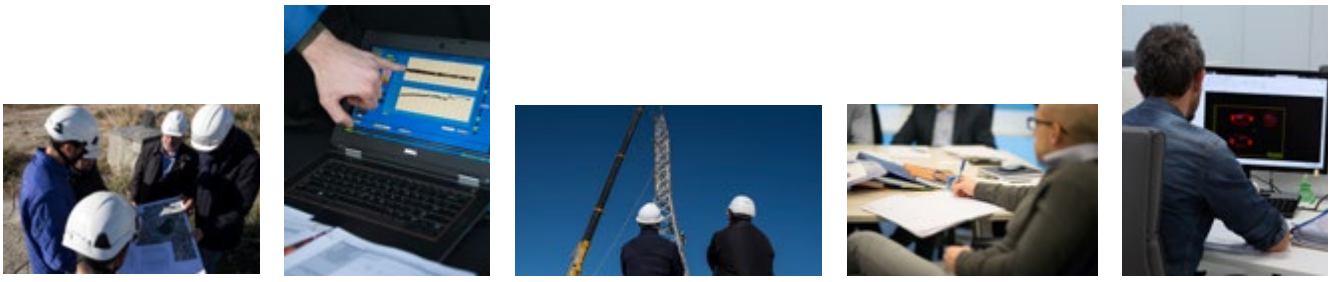
The development of interconnections between grids in neighbouring countries facilitates the importation of electricity at competitive prices compared with domestic production, enables additional power reserves, and ensures greater energy market competition. Reducing grid congestion improves the exploitation of power generation resources to meet demand and enables the use of more competitive plants, with positive impacts on competition in the power generation segment and on final prices.

In accordance with the legislative and regulatory framework, all Terna's grid development investments are assessed from a technical and economic point of view by comparing the estimated cost of implementing a project with the related benefits in order to maximise the cost/benefit ratio. As a result, every euro invested by Terna generates, on average, multiple savings for grid uses, as ultimately reflected in the bills paid by the end customer. It is therefore significant that 2018 saw strong growth in Terna's capital expenditure, most of which was earmarked for grid development.

The Terna Group's total investment in 2018 amounted to €1,091.1 million, compared with €1,033.9 million in the previous year (up 5.5%), and was ahead of target. Investment incentives amount to €99.5 million.

INVESTMENTS - TERNA GROUP

(€M)	2018	2017	2016
Total investment	1,091.1	1,033.9	854.3

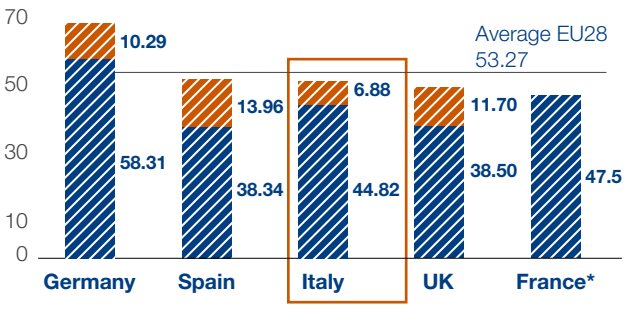


Transmission costs in end users' bills

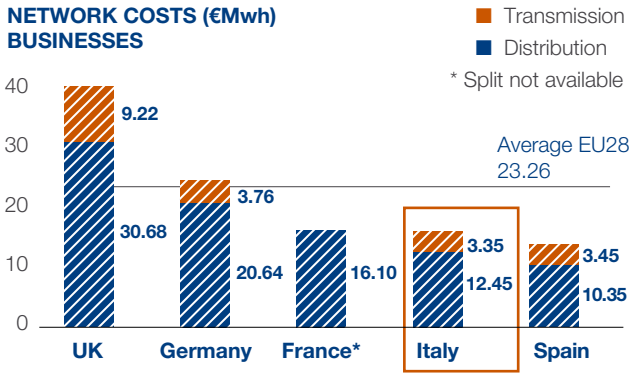
On the basis of data published by ARERA, the estimated portion of a typical electricity bill for domestic use covering the cost of the transmission service[13] is approximately 3.3%[14].

A survey conducted by the European Commission, based on data for 2015[15] shows that, in both the household and industrial segments, the so-called "network costs"[16] incurred by Italian consumers are below the European average. In particular, regarding the transmission segment only, Italian costs are lower than those in some of the most representative countries from the sample analysed, as shown in the graphs below.

NETWORK COSTS (€Mwh)
HOUSEHOLDS



NETWORK COSTS (€Mwh)
BUSINESSES



[13] Household with 3 kW of subscribed demand and annual consumption of 2,700 kWh.

[14] Terna processing of ARERA data, regarding the first quarter of 2018.

[15] Eurostat and European Commission data for 2015, "Energy prices and costs in Europe" http://ec.europa.eu/energy/sites/ener/files/documents/com_2016_769.en_.pdf

[16] "Network costs" include transmission and distribution costs, losses, metering and system costs.

This section, which opens with a description of the sustainability topics most relevant to Terna's business, focuses on the management policies and systems behind the Company's approach to responsibly managing its activities and on the recognition achieved as a result of its performances, such as, for example, our **inclusion in leading global sustainability indices**.
The areas covered include the opportunities and risks linked to climate change, the due diligence assessment conducted with regard to human rights, sustainability in the supply chain, stakeholder engagement, above all with the local communities affected by Terna's investment in infrastructure, and social responsibility initiatives in the community.

TERNA PLASTIC FREE AND **TERNA RECYCLING**: INITIATIVES PROMOTING SUSTAINABILITY IN DAILY LIVES

TERNA IS THE WORLD'S ELECTRIC UTILITIES **INDUSTRY LEADER** IN THE **DOW JONES SUSTAINABILITY INDEX**

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MEETINGS WITH LOCAL AUTHORITIES

17
MEETINGS WITH THE PUBLIC

3. Responsible business management

Terna's sustainability topics

For Terna, sustainability is a strategic lever and growth factor, contributing to the achievement of its business objectives.

In line with the Group's agenda, the most significant themes in this regard are:

- Terna's role as an enabler of the transition to a decarbonised economy, based on the integration of renewable sources and, more generally, on environmental sustainability through innovation and green investment;
- the central importance of people and their skills, which are often rare or unique in the electricity sector;
- attention to local areas and their stakeholders;
- business integrity;
- innovation.

The strategies and objectives relating to these themes converge in the Group's main action plans, starting with the Strategic Plan (see page 50), which is driven by sustainability targets and KPIs, and the Innovation Plan (see page 139). These plans are highly interconnected.

Terna's sustainability policies and management systems refer to the Code of Ethics[17], which has been adopted by all Group companies.

In 2009, Terna joined the Global Compact, the multi-stakeholder network promoted by the United Nations to foster compliance with ten principles relating to human rights, labour, the environment and the fight against corruption.

Terna at the Private Sector Forum in New York

For the second consecutive year, Terna's CEO, Luigi Ferraris, took part in the Private Sector Forum, the annual Global Compact event held at the United Nations General Assembly in New York. The meeting, which was part of the agenda of the 73rd General Assembly of the United Nations, was attended by the CEOs of large companies, investors, heads of state and government, United Nations representatives and civil society. In line with the commitments in the 2030 Agenda, the Global Compact invited 300 leaders from around the world to discuss the theme of "Building and Investing in Peace for All" as an essential element for sustainable development and respect for human rights.

In line with this commitment, Terna took up the challenge posed by the UN's 2030 Agenda, as set out in the 17 SDGs. This has meant incorporating a series of objectives into its strategic planning, involving the achievement of a decarbonised economy through energy transition based on the integration of renewables, and the strengthening of transmission capacity, interconnections with other countries and infrastructure resilience.

[17] The Code of Ethics is published on Terna's website under Corporate governance, in the "Investor Relations" and "Sustainability" sections.

Terna, ANBI and Coldiretti: circular economy agreement

In December 2017, Terna, ANBI (the National Association of Consortia engaged in the Protection of Italy's Landscape and Irrigation Water) and Coldiretti signed a memorandum of understanding aimed at creating initiatives of common interest regarding the optimal management of irrigation resources, energy efficiency and nature conservancy.

This partnership envisages a concrete circular economy model based on multipurpose use of water (potable water, irrigation and energy reservoirs) that combines the priority needs of agricultural enterprises with environmental sustainability, through a process of upgrading existing reservoirs that ensures increasingly efficient use of water resources.

Coldiretti, in line with its mission to develop more efficient uses of natural resources, combat the effects of climate change and develop multiple uses of water, is committed to verifying that all actions undertaken comply with the principles of environmental sustainability, whilst protecting Italy's rural heritage and the biodiversity that characterises the country's agriculture. Studies looking into both the energy efficiency of land reclamation authorities and the multipurpose use of water continued in 2018 (and are still in progress).

At Terna, sustainability issues are also addressed in terms of internal awareness, by promoting the adoption of responsible behaviour in everyday work activities. Examples of such an approach are the "Terna Plastic Free" and "Terna Recycling" projects, described below.

Terna's everyday sustainability culture: launch of the "Terna Plastic Free" and "Terna Recycling" projects

In December 2018, "Terna Plastic Free", the initiative that eliminates single-use plastic from offices, was launched. At its headquarters, the starting point for the project, Terna is reducing the use of 125,000 water bottles and 125,000 plastic cups, equal to 4 tonnes of waste per year and approximately 13,500 kg CO_2 that would otherwise be released into the atmosphere.

In the canteen, the bar and vending machines, plastic water bottles have been replaced by hot and cold, natural and mineral water dispensers. Disposable plastic cups have also been replaced by around 700 stainless steel thermal flasks, which have been distributed by the Company and personalised by engraving employees' initials on the cap.

This project aims to foster the growth of a sustainability culture, partly thanks to the active commitment of individual staff members in their everyday working lives. By adopting sustainable behaviours, staff become protagonists in a process of change that includes separate waste collection.

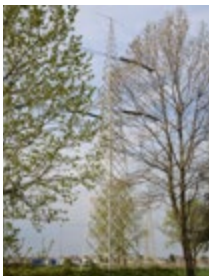
The "Terna Recycling" project, which aims to introduce/implement separate waste collection schemes for the solid urban waste produced by Terna's offices, was launched, again in pilot form, alongside the "Terna Plastic Free" initiative.

Separate waste bins at each workstation have been replaced by a single bin located inside the offices. The project also includes installation of special collection points on all floors of the building for waste plastic and waste paper, as well as organic and unsorted waste.

Both projects will be extended to all the other Italian offices from 2019.







Sustainability governance

Terna's sustainability themes and policies are managed in accordance with a well-organised governance system that includes:

Audit, Risk, Corporate Governance and Sustainability Committee	This Committee is composed of independent members of the Board of Directors tasked to support the Board in assessing and making decisions on the Internal Audit and Risk Management System (IARMS). Since January 2016, the Committee's tasks have also included sustainability themes such as policies, objectives, the Sustainability Report (which, from the 2017 reporting year, coincides with the Non-Financial Statement), and the monitoring of sustainability indicators.
"Sustainability" department	This department, which is part of the External Relations and Sustainability department, in collaboration with all the departments concerned, helps to define and disseminate the Group's sustainability objectives in ethical, social, environmental and governance areas. Preparation of the Sustainability Report is also assisted by the SDM (Sustainability Data Manager), a dedicated non-financial data management software application. With regard to the prevention of reputational risk, the department monitors the risks relating to sustainability themes through analysis by the leading rating agencies (for example, RobecoSAM, Vigeo, Eiris), which periodically assess the Group's ESG performance. In 2018, Terna's presence was confirmed in all the leading international sustainability indices (details provided on page 63).
Integrated Management System	The Integrated Management System is the tool which - via certified management systems regarding quality, environment, occupational health and safety, energy management and combating corruption - optimises coordination of all the departments responsible for governing business processes. It is also an important risk management tool because it highlights potential risks in the areas under observation and identifies appropriate mitigation measures. The Integrated Management System covers all the Italian and international activities of Terna S.p.A., and its subsidiaries, Terna Plus S.r.l., Terna Rete Italia S.p.A. and Terna Crna Gora d.o.o. (see the table on page 61). It does not include Tamini Group companies, which have their own quality, environmental and safety certifications. In June 2018, the appointed certification body carried out checks for the transition from the current version of ISO 14001:2004 to the new ISO14001:2015. In the second half of 2018, Terna Energy Solutions S.r.l. - a new Group company - was certified for Quality (ISO 9001:2015), Energy (ISO 50001:2011) and Anti-Corruption (ISO 37001:2016) Management Systems. In 2019, Terna Energy Solutions will also be certified for the ISO 14001:2015 Environmental Management System and the BS OHSAS 18001:2007 Safety Management System. In July 2018, Terna was the first company in Italy to obtain ISO 55001 certification for its Asset Management System, which defines the requirements for optimal management of tangible assets.

Terna the first Italian company to be ISO 55001 certified (Asset Management)

Terna is the first company in Italy, with regard to the management of tangible assets, to voluntarily comply with ISO 55001:2014, Asset management - Management systems - Requirements, an international reference standard for infrastructure management.

Asset Management is an organisational tool based on objective criteria to manage and optimally maintain a company's tangible assets throughout their entire life cycle, with a constant focus on cost control and reducing business risk. Improvement of the management system leads to a reduction in the environmental, economic and social risks involved and, at the same time, to an improvement in overall performance, thereby optimising costs and increasing the real added value of the assets.

The assets subject to certification consist of high voltage power lines and substations distributed throughout Italy.

Following the publication of the new ISO 45001:2018 standard regarding occupational health and safety, the Terna Group is bringing its processes into line with the standard's requirements in order to obtain certification by 2021.

TERNA GROUP CERTIFICATIONS AND ACCREDITATIONS

TYPE	SCOPE	YEAR OF 1ST ISSUE	YEAR OF RELEASE	YEAR OF EXPIRY
ISO 9001:2015	Terna Group (*) (**)	2001	2016	2019
ISO 14001:2015	Terna Group (*)	2007	2018	2019
BS OHSAS 18001:2007	Terna Group (*)	2007	2016	2019
UNI CEI EN ISO 50001:2011	Terna Group (*) (**)	2015	2018	2021
ISO 55001:2015	Terna S.p.A., Terna Rete Italia S.p.A.	2018	2018	2021
ISO 9001:2015	Tamini Group	1993	2018	2021
ISO 14001:2015	Tamini Group plants at Legnano, Valdagno and Ospitaletto	2015	2018	2021
BS OHSAS 18001:2007	Tamini Group	2015	2018	2021
ISO 27001:2013	Terna S.p.A. only for Market Monitoring Code applications	2011	2018	2020
ISO/IEC 17025:2005	Terna Rete Italia for multi-site test laboratories in Viverone (BI), Civitavecchia (RM) and Frattamaggiore (NA)	2014	2017	2022
ISO/IEC 17025:2005	Terna Rete Italia for calibration laboratories in Florence, Turin and Cagliari	2017	2017	2021
ISO 37001:2016	Terna Group (*)	2017	2017	2020

(*) Applies to the companies Terna S.p.A., Terna Plus S.r.l. and Terna Rete Italia S.p.A..

(**) Also applied to Terna Energy Solutions S.r.l.

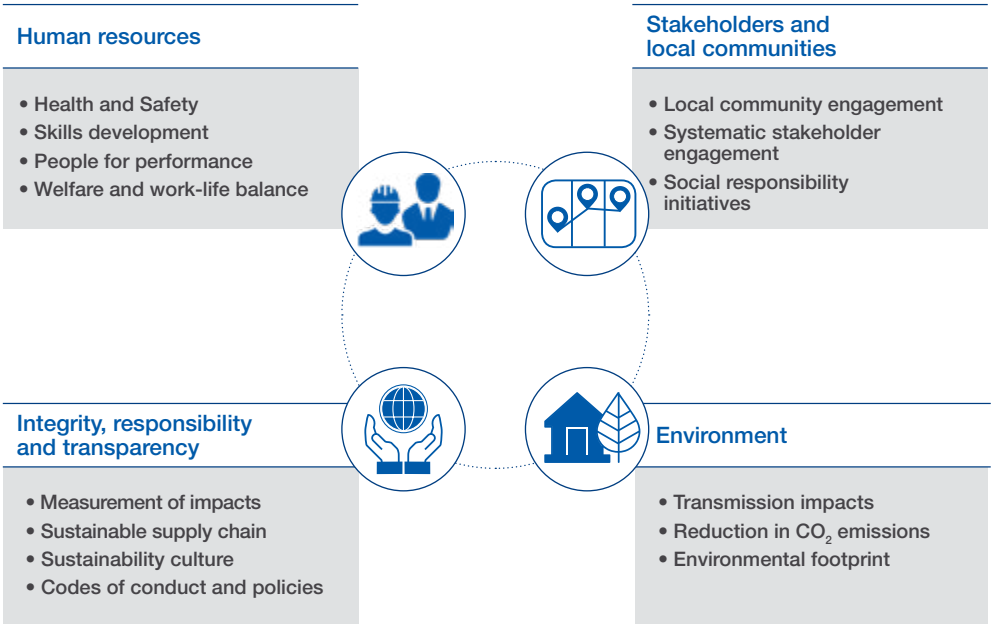
Terna Rete Italia has also implemented a "Management System for the Prevention of Major Accidents" in accordance with the provisions of Legislative Decree 105/15 (the "Seveso Directive").

Sustainability objectives and targets

During 2018, a document entitled "Sustainability initiatives and KPIs for the Strategic Plan 2019-2023" was drawn up. This consists of a structured set of activities aimed at achieving sustainability objectives. These objectives have been incorporated into the Strategic Plan 2019-2023 in order to guarantee business sustainability and the creation of value in the medium to long term. They help to define performance objectives in the Group's variable remuneration systems. The document is divided into four areas (human resources; stakeholders and local communities; integrity, responsibility and transparency; environment) which were identified last year[18]. They have been broken down into 14 objectives to which more than 120 activities spread across the entire timeframe of the Plan (2019-2023) refer.

The process of defining sustainability objectives took place in 2018 and was completed in March 2019. The various steps involved the departments concerned and - on several occasions - senior managers reporting to the Chief Executive Officer, the Audit, Risk, Corporate Governance and Sustainability Committee and Terna's Board of Directors.

SUSTAINABILITY OBJECTIVES IN THE STRATEGIC PLAN 2019-2023



The main objectives for the period 2019-2023 and for 2019 are set out in the sections on "Responsible business management" (page 58), "People" (page 144) and "Environment" (page 168), which also show the results achieved in 2018 compared with previous objectives. Finally, it should be noted that Terna's ranking in the sectoral classification drawn up by RobecoSAM for the Dow Jones Sustainability Index, which comprises a brief external assessment of the Group's sustainability performance, is a target included in the Long-Term Incentive (LTI) plan for the Chief Executive Officer and Group managers (see the "Remuneration Report").

[18] See the 2017 Sustainability Report, page 51.

Sustainability indices

Terna's commitment to improving its ESG (Environmental, Social and Governance) performance is reflected positively in the sustainability ratings assigned by specialist agencies, in the Company's inclusion in the leading stock exchange sustainability indices and in the appreciation shown by socially responsible investors.
Terna continued to be included in all the leading international stock exchange sustainability indices where it was already present, and in January 2019 the Company was included in the Bloomberg Gender Equality Index.

TERNA'S INCLUSION IN SUSTAINABILITY INDICES (AT 31 DECEMBER 2018)

An international index that measures companies' performance regarding gender equality issues and the quality and transparency of their public reporting. **Terna was included for the first time in January 2019.**	BLOOMBERG GENDER EQUALITY INDEX **www.bloomberg.com/women**
The DJSI indices select the companies with the best sustainability performances from among those with the highest capitalisation (the top 300 out of 2,500 companies around the world for the World Index) based on assessments carried out by the agency, RobecoSAM. **Terna has been included in the DJSI World Index since 2009.**	DOW JONES SUSTAINABILITY INDEX **www.robecosam.com**
This index was created by ECPI - an Italian agency founded in 1997 which specialises in ratings, sustainability indices and research to incorporate non-financial information into investment processes - based on its own analysis of European companies' sustainability performances. **Terna has been included since 2007.**	ECPI **www.ecpigroup.com/it**
The indices are calculated on the basis of ratings produced by Vigeo Eiris, which, as an initial population, include the approximately 10,000 ratings that are contained in the Russell Global Index. Inclusion is subject to the positive opinion of the Ethibel Forum, a panel of independent experts on the various aspects of sustainability. **Terna has been included in the ESI since 2009.**	ETHIBEL SUSTAINABILITY INDEX-ESI **(www.forumethibel.org)**
Developed by the Vigeo Eiris rating agency, these indices are based on a population of companies listed in North American, Asian and European markets and included in the STOXX® 1800 list. Vigeo Eiris's ESG indices are drawn up on the basis of a methodology including over 330 indicators and 38 sustainability criteria. **Terna has been included in the World 120, Eurozone 120 and Europe 120 lists since 2012, the year in which they were introduced.**	EURONEXT VIGEO **www.vigeo-eiris.com**
Introduced in 2010, these are the sole sustainability indices comprising a selection of companies listed only on the Italian Stock Exchange, based on analysis by the company, ECPI. **Terna has been included in the FTSE ECPI since 2010.**	FTSE ECPI **www.borsaitaliana.it**
The FTSE4Good indices group together the best companies in terms of sustainability performance based on analyses carried out by Evalueserve. The index is reviewed twice a year, in March and September. **Terna has been in the index (Global and Europe lists) without interruption since 2005.**	FTSE4Good **www.ftse.com**
MSCI has integrated the original KLD indices - among the first to track companies' non-financial performance, and which are still one of the most accredited benchmarks in the United States - with other sustainability indices. **Terna's has been continuously included since 2007.**	MSCI GLOBAL SUSTAINABILITY **www.msci.com**
Launched in 2011, these indices are based on assessments made by the Sustainalytics rating agency, and select the best shares in terms of ESG performance (around 350) from the 1,800 in the STOXX® Global general index. Admission to the Global ESG Leaders Index, requires inclusion in at least one of the three specialist indices (Global Environmental Leaders, Global Social Leaders and Global Governance Leaders). Terna is the only Italian utility company to be included in all three of them. **Terna has been included in the index since 2011.**	STOXX® ESG **www.stoxx.com**
Launched in February 2016, the STOXX® Low Carbon Indices aim to provide a selection of companies with low CO_2 emissions. The selection of companies is based on data gathered by the CDP (Carbon Disclosure Project). The components of the indices are selected from the STOXX® Global 1800 list based on their carbon intensity (Scope 1 and Scope 2 of the GHG Protocol), based on the ratio of emissions to revenue.	STOXX® LOW CARBON **www.stoxx.com**
Established in 2013 by the United Nations Global Compact in collaboration with the research company, Sustainalytics, this index encompasses the 100 companies that have distinguished themselves at global level, in terms of both their attention to sustainability issues and their financial performance. **Terna has been included in the index since 2013.**	UNITED NATIONS GLOBAL COMPACT-"GC100" **www.unglobalcompact.org**

In September, on the occasion of the annual review conducted by the Swiss sustainability rating agency, RobecoSAM, Terna's presence in the Dow Jones Sustainability Index (World and Europe) was confirmed, and the Company was named **Industry Leader in the Electric Utilities sector. In February 2019**, this result led to the inclusion of Terna - the only electric utility in the world to receive such an honour - in the Gold Class of RobecoSAM's Sustainability Yearbook 2019, an international reference publication for corporate sustainability issues and performance.

Terna is the world's Electric Utilities "Industry Leader" in the Dow Jones Sustainability Index

Based on assessments carried out by RobecoSAM, the Swiss sustainability rating agency, which each year decides on inclusion in the Dow Jones Sustainability Index, Terna was ranked number one in the world ("Industry Leader") in the Electric Utilities sector for its sustainability performance.
Confirmed for the 10th consecutive year in the index, Terna achieved an overall score of 91/100, the highest ever for the Company and the highest in the electric utilities industry (sector average: 46/100), improving its 2017 figure by 4 points. The first place was confirmed by 9 of the 23 assessment criteria applicable to the Company. Terna came first in the economic criteria for Materiality, Risk and Crisis Management, and Policy Influence; in the environmental criteria for Environmental Reporting, Operational Eco-efficiency, and Transmission and Distribution; and in the social criteria for Social Reporting, Human Capital Development, Corporate Citizenship and Philanthropy.
In 2018, RobecoSAM updated its methodology by revising the scoring process compared to previous Media and Stakeholder Analysis (MSA) assessments, thereby responding to investors' growing interest in monitoring and analysing any disputes involving the companies evaluated.

In January 2019, Terna - the only Italian electricity company - was included for the first time in the Bloomberg Gender Equality Index (GEI), an international index that measures companies' performance regarding gender equality issues and the quality and transparency of their public reporting. Bloomberg analysed over 9,000 companies listed on leading world financial markets, including only 230 of them in the GEI index (in total, there are three Italian companies), from 36 countries and representing 10 different sectors (including energy, industry, utilities and finance).

Finally, Terna was selected in a number of "investment registers" (e.g. the Ethibel Register) that are developed using selective sustainability criteria, which - especially when public - are a reference point for investors who pay attention to ESG performance.

Terna takes out a line of credit linked to sustainability indices

In September 2018, Terna took out a line of credit (ESG linked Revolving Credit Facility back-up) linked to sustainability indices, totalling €900 million with a pool of banks consisting of Banca IMI, Banco BPM, BNP Paribas and UniCredit (the amount was subsequently increased to €1,150 million in November as the transaction was extended to involve Mediobanca - Banca di Credito Finanziario).

After the issue of the first Green Bond in July, this new revolving credit facility, the first of its kind for Terna, introduced elements of sustainability via an incentive-based mechanism linked to the achievement of specific environmental, social and governance objectives ("ESG"), including in the annual assessment carried out by RobecoSAM in relation to inclusion in the Dow Jones Sustainability Index.

The transaction confirms the Group's strong commitment to introducing a model aimed at consolidating sustainability as a strategic lever for the creation of value for all its stakeholders.

Networking activities

Terna is present and active, sometimes in positions of leadership, in the principal national and international trade associations that focus on sustainability issues.

A non-profit association that brings together managers and companies who share the desire to spread an entrepreneurial culture in their local areas, combining profit with the creation of wellbeing for the community. Terna has been a member of the association since 2010.	Anima per il sociale nei valori dell'impresa
A key association for professionals who deal with sustainability and corporate social responsibility issues, including company managers, consultants and researchers.	CSR Manager Network
A major organisation in Italy, the foundation is engaged in disseminating corporate sustainability and promoting dialogue between the world of business and non-profit organisations. Terna is one of its founders.	Sodalitas Foundation
An organisation whose primary activity is investigating sustainable development issues - from a cultural and technical point of view - via research, seminars and meetings. Terna joined the association in 2011.	Sustainable Development Foundation
The Observatory set up by IEFE - Bocconi University which, via research and study, aims to explore key topics for debate in relation to the green economy through dialogue, discussion and collaboration with institutions and businesses.	GEO - The Green Economy Observatory
Terna's membership of the Global Compact involves a presence at both international and local level. In Italy, Terna has had a place on the Italian network's Steering Committee since 2011.	Global Compact
An international organisation that in December 2013 published the first framework for the integration of financial, environmental, social and governance information in a single report. Terna has been associated with it since 2011.	IIRC - The International Integrated Reporting Council
A non-profit organisation made up of companies, bodies, associations and local government authorities that are committed to achieving the targets for reducing greenhouse gas emissions set by the Kyoto Protocol and to promoting awareness-raising, information and training initiatives in the fields of energy efficiency, use of renewables, and sustainable mobility.	Kyoto Club
An international benchmarking organisation engaged in measuring the contributions and impacts of corporate community investment. Terna uses its model to monitor and maximise the benefits of its community expenditure (see page 99).	LBG - The London Benchmarking Group - Corporate Citizenship
The Italian branch of the international organisation whose aim is to combat corruption.	Transparency International Italia

Risk management

The Terna Group's main business is operated as a legal monopoly, subject to the terms of the government concession and the regulations defined by the Regulatory Authority for Energy, Networks and the Environment (ARERA). This means that regulatory risks and risks that may have an impact not so much on Terna, as on the entire electricity system (for example, power outages), are particularly significant. In this regard, risks that may also have long-term effects, such as those deriving from climate change, are relevant to Terna.

Terna has identified the main risks associated with its activities and prepared organisational measures, controls and specific instruments with the aim of reducing them, and keeping any effects within acceptable limits.

From an organisational point of view, the Group is structured in such a way as to guarantee management and supervision of all its operations and the risks associated with them, as well as a clear allocation of roles and responsibilities. In particular, in line with the provisions of the Corporate Governance Code for listed companies, which the Group has voluntarily adopted, the Audit and Risk, Corporate Governance and Sustainability Committee (the "Committee"), consisting of independent directors, supports the Board of Directors in making its assessments and taking decisions relating to the Internal Audit and Risk Management System ("IARMS").

The Committee has a direct relationship with the Chief Risk Officer (CRO), who is appointed by the Director that heads the IARMS, with the task of supporting senior management in applying the risk management guidelines and the policy drawn up by the Board of Directors, and ensuring timely implementation of the activities relating to the definition of risk assessment methods and tools that form part of the Enterprise Risk Management process.

Under the Internal Audit and Risk Management System, the Audit department has the task of verifying that the IARMS is operating smoothly. Audit activities extend to all business processes (including Risk Management), with particular attention paid to the most important processes due to their impact on the Company's value, the degree of risk they pose in respect of achievement of the Company's objectives, or their influence on aspects of broad interest to the Company.

For details of the different types of risk to which the Terna Group is potentially exposed and the related management systems, reference should be made to the section, "Risk management", on page 20 of the Integrated Report 2018.

Opportunities and risks

connected with climate change

> 201-2

In assessing the risks and opportunities for Terna deriving from climate change, the role the Company plays as Italy's transmission system operator must be taken into account. In particular, given the European trend towards decarbonisation and large-scale use of renewables, and bearing in mind the support for these trends provided by government policy (European Climate and Energy Plan and the draft National Integrated Plan for Energy and Climate sent to the European Commission by the Italian government at the beginning of 2019), high-voltage grids have a greater role than ever before in driving growth in renewable generation capacity.

Indeed, the process of decarbonisation means the growing use of electricity as energy carrier will become increasingly important in meeting our energy needs. As a consequence of this role, the increase in investment necessary to enable the energy transition represents a major new opportunity for Terna. For example, the limited ability of the existing grid to absorb rising amounts of production from non-programmable renewable sources (wind, photovoltaic) has created the need to upgrade the grid and, as a result, new investment opportunities for Terna. It should also be borne in mind that the regulatory framework for the electricity system is moving towards an output-based model, linking returns on investment to effective benefit for the system and the population, including in terms of increased penetration of renewable sources and cuts in emissions.

As electricity as an energy carrier plays an ever-greater role in end uses (e.g. transport, heating), the risks deriving from possible interruptions in the supply of electricity to grid users as a result of extreme weather events are increasingly substantially. In order to mitigate such risks, Terna - in keeping with its duty to ensure security and continuity of supply - has prepared a specific Resilience Plan (see page 135), in which the necessary measures have been included in the capital expenditure financed through the bills paid by end users.

Overall, therefore, climate change and the consequent trend towards decarbonisation, create more opportunities than risks for Terna, also in terms of the development of its Non-regulated Activities. The following description of the opportunities and risks connected with climate change is presented in accordance with the recommendations for companies published by the Task Force on Climate-related Financial Disclosures.

Opportunities

The opportunities linked to climate change affect Terna's strategy, with potential economic effects in the medium term, regarding both Regulated and Non-regulated Activities in Italy and overseas. Possible sources of opportunity include:

Products and services

As regards Regulated Activities, both the Development Plan and the Electricity System Security Plan include investments that have assumed greater importance in relation to climate change. In the 2019 Development Plan, components designed to drive the integration of renewable sources and grid resilience form a significant part of the overall Plan. This approach is in line with a regulatory framework that is moving increasingly towards the use of output-based solutions, which could boost Terna's returns in relation to its ability to generate benefits for the system.
Terna's Non-regulated Activities will, in the future, also benefit from new possibilities, relating above all to the identification and development of new energy solutions.

The scenarios and trends that encourage the development of new opportunities in Italy are of global significance, and therefore also open up new opportunities overseas. See, for example, Terna's international activities in Brazil, Uruguay and Peru.	Markets

Risks

Transition Risks

Terna is not subject to legal obligations regarding cuts in emissions and registers low greenhouse gas emissions (see page 181). Therefore, no specific risks have been noted with regard to the introduction of a carbon tax or an increase in the carbon price, which would in fact improve the ratio between benefits for the system and Terna's investment costs. Nor would an increase in reporting obligations pose any problems for Terna, which has been providing full disclosure on its emissions for some time. As far as the regulation of service quality is concerned, an incentive-based scheme linked to service continuity is already in place, which may be affected by extreme weather events. The scheme has generated very different outcomes from year to year, ranging from penalties of approximately €15 million to bonuses of around €21 million in the period from 2010 to 2018. Terna's response to this risk is its Resilience Plan.	Political and legal
The decarbonisation process will require major investment in high-voltage grid infrastructure to keep pace with the growing use of electricity as energy carrier. This means that there is no risk of the service being replaced with other technologies, although it is without doubt necessary to invest in innovation to meet the challenges posed by the energy transition. In response, Terna has drawn up an Innovation Plan, identifying the most important current technological trends (above all linked to the digital transformation of the grid) and supporting investment in the related research and development in order to enable delivery of the Strategic Plan.	Technological
No current risks have been noted relating to cost increases deriving from the rise in the price of raw materials due to climate change, which in any case would not to any great extent form part of the risks to which Terna is exposed. The trend in Italy's electricity consumption is uncertain, reflecting a combination of declining demand due to progressive improvements in energy efficiency and an increase in consumption due to the shift to electricity as energy carrier. This reflects the trend towards reduced use of fossil fuels as a primary energy source. However, even if the amount of electricity transported over the transmission grid were to decline, the regulatory approach to both grid assets and operators would normally mitigate volume risk by guaranteeing stable revenues and the recovery of investment costs.	Market
The increased likelihood of critical situations arising due to extreme weather events, and the growing complexity of the electricity system (the phase-out of traditional generation and the growth of distributed generation), requiring constant checks on the level of adequacy, could lead to widespread malfunctions. This has increased Terna's reputational exposure to public authorities and stakeholders in general.	Reputational

Physical Risks

The occurrence of extreme weather events poses a particular risk for service continuity, but may also affect grid infrastructure. Terna has responded with its Resilience Plan and Innovation Plan.	Acute
Among the systematic changes relating to climate change, such as rising sea levels and rainfall, only temperature rises directly interfere with grid operation, as higher temperatures limit the possible amounts of electricity transmission.	Chronic

Compliance, integrity
and the prevention of corruption

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

> 419-1

Compliance with legislation

Compliance with the law is the starting point for any voluntary improvement initiative. A summary of administrative or judicial sanctions and any significant court judgements regarding Terna is provided below. Also taking into account the indicators contained in the GRI-Standards, Terna's compliance performance is illustrated below:

- No significant procedures of an administrative or judicial nature, resulting in final judgements or in fines or court injunctions (e.g. prohibitions), were registered in 2018 or in the previous two years, nor did any of its employees receive criminal convictions (full compliance with regard to both environmental and socio-economic matters).

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- In particular, the accounting records for 2018 do not reveal any pecuniary sanctions of an administrative nature, fines or penalties in excess of €10,000 relating to environmental matters.

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- There were no legal proceedings pending against Terna in relation to corruption, antitrust or monopoly practices, nor were any court judgements handed down against Terna regarding these matters in 2018 or in the previous two-year period.

> EU25

- There were no pending criminal proceedings for injuries caused to third parties by any of Terna's assets. There were 6 accidents in 2018 (11 in 2017 and 4 in 2016).
- No accidents affecting contractors' employees whilst carrying out work commissioned by Terna were registered, where such accidents gave rise to final court judgements ordering Terna to pay damages, or resulted in criminal convictions for Terna's employees.
- There is no record of charges brought, in 2018 or in the previous two-year period, in relation to harassment or occupational injuries affecting employees or former employees, in which Terna's liability was definitively established.

Data protection compliance

In 2018, Terna drew up and implemented a structured plan of action (e.g. information updates, guidelines, data protection operating instructions, definition of the data breach process, etc.) to comply with changes in personal data protection legislation (namely European Regulation no. 679/2016 - GDPR, Legislative Decree 196/2003, Legislative Decree 101 of 2018 and any other legislation regarding personal data protection applicable in Italy, including the provisions of the Italian Data Protection Authority).

In particular, Terna has adopted a new Organisational Model for the management of personal data protection which defines roles and responsibilities, in line with the provisions of the GDPR.

The initiatives undertaken included an update of the data processing activities register, which is one of the tools used to define the general accountability framework provided for by the GDPR. In this context, a review of the list of personal data processing operations carried out in each organisational department was initiated, via interviews with the Privacy Focal Points, internal staff who support Terna's Data Protection and Privacy department in meeting the requirements of the GDPR.

Terna has also appointed a Data Protection Officer, chosen on the basis of his professional expertise, in particular specialist knowledge of data protection legislation and practices. His name has been submitted to the Data Protection Authority.

In 2018, workshops were organised for senior management and middle managers at Terna and Terna Rete Italia, in order to raise their awareness of the issue and, at the same time, ensure compliance with the new European regulations.
These courses were attended by the Group's Data Protection Officer and the Head of the Special Data Protection Unit from the Finance Police (Italy's tax authority or *Guardia di Finanza*), who gave a first-hand account of the unit's inspection, fact-finding and reporting duties relating to personal data processing matters.
The GDPR training plan was extended to the majority of the workforce (administrative staff and managers), including employees of Tamini Trasformatori and Avvenia - The Energy Innovator, in the form of an online course. A selected number of staff most affected by the issue were also given in-depth training.

Prevention of corruption

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The values underpinning Terna's fight against corruption are contained in the Code of Ethics and the tenth principle[19] of the Global Compact.
In 2018, Terna actively participated in initiatives promoted by Transparency International, the world's largest organisation focused on preventing and combating corruption. This has included helping to spread awareness and engaging in communication campaigns, and the adoption of initiatives designed to combat the phenomenon.

Since 2015, Terna has published "Transparent and Open Construction Sites", a web space that can be accessed from any device. Since the beginning of the year, this has handled a total of 631 construction sites, 310 projects, 1,043 contracts and 660 suppliers (229 contractors and 431 subcontractors).
In January 2017, Terna was the first Italian company to obtain 37001 Certification for its anti-bribery management system, which covers the Parent Company as well as Terna Rete Italia and Terna Plus for all the Italian operations. As part of this system, 52% of business processes were subject to Risk Assessment in 2018.

In November 2017, the Board of Directors approved the Global Compliance Programme[20] and the Anti-corruption Guidelines, which are applicable to all the Group's Italian and overseas companies subject to prior approval from their respective Boards of Directors, in line with international best practices that promote a "top-down" approach. The Guidelines contain standards of conduct that all recipients are required to observe concerning, for example, the provision of gifts and donations and the related records, sponsorship and charitable activities, the prohibition of facilitating payments, political contributions and compliance with the Company's obligations regarding training, information and information flows.

[19] "Businesses should work against corruption in all its forms, including extortion and bribery".
[20] The Global Compliance Programme is a monitoring tool for the Group's overseas companies aimed at preventing the commission of crimes under foreign law (accounting offences, terrorist financing, money laundering, copyright infringement offences, workplace health and safety offences), and to protect the individual subsidiaries and the holding company from the possible attribution of liability for criminal conduct perpetrated by employees or persons acting in their name and/or on their behalf.

Overall, the Terna Group has adopted three approaches to preventing corruption: its 231 Organisational Model, Fraud Management and Awareness-raising. In 2016, Terna adopted a Whistleblowing Policy to manage reports, by employees, of violations of the Terna Group's internal control and risk management system. The Guidelines set out the organisational arrangements for handling such reports and establishes the various responsibilities at each stage of the process. The policy also covers all aspects of security, above all regarding protection of the anonymity of the whistleblower, but also that of the accused. In addition, in line with best national and international practices and existing legislation, Terna has put in place specific communication channels, including the web portal, "The whistleblowing procedure". During 2018, the procedure was updated to extend its use to all Group companies, and also to bring together and manage within the Group any anonymous reports and/or reports received from other offline channels.

231 Organisational Model

The 231 Organisational Model - which takes its name from Legislative Decree 231 of 8 June 2001 and was adopted by Terna in 2002 - defines rules of conduct and of internal organisation designed to ensure that the Company conducts its business and activities in a fair and transparent manner, with the aim of protecting the Company's position and image and meeting its stakeholders' expectations. In particular, the Model sets out rules to prevent various types of offence from being committed, some related to corruption and some to other concerns such as the environment and human rights.

In its current form, the Model (latest revision: 1 December 2017) breaks down into 11 sections, 1 general and 10 special, subdivided by category of offence. The first section regards the prevention of corruption and is supplemented by compliance rules relating to market abuse.

As provided for in the Model itself, responsibility for ensuring compliance with the Model's provisions, its effectiveness and its revision lies with the Supervisory Board, whose members are appointed by the Board of Directors. Reports of any infringements of the 231 Model may be sent directly to the website at www.terna.it, or the email address OdV_Terna@terna.it, or by ordinary mail.

Training initiatives continued in 2018, as described in the section "Raising staff awareness". Further information regarding Terna's Organisational Model and those of other Group companies may be found in the "Report on Corporate Governance and Ownership Structures".

During 2018, three infringements of the Organisation and Management Model pursuant to Legislative Decree 231/01 were reported.

Fraud management

The Fraud Management team guarantees protection of the Company's assets (tangible and intangible resources, direct and induced benefits) against all illegal acts that may compromise the assets and protects the Company's reputation and image via fraud prevention and management activities.

In order to identify potential vulnerabilities and eliminate them, Terna uses a method based on systematic analysis of the pre-conditions that may lead to fraudulent events, identifying the critical areas in which such acts are likely to occur, and tracing their causes back to any organisational and operational issues affecting its processes. Alongside this approach, the correct application and revision of existing internal guidelines, procedures and rules is also monitored, with a view to assessing and improving the efficiency of the internal control and risk management system in respect of fraud prevention.

Raising staff awareness

< 205-2

All new hires attend training courses which, among other things, aim to ensure awareness and dissemination of the rules of conduct and procedures established in order to prevent unlawful behaviour, and to train and inform staff about areas of risk and potential crimes associated with the Company's activities.

In 2018, the long-term Training Plan regarding matters relating to the 231 Organisational Model and efforts to combat corruption, which involved 1,795 staff, was completed (equal to 47% of the total workforce).

Clarifications regarding the Code of Ethics and the reporting of violations

Terna staff who seek clarifications or wish to report an issue may contact the Ethics Committee or the Audit department. Up-to-date contact information (address, e-mail and telephone) may be found on the intranet and the website: comitato.etico@terna.it e audit.codiceetico@terna.it The Ethics Committee was established to provide internal and external stakeholders with a specific communication channel for matters dealt with in the Code of Ethics. This Committee, which was reappointed in November 2017, is comprised of five members - appointed by the Chief Executive Officer - who are tasked with replying to requests for clarification regarding the Code of Ethics, receiving and examining reports of any violations and, finally, deciding whether or not to instigate an investigation following a report, and providing an appropriate answer.

The Audit department, which is Terna's internal audit unit, is responsible for investigating any reports of violations of the Code of Ethics. The reports gathered by the Ethics Committee and the Audit department are published on page 231.

Respect for human rights

> 406-1
> 408-1
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> 412-3

The Terna Group operates mainly in Italy, where the regulatory framework and the level of civil development largely guarantee respect for human rights, freedom of association and collective bargaining, and therefore it is not crucial for the Company to take specific actions on these issues.
Despite this, Terna pays constant attention to respect for human rights[21].

In 2014 and 2016, the Audit department carried out two surveys, structured on the basis of the recommendations of the United Nations ("Guiding Principles on Business and Human Rights", also known as the "Ruggie Report") to gauge employees' perceptions regarding the application of human rights within the Company and with respect to suppliers.

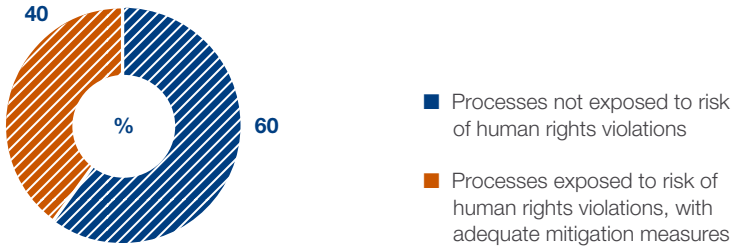
In April 2017, Terna adopted guidelines entitled "Respect for human rights within the Terna Group" in order to implement the recommendations of the guidelines on business and human rights set out in the aforementioned UN Guiding Principles. The guidelines provide for a periodic due diligence process regarding the Group's respect for human rights, taking into account its interaction with all its stakeholders. Particular attention is paid to vulnerable groups and the human rights most pertinent to Terna's activities, such as labour rights (e.g. discrimination, forced and child labour, freedom of labour union association, health and safety). The first due diligence assessment, carried out in 2017, included the phases provided for in the guidelines and described in the following table.

RESPECT FOR HUMAN RIGHTS - DUE DILIGENCE OBJECTIVES

> Identification of the areas of the Group's activities, including relations with suppliers, joint ventures and business partners, that are potentially exposed to the risk of violating stakeholders' human rights.
> Identification of existing risk mitigation measures in these areas (e.g. certified management systems, guidelines, operating instructions, contract terms, training and awareness-raising activities).
> Preparation of action plans if such measures are found to be lacking or inadequate.
> Monitoring of the implementation of action plans.

[21] In February 2017, the French rating and sustainability research agency, Vigeo Eiris, announced the results of its study, "The human rights responsibilities of business in a changing world", conducted in over 3,000 companies in 35 countries and 38 sectors, in which Terna was ranked 14th overall, and first in the group of the best 30 Italian companies at global level.

The first due diligence assessment revealed that approximately 60% of the Group's processes are not exposed to the risk of human rights violations; for the remaining 40%, the existing mitigation measures and reporting systems were found, at first sight, to be adequate. In the interests of greater security, an additional investigation was provided for in a very few cases. Finally, the risk of violations was also found to be adequately monitored for suppliers, joint ventures and business partners.



At the end of 2018, the Audit department carried out an assessment to update the map of the business areas exposed to risk, evaluate the design of the planned controls, and verify their actual implementation. During this due diligence procedure, the operational mechanisms for conducting periodic audits were refined. The assessment of the Internal Control System (ICS) and the verification of its effectiveness, widely covered major processes as well as stakeholders and human rights. The analysis carried out showed that the system for monitoring respect for human rights within the map of business areas exposed to risk is satisfactory.

In principle, management responsibility for the Group's human rights rests primarily with the Human Resources, Organization and General Affairs, Procurement and Contracts and Security and Services departments, which ensure respect for human rights and labour protections by contractors and subcontractors. The Audit department is responsible for overseeing correct application of the rules in the Code of Ethics, while the Sustainability department monitors developments in external benchmarks (e.g. international conventions).

Supply chain sustainability

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> 414-1
> 414-2

Procurement and suppliers

As well as providing a service of general importance, Terna's activities help to generate downstream supply chain activity, creating significant economic value and social benefits.
In 2018, total expenditure on the procurement of services, supplies and works amounted to over €1,183[22] million, spread across 2,148 suppliers contracted during the year.

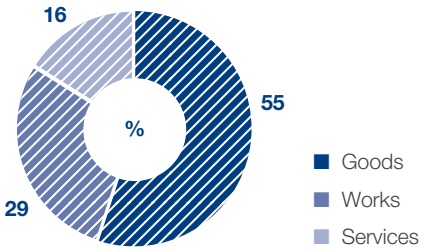
The prevalence of national and local suppliers is determined by the specific nature of the business, especially by the need to carry out maintenance operations very swiftly in order to ensure the utmost safety of the system and greater competitiveness in terms of transport costs for heavy and bulky supplies. This also helps to cut the related environmental impacts.

2,148
SUPPLIERS CONTRACTED IN 2018

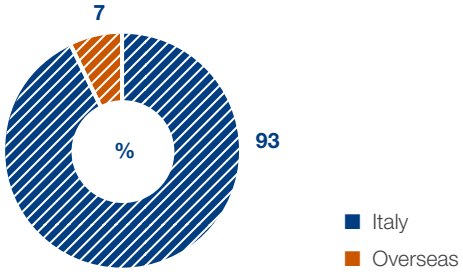
Terna requires suppliers to conduct themselves in a lawful and ethical manner, protecting human and labour rights, health and safety, information security and the environment. These behaviours have been formalised in the "Supplier Code of Conduct"[23] in which each principle is linked to the requirements contained in the qualification process and in Terna's tender and contract documentation. All suppliers are required to contractually commit themselves to comply with the provisions of Terna's Code of Ethics and 231 Model; any non-compliance encountered will result in penalties. Terna's tender procedures include several requirements relating to social (human rights, working conditions) and environmental matters which, for some sectors relevant for ESG purposes, must be met from the qualification phase.

Procurement, which regards activities carried out in relation to Terna's core business - so-called "key supplies" -, and which mainly includes supplies of materials and electrical equipment, contracts for the provision of works and services in the electricity transmission, telecommunications and IT sectors, is governed by the new Procurement Code. This has introduced aspects relating to sustainability in tenders drawn up in accordance with the most economically advantageous tender criterion.

PROCUREMENT BY CATEGORY



PROCUREMENT BY ORIGIN



[22] The figure refers to the amount ordered during the year. This means the sum of the amounts allocated for all contracts (works, supplies and services) signed during the year.
[23] The document is available for download at: http://download.terna.it/terna/0000/0930/50.PDF

The following table shows the suppliers active during year, broken down by type of environmental and social requirements, according to their characteristics.

SUPPLIERS ACTIVE IN 2018 AND APPLICATION OF ENVIRONMENTAL AND SOCIAL REQUIREMENTS

	SUPPLIERS ACTIVE IN 2018				AMOUNT PROCURED FROM SUPPLIERS SUBJECT TO SPECIFIC REQUIREMENTS (% OF RESPECTIVE TOTAL AMOUNT PROCURED)			
	NUMBER	% OF TOTAL	AMOUNT PROCURED (€M)	% OF TOTAL	BASIC REQUIREMENTS [1]	ADDITIONAL SOCIAL AND ENVIRONMENTAL REQUIREMENTS[2]	SOCIAL [3] AND ENVIRONMENTAL QUALIFICATION REQUIREMENTS[4]	COUNTRY RISK ASSESSMENT[5]
Total active suppliers	2,148	100	1,183.3	100	100	97.8	28.0	100
Critical suppliers	1,896	88.3	1,156.9	97.8	100	100	28.7	100
Suppliers in sectors relevant for ESG purposes	219	10.2	585.1	49.4	100	98.8	48.2	100

[1] *Compliance with the principles and behaviours provided for in Terna's Code of Ethics and 231 Model.*

[2] *Integrity pact (text verified by Transparency Italy), anti-mafia certification, which checks: the application of collective labour agreements, payment of tax and social security contributions, the absence of environmental offences, the absence of serious breaches of labour safety regulations, regularity of employment of legally protected categories, certificate of medical fitness for specific roles issued by the relevant doctor (for works contracts), and the absence of any impediment to the award of public contracts.*

[3] *OHSAS 18001 certified occupational safety management system or similar (required only from the suppliers of specific product categories at the time of qualification).*

[4] *ISO 14001 certified environmental management system or similar (required only from the suppliers of specific product categories at the time of qualification).*

[5] *Assessment of the risks of corruption and respect for human rights in connection with a supplier's premises.*

The table illustrates the coverage guaranteed by the various initiatives, in terms of percentage of procurement, for significant groups of suppliers active in 2018.

Coverage is 100% or just under for the majority of the social and environmental requirements. Regarding the most stringent social and environmental qualification requirements, the coverage is higher for suppliers from sectors that are relevant for ESG purposes. Such suppliers are periodically identified[24] on the basis of the product categories whose relevance to the business is assessed (the amount supplied, problems for the core business), as well as social aspects (health and safety and working conditions) and environmental aspects (significant environmental impacts in the production chain, relating to use by Terna, at the end of the asset's useful life). Inclusion in this category leads to particular attention being paid during the qualification phase and in the development of technical specifications, as well as a commitment to adopt special precautions regarding sectors not subject to qualification. Finally, additional health and safety measures have been introduced for works contracts (see the section "Guaranteeing safety, the environment and human rights at contractors' construction sites" on page 80). The following table refers to new suppliers in 2018.

NEWLY CONTRACTED SUPPLIERS

	2018
% of new suppliers - checked for basic requirements [1]	100
% of new suppliers - checked for additional social and environmental requirements [2]	88

[1] *Compliance with the principles and behaviours provided for in Terna's Code of Ethics and 231 Model.*

[2] *Integrity pact (text verified by Transparency Italy), anti-mafia certification, which checks: application of collective labour agreement, payment of tax and social security contributions, absence of environmental offences, absence of serious breaches of labour safety regulations, regularity of employment of legally protected categories, and absence of impediment for undertaking public contracts.*

[24] The matrix for identifying the relevant product sectors for ESG purposes was updated in 2017 on the basis of the latest available purchasing data and certain references made public by reference stakeholders, such as rating agencies.

"SUPPLY CHAIN SUSTAINABILITY" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET		
ESG CRITERIA IN TENDERS	2019	2020	2021
Use of ESG criteria in "vegetation management" tenders > €1million (%)	100%	100%	100%
Use of ESG criteria in 50% of hardware procurement tenders	100%	100%	100%

Procurement portal

The initial encounter between Terna and suppliers (potential or otherwise) takes place on the "Procurement Portal", a dedicated section of the website, www.terna.it, where it is possible to find information about calls for tenders, participate in online tenders and complete the qualification procedure in order to be included in the list of approved suppliers.
In 2018, approximately 1,670 requests for online assistance were received from suppliers, all of which were dealt with within the deadlines set out in the Company's procedures.

With a view to expanding the supplier base, the Procurement and Contracts department carries out scouting activities in the market, including meetings with potential Italian and overseas suppliers. In the case of suppliers who have already been contracted - above all those deemed to be of critical importance to the business[25] - Terna maintains direct contacts in order to manage and acquire greater knowledge of specific issues during the procurement process. In this regard, meetings are periodically organised with qualified companies or trade associations to notify them of any updates to requirements or key issues relating to the ethical conduct expected of them when doing business with Terna.

Qualification of suppliers

> 407-1

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The majority of the most relevant product groups for the core business are subject to a qualification procedure. This allows the qualified supplier to be included in the list of approved suppliers, having met the regulatory compliance requirements, in line with those set out in the Procurement Code, being in possession of the necessary high-quality technical and organisational expertise and bring financially sound.
In the sectors at greatest risk in terms of sustainability, an adequate level of environmental management and the ability to protect workers' health and safety are also required, both represented by corporate procedures focused on key elements of the international UNI EN ISO14001 and BS OHSAS 18001 standards. In particular, the obligation to obtain certification for "Vegetation management", "Pylon painting" and "HV glass insulators" was introduced, with the aim of extending the obligation to all areas relating to works contracted out by 2020.

"SUPPLY CHAIN SUSTAINABILITY" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET					
SUPPLIER CERTIFICATIONS	2018	2019	2020*	2021	2022	2023
% of ISO 14001 and OHSAS 18001 certified suppliers in contract work areas	91%	91%	100%	100%	100%	100%

(*) Target brought forward to 2020.

As far as overseas suppliers are concerned, Terna assesses the country risk, namely the possibility of incurring damages if incidents or events occur that may be linked to the economic, social and political environment of the country in which the supplier normally operates. This risk is, for the time being, very limited, given the prevalence of domestic suppliers. However, it could become more significant in view of the expansion of procurement markets and, more generally, Terna's international growth strategy.

[25] These are suppliers whose contracts are of high value and who are not replaceable or who provide strategic supplies or works that are specific to the electricity system.

Objective elements are used in the analysis and assessment of the most relevant risk factors, which relate to economic and political governance issues in the various countries, and with respect to internationally agreed human rights protocols, including the ratification of UN and ILO conventions, together with the assessments made by the main international non-governmental organisations and the leading rating agencies actively concerned with these issues. As these assessments are regularly updated, they enable the Company to constantly monitor developments in the related environment. In addition to these assessments, restrictive measures are also issued by Italian and European authorities, entailing limitations on the free movement of goods (trade embargoes) or rules of conduct in the case of transactions with countries that have preferential tax treatment (tax havens).

Of the total number of qualified suppliers, 82% have or are acquiring BS OHSAS 18001:2007 safety certification, and 84% have or are acquiring ISO 14001:2004 environmental certification.

QUALIFIED COMPANIES

	208
Number of eligible companies	414
- of which new companies eligible during the year	*68*
Companies required to have an Environmental and Safety management system	202

Supplier audits

During the three-year qualification period, Terna checks that suppliers meet the qualification requirements, including the various ESG aspects. In 2018, 1,214 document audits were carried out.
Terna conducts further checks based on the activities carried out by suppliers and the type of risks assessed as being prevalent in a given sector. These include:

- prior checks for applications regarding the award of consulting, professional and IT services contracts, and for awards to previously qualified suppliers;
- on-site checks of qualified/qualifying suppliers. In 2018, 67% of these checks focused on companies belonging to sectors that are relevant for ESG purposes.

AUDITS

	2018
Qualification checks	1,214
On-site qualification checks	37
- including relevant ESG sectors	*25*

If conduct no longer meets the requirements for qualification, the supplier may receive a warning or be temporarily suspended from the list; in the most serious cases, offenders will be struck off the list.

ACTION TAKEN FOLLOWING QUALIFICATION CHECKS

	2018	2017	2016
Suppliers struck off the list	0	0	0
Suspensions	2	0	6
Warnings	2	0	4

Since 2016, Terna has added a List of Suppliers to the Qualification Portal. This integrated environment enables records to be kept and information on selected suppliers in product groups that are not subject to qualification to be screened. This is done with a view to drawing up checklists to identify competitors in the procedures relating to the award of contracts for amounts below EU thresholds.

Equal opportunities in accessing calls for tenders

Access to tender procedures is guaranteed for all eligible companies in accordance with the principle of equal opportunity and is governed by the "Procurement Regulations". These Regulations, which have set guidelines for Terna's procurement activities, were drawn up on the basis of the Procurement Code, which in turn implements the relevant EU legislation.

CONTRACTED SUPPLIERS

	UNIT	2018	2017	2016
Number of contracted suppliers	**n.**	**2,148**	**1,978**	**1,818**
Contract award procedures adopted % of amounts awarded)				
EU calls for tender	%	75	66	61
Non-EU calls for tender	%	11	16	22
Previously qualified suppliers	%	12	12	14
One-off contracts [1]	%	2	7	3

[1] *The "One-off contracts" category includes: sponsorship and donations, fees paid to public entities, trade bodies and contracts awarded to previously qualified suppliers by Terna Plus.*

Finally, Terna is keen to reach a settlement in the event of litigation with suppliers.

DISPUTES WITH SUPPLIERS

	2018	2017	2016
Pending	29	23	22
In progress	6	4	0
Settled	0	3	2

Guaranteeing safety, the environment, and human rights at contractors' construction sites

The rise in the number of staff employed by contractors and subcontractors in 2018 is linked to the increase in the number of construction sites.

> EU17

EMPLOYEES OF CONTRACTORS AND SUBCONTRACTORS *

	2018	2017	2016
Number of days worked	559,247	561,348	516,348
Full-time equivalents (FTEs)	2,542	2,552	2,347

* *The figures take into account the duration of contracts and the variable nature of the related workforce and relate to the different types of contract awarded by Terna, ranging from major works to those for the cutting back of vegetation located under power lines. The number of days worked and FTEs are estimated on the basis of the average daily attendances at the largest sites and the value of the works contracted out at smaller sites. Further information about the types of contract used by contractors is not available. The figures for 2017 and 2016 differ from the data published in previous reports as the estimation criteria have been revised.*

Given the substantial use of external labour at Terna's construction sites, works contracts are subject to stricter rules, not only in terms of qualification but also regarding management, with particular reference to occupational safety, the requirements of which are excluded from any lowest price concerns during the award process.

> EU18

During the qualification process Terna requires evidence of documented procedures to protect workers' health and safety; for companies from sectors deemed most significant from an environmental and safety point of view, an in-depth analysis of management practices is required.

Terna requires additional certification from qualified contractors, specifically regarding:

- personnel's knowledge of Italian;

- adequate specific training for all overhead power line site workers on the use of personal protective gear, on the risks set out in the Safety and Coordination Plan (SCP) and in the Operational Safety Plan (OSP), and on the operating procedures and the environmental protection measures set out in the specific operating procedure, "Management of environmental aspects during plant construction", which is appended to each individual contract;
- attendance at training courses for certain specific roles (e.g. workers involved in the assembly and maintenance of overhead power lines, workers cutting back vegetation, site managers, foremen and safety officers);
- appointment of a Prevention and Protection Service Manager (PPSM), a construction-site safety representative, a crisis manager and a deputy, and an appointed doctor;
- a requirement that the contracts entered into with contractors include the need to keep records of any injuries occurring during the year.

The effective implementation of training is verified via the "Qualified Company Personnel" online platform. In order to minimise the risk of violations of human and labour rights to the detriment of contractors' employees, in addition to specific documentation on key contracts, Terna requires a copy of an insurance policy taken out to cover third-party liability and damage to persons and property, including assets owned by the contractor, for the entire duration of the works and for an amount commensurate with the nature of the works. A copy of the contractor's records of social security and pension contribution payments is also required.

From 2019, all works and supply contracts involving work onsite contain a requirement to provide the information needed to, on the one hand, closely monitor and assess injuries to contractors' personnel and, on the other, acquire the data necessary in order to compute contractors' injury rates.

Terna has drawn up a preventive safety and environmental protection monitoring system for construction sites, broken down into three levels:

- First level: as per current regulations, responsibility lies with the contractors and subcontractors operating at the construction site;
- Second level: Terna is responsible (primarily through the Engineering and Asset Management department) for monitoring, via spot checks, the work of the Construction Safety Manager and by contractors;
- Third level: Terna is responsible (through the Health, Safety and Environment department), for spot checks designed to monitor all aspects of project management and site inspections.

Regarding the environmental checks provided for in the second level, 13 construction sites were monitored in 2018 in connection with the following aspects:

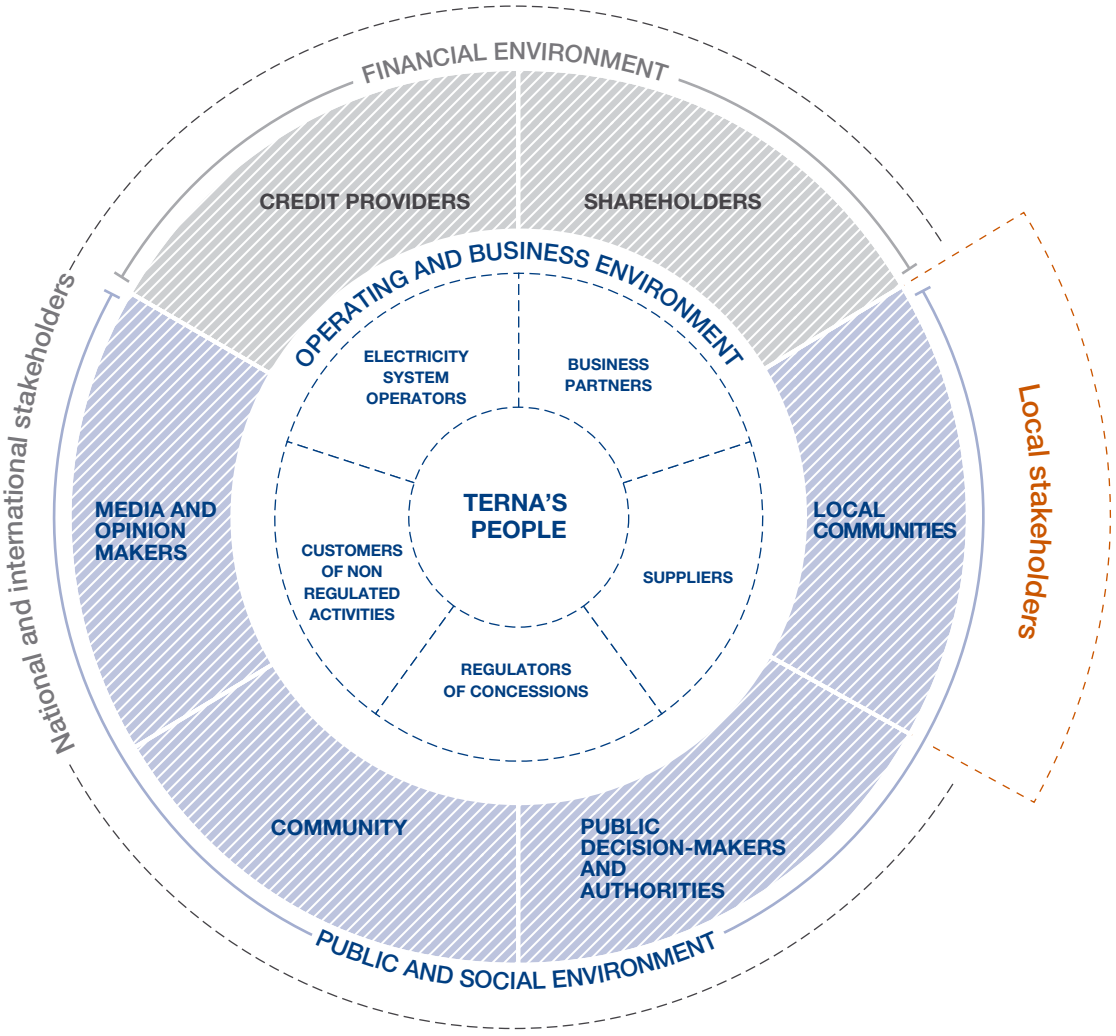
- Site document management and record keeping;
- PPE, equipment and machinery;
- Waste management;
- Excavated soil and rocks;
- Site equipment storage management;
- Hazardous substances and accidental spills;
- Rainwater and supplies;
- Dust and sediment emissions;
- Noise;
- Site-specific characteristics and planning consent requirements.

Monitoring did not reveal any significant areas for improvement

The third-level checks related to 11 construction sites for power lines and substations under the responsibility of contractors, selected on the basis of the duration of the works and the complexity of the activities to be carried out.
Finally, Terna, together with the leading Italian operators of networks and infrastructure, participates in the "Inter-company Health, Safety and Environment Round Table", with the aim of sharing experiences and regulatory interpretations in order to achieve continuous improvements with regard to health, safety and environmental issues.


Terna

Stakeholder engagement



Relations based on reciprocal trust between Terna and its stakeholders underpin the Group's relational capital and this is reflected in the values set out in the Code of Ethics.

The outcomes of an analysis of each stakeholder category, alongside indications of the best engagement techniques and tools to use and the ideal frequency of initiatives in order to successfully manage relations with the different categories, thus avoiding risk of failing to promptly identify any problems, have been incorporated into specific guidelines (the "Stakeholder engagement model").

The resulting stakeholder map takes into account the reference frameworks of the various categories (financial, public and social, operational and business), making a distinction between national and international stakeholders and local stakeholders affected by the presence of electricity infrastructure or construction projects.

Local stakeholders

In 2018, in line with the recommendations of the Strategic Plan, which focus on the challenge of the energy transition and the Company's enabling role within it, and with the resulting need for new electricity infrastructure investment, Terna further stepped up its already intense engagement with local stakeholders.

Engagement with these stakeholders - who are often critical of Terna's initiatives as they see their impact on their local area but not the systemic benefits they bring - is vital for the acceptance and implementation of infrastructure projects.

> 413-1

Local communities

This category includes various kinds of stakeholder who are affected by Terna's activities in their local area during all operational phases, from development through to network maintenance. It includes parties who are directly or indirectly affected, but also parties with the power to influence politics and decision-making and local opinion makers.

From the initial planning phase of grid development initiatives, Terna reaches out to local communities in the areas where they will be implemented, involving local authorities (regional and local authorities, park authorities, etc.). For several years, the Company has also reached out to citizens via public meetings called "Terna incontra".

During 2018, Terna held a total of 207 meetings with local authorities, involving around 118 bodies, which break down as follows:

MEETINGS WITH LOCAL AUTHORITIES - 2018

AREA	MEETINGS	BODIES
North-west	36	17
North-east	77	56
Centre-South Adriatic	44	38
Centre-South Tyrrhenian	50	7

Terna also held 17 "Terna incontra" events in eight Italian regions (Piedmont, Lombardy, Veneto, Tuscany, Sardinia, Campania, Apulia and Calabria). One meeting was held in Bisaccia (AV), Lacedonia (AV), Deliceto (FG), Avigliana (TO), San Vincenzo (LI), Suvereto (LI), Piombino (LI) and Codrongianos (SS), (two meetings) Santa Teresa di Gallura (OT), Troia (FG), Alberona (FG), Sorrento (NA), Naples, Vellezzo Bellini (PV), Cortale (CZ) and Auronzo di Cadore (BL). Finally, it should be noted that, since 2018, the "Terna incontra" sharing and listening approach has also been applied to engagement with authorities in connection with the Strategic Environmental Assessment (SEA) in Rome and L'Aquila.

During the "Terna incontra" meetings at Troia (FG), Alberona (FG), Sorrento (NA), Naples, Deliceto (FG), Avigliana (TO), Auronzo di Cadore (BL) and Lacedonia (AV), local residents who participated in the events were asked for their opinion via a questionnaire. Six areas were surveyed: familiarity with Terna, information on the project, eventual areas for improvement, usefulness of the meeting, the need for further information and a final opinion.

Overall, 78% of respondents said that they were familiar with Terna and 55% had taken part in the "Terna incontra" events because they had little information on Terna's investment plans, above all with regard to the environmental impact (16%), the visual impact (13%) and the reasons for the infrastructure (5%). The meetings were deemed useful by 36% of the participants, very useful by 42% and extremely useful by 10%. 61% of respondents changed their opinion, becoming more favourable to the project.

Effectiveness of "Terna incontra" meetings: survey for 2018

Terna voluntarily consults on the need for grid development with local authorities and listens to stakeholders' opinions in order to promote the best location for new projects, based on shared classification of land according to so-called "ERPA criteria": (Exclusion, Repulsion, Problems and Attraction), and with the support of GIS (Geographic Information System) technology, which includes all information relating to different types of land use and the related protection constraints (regional, naturalistic, cultural, landscape, etc.).

During 2018, Terna stepped up its engagement at local level, with a view to raising awareness of the Company and its responsibilities, promoting an electricity culture and decarbonisation objectives, and initiating transparent engagement with all local stakeholders, opinion makers and influencers, in order to gauge their opinions and needs.

Precise and accurate mapping of all local stakeholders in the main areas affected by grid development projects (e.g. committee representatives, local authorities, universities and local associations) was carried out, as well as an assessment of their capacity to influence their respective communities and their perception of Terna and its initiatives.

Continuous listening to stakeholders has generated an overall improvement in engagement.

"LOCAL COMMUNITY ENGAGEMENT" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET	
STAKEHOLDER ENGAGEMENT	**2018**	**2019**
Stakeholders who changed their opinion after a meeting with the Company	15%	15%

(*) Changes in local stakeholders' opinions of Terna are measured on the basis of a summary indicator that shows the level of satisfaction with Terna, weighted to take into account the significance of the stakeholder.

Landowners affected by NTG development

EU22 >

The construction of new power lines involves the use of between approximately 30 and 250 square metres of land - usually agricultural - for each pylon.

413-2 >

Although Terna is legally authorised to use an expropriation procedure[26] to obtain the use of land, Terna prefers solutions based on mutual consent, involving payment of one-off compensation for easement on private property. Attempts to reach a consensual solution do not always succeed, making enforcement measures necessary.

POWER LINE EASEMENTS

LANDOWNERS AFFECTED BY THE CONSTRUCTION OF NEW POWER LINES (NO)

AREA	2018	2017	2016
Total easements	1,644	1,817	7,857
- of which consensual	888	1,069	5,886
- of which enforced	756	748	1,971

When building a substation that occupies much more land, Terna usually purchases the necessary land.

During 2018, in line with the number of kilometres of line demolished as a result of upgrade initiatives, 287 plots of land were returned to their owners.

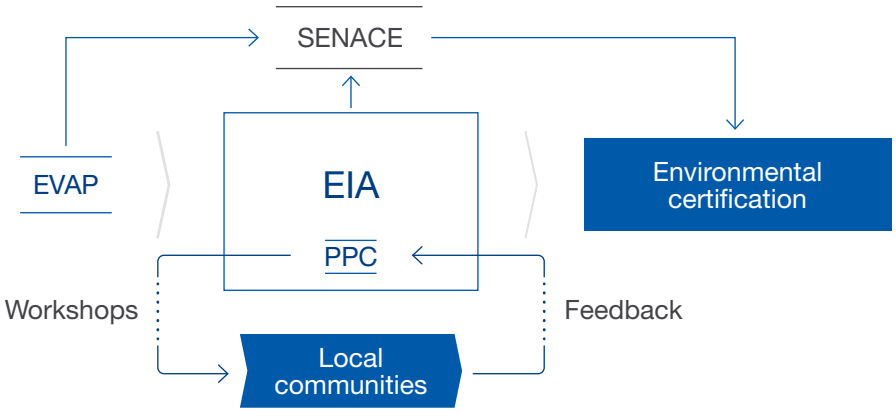
RETURN OF PLOTS OF LAND TO LEGITIMATE OWNERS

AREA	2018	2017	2016
Number of plots of land	287	115	0

[26] Law 1775 of 1933; Presidential Decree 327/2001 “Consolidated Law on Expropriations”.

Dialogue with local communities overseas

The authorisation process for the design and construction of the Aguaytía-Pucallpa 138 kV power line in Peru is similar to the Italian process, including intense stakeholder engagement from the Environmental Impact Assessment phase (EIA, *Estudio de Impacto Ambiental*).
The process consists of several phases (see diagram below). It begins with a preliminary environmental impact assessment (EVAP, *Evaluación Ambiental Preliminar*) and, after approval by SENACE[27] (a government agency reporting to the Peruvian Ministry of the Environment), continues with environmental assessment activities (EAA). These activities include a Citizen Participation Plan (PPC, *Plan de Participación Ciudadana*), comprising a series of workshops with the local people directly affected by the power line, during which the nature of the project, its main impacts (positive and negative) and management strategies are presented. During 2018, Terna held the workshops envisaged by the PPC. Any comments (feedback) made by local people are incorporated within the final assessment document.
Once the PPC has been completed and the final EIA document has been approved, the authorisation process concludes with the issue of environmental certification by SENACE.



The procedures for obtaining easements for the construction and operation of overhead power lines are similar to those in Italy.

Normally, Terna prefers solutions based on mutual consent, involving payment of one-off compensation, at market rates, for easement on private property. Only when it is not possible to reach an agreement is it necessary, as in Italy, to adopt enforcement measures (*imposición de servidumbre*).

POWER LINE EASEMENTS: AGUAYTÍA-PUCALLPA PROJECT IN PERU

LANDOWNERS AFFECTED BY THE 132 KM POWER LINE IN PERU (AGUAYTÍA-PUCALLPA PROJECT)	TOTAL PLANNED FOR PROJECT	TOTAL AT 15/02/2019
Total easements	504	76
of which consensual	N/A	76
of which enforced	N/A	0

[27] Servicio Nacional de Certificacion Ambiental para las Inversiones Sostenibles.





Dialogue with local communities: the most difficult cases and shared solutions

Reaching a consensual solution entails lengthy and difficult mediation procedures. Outcomes are usually positive, but during the process local opposition may persist. In these cases, Terna is willing to examine the situation and seek alternative solutions - even ones that are technically more complex than those originally identified - provided that they are compatible with the general interest of maintaining the safety, efficiency and cost-effectiveness of the electricity service.

In 2018, such cases included:

Difficult cases

Italy - Switzerland interconnector	The consent process for the project began in 2012. Several committees were set up from the outset. In response, Terna scheduled various open meetings ("Terna incontra") with local residents, including, for example, those held in February and March 2017 in Val d'Ossola and Comignago. Over the years, Terna has made a series of voluntary additions to the project, in order to meet the demands of the local community and local authorities. In 2017 and 2018, meetings continued with the Ministry of Cultural Heritage and Activities and the Piedmont and Lombardy regional authorities, aimed at reaching a solution with the broadest possible consensus. To this end, Terna requested and obtained a suspension of the consent process until May 2018. Following the services conferences held in July 2018 and the meetings promoted by the Prefectures of Verbania and Novara, in which the mayors of the municipalities involved took part, Terna announced its willingness to study further design solutions with a view to making technical and environmental improvements.
Restructuring of the 380 and 132 kV grid in the Lucca area	In January 2014, an authorisation procedure was launched regarding construction of a new electricity substation and a new line, and the demolition of other obsolete lines. Although the project was initially coordinated with the municipalities involved, they subsequently rejected it as a result of protests by local residents. Terna then prepared four alternative solutions and presented them to local residents (at a "Terna incontra" event held in January 2016 in Nozzano Castello LU). Dialogue with the authorities involved continued during 2016. In April 2017, Terna requested six-month suspension of the consent process in order to produce the documentation required by the EIA (Environmental Impact Assessment) Technical Committee. In April 2018, the Ministry of Cultural Heritage and Activities declared itself against, while the Environmental Impact Assessment Technical Committee declared itself in favour. Therefore, it is necessary to request the intervention of the Cabinet to overcome these disagreements between the ministries.

In 2011, the Ministry for Economic Development authorised works regarding the new 380 kV Dolo - Camin power line. In 2013, the Council of State annulled the environmental clearance granted by the Ministry of the Environment and of the Protection of Land and Sea in 2010 and the subsequent consent to construction and operation granted by decree in 2011, thereby suspending construction activities. In 2016, Terna re-submitted the authorisation application for the 380 kV Venice - Padua upgrade project, excluding the works already authorised, and the procedure was launched in January 2017. This immediately met with strong opposition from local councils, especially those of Dolo, Saonara and Vigonovo, all of which unanimously demanded an underground line, rather than the overhead solution envisaged. Terna looked at a new solution and on 21 January 2019 the Company signed a planning agreement with Veneto Regional Authority which, among other things, provides for the construction of a 380 kV underground power line between Dolo and Camin (see also page 91). In February 2019, work began on preparations for demolition of the section of the Villabona - Fusina 2 line that interferes with the area known as the Vallone Moranzani. By March 2019, the overhead Fusina 2 - Sacca Fisola line will be demolished, removing a total of 6.5 km of line and 24 pylons.	Upgrade of the 380 kV grid between Venice and Padua (Dolo - Camin 380 kV power line)
The authorisation procedure for this project began in 2011 and it is currently at the Environmental Impact Assessment (EIA) phase. Some municipalities, including Belluno and Soverzene, have opposed the identified route and, in response, Terna proposed a project alternative in August 2015. Dialogue with local authorities and local communities continued in 2016, thanks to the organisation of four meetings with local residents. Following differences of opinion between the Ministry of the Environment and of the Protection of Land and Sea, which was in favour, and the Ministry of Cultural Heritage and Activities and Tourism, which was not, the two ministries have continued to disagree. As a result, the issue was brought before the Italian Cabinet in order to find a solution. At a Cabinet meeting held in January 2018, ministers decided to give the go-ahead for the project. In March 2018, the environmental compatibility decree was issued, including some restrictions. This initiative is also part of the planning agreement entered into, on 21 January 2019, with Veneto Regional Authority, which, in response to requests from the local communities involved, provides for an underground section of line from Polpet station to the Piave river crossing (see also page 91).	Upgrade in the Mid Piave Valley
These works were authorised in 2010 by Campania Regional Authority. Initially to be carried out by the company, ESSEBIESSE POWER, responsibility was subsequently transferred to Terna. In 2011, immediately after the works had begun, the municipality of Montesano sulla Marcellana ordered their suspension and initiated legal action. Since 2015, when the process of obtaining the necessary consents for the new substation (more compact than the previous one) designed by Terna began, the local committee has organised several demonstrations. In addition, questions have been put in Parliament and strong opposition has been manifested by the mayor of the town of Marcellana, Campania Regional Authority, private citizens and the mountain community, all of which have expressed their opposition, as well as comments and requests for supplementary information. All the alternative proposals presented by Terna were deemed unacceptable by the local authorities and residents. In 2018, in response to the requests from the local community, Terna announced that, together with the town of Montesano sulla Marcellana, it was willing to consider relocation of the substation.	Montesano sulla Marcellana electricity substation
This is the new Volpago substation project, presented in November 2017, regarding which meetings with the councils of Volpago and Scorzè were held in December 2017. A number of committees are already active in the region. They oppose the project because the areas affected by the works include the same municipalities that were involved in the "Cross-Veneto" project (see page 58 of the 2011 Sustainability Report), which they strongly opposed. Moreover, some municipalities are engaged in the construction of the "Pedemontana Veneta" expressway (especially Volpago del Montello, where the substation is located), a project that is having a major impact on an area already heavily involved in mining activities (quarries). For the time being, Terna has filed the project with the Ministry for Economic Development and is proceeding with formalities involved in beginning the consents process (see also page 91). This project is also included in the planning agreement between Terna and Veneto Regional Authority, signed on 21 January 2019. In addition, efforts have been made to coordinate the committees operating in the area with the aim of safeguarding the local environment and supporting plans to install underground cables.	380 kV Volpago substation




The “Cross-Lucana” project	Aimed at connecting plants for the production of renewable energy from wind power, these works have encountered political problems, due to the position taken by the three councils in the area: Oppido Lucano, Tolve and Avigliano (the latter has requested relocation of the substation, which Terna agreed to and presented a modification to the project). During 2018, the councils of Oppido Lucano and Tolve filed for injunctions suspending work and also requested demolition of two pylons (Oppido Lucano). The latter was then suspended by the Regional Administrative Court, which upheld Terna’s request for interim relief. Finally, Terna has filed an appeal before Basilicata Regional Administrative Court, challanging the Regional Authority’s failure to respond to its application for an extension of the planning consents authorising the power line.
Sa.Co.I. 3	The Sa.Co.I.3 project regards renewal and modernisation of the current HVDC electricity connection between Sardinia, Corsica and the Italian mainland, called Sa.Co.I.2, which has reached the end of its useful life. The initiative, which is classified as a Project of Common Interest (PCI), will strengthen the sharing capacity between the countries involved, ensure service continuity and also contribute to the development of the European electricity grid and therefore to the energy transition to more widespread use of renewable energy sources. In September and November 2018, Terna launched the public consultation process required by the regulations, organising six information days (“Terna Incontra” events) in Sardinia and Tuscany. In the municipality of Suvereto, where the new substation is planned, a “No SACOI3 Committee” has been set up and also has the support of some local politicians. Terna is committed to implementing the best technical and environmental solutions for the benefit of the new infrastructure’s sustainability, participating in public meetings and technical roundtables in order to dialogue with local communities.

Shared solutions

This initiative was necessitated by the age and poor reliability of elements of the grid, resulting in a high level of downtime each year and the risk of electricity not being supplied to end users. Local residents have opposed the Fuorigrotta substation as the work will affect the urban environment near homes. In September 2018, two residents' committees were set up to oppose the works, which Terna responded to by organising various meetings with the parties concerned. In January 2019, an important partnership between Terna and E-Distribution took shape. This involves the use of existing infrastructure, thereby avoiding the need to build the new Fuorigrotta subtation, with a significant benefit in terms of the optimal use of land and the reduced impact on the local area.	Restructuring of the 220 kV grid in the city of Naples
In January 2019, the long process of dialogue and consultation with local authorities and Veneto residents resulted in a planning agreement regarding extraordinary works relating to the security of the electricity system, development of the region and socio-economic recovery in the areas affected by the exceptional weather events of November 2018. The agreement was signed by the CEO of Terna, Luigi Ferraris, and the Governor of the Veneto Region, Luca Zaia. The agreement provides for substantial investment in the implementation of vital works on the Veneto electricity grid, such as an upgrade between Venice and Padua via construction of the Dolo-Camin 380 kV underground power line; restructuring of the Mid Piave Valley electricity grid (new Polpet-Scorzé 220 kV line) with an underground cable from the new Polpet substation to the Piave river crossing; construction of the Volpago substation and an upgrade of the existing grid, including 26 km of new underground cable connections and the demolition of 51 km of overhead lines; and restructuring of the electricity grid in Alto Bellunese (Cortina - Auronzo di Cadore 150 kV line) which will be laid entirely underground. Terna has also undertaken to renew the existing regional electricity grid in order to increase the energy transmission service's stability and security and the infrastructure's resilience in the face of exceptional weather events, through the installation of new devices to mitigate the risk of ice formation on lines, as well as predictive maintenance initiatives and asset management using the latest available technologies. The agreement also provides for collaboration with Veneto Regional Authority and the Regional Forestry Authority to develop "green corridors", an innovative project regarding the creation of ecological corridors along the routes of existing power lines in wooded areas. This will involve the selective planting of native plant species with controlled regrowth. Finally, Terna has undertaken to open centres of technological excellence in the Veneto region and to enter into agreements with universities to promote studies and research regarding the construction of electricity infrastructure, including via theses and projects by students and PhD students, and to provide coworking opportunities.	Agreement between Terna and Veneto Regional Authority regarding a plan to develop and renew the Veneto transmission grid

National and international stakeholders

These include all the other stakeholders whose engagement with Terna is not determined by the presence of electricity infrastructure on their territory and who interact with Terna because they work there ("People", see the relevant section on page 144), have regulatory, supervisory and authorised power (competent authorities and ministries, see page 98), have an economic interest (shareholders, lenders, see page 30), operate in the electricity supply chain (see below), have commercial relations (suppliers, see page 76, are customers of Non-regulated Activities and business partners, see page 44) or play a mediating role between Terna and other stakeholders (media and opinion makers, see page 95). A specific case is communities, namely all the end users of the energy transmission service (see page 98).

Electricity system operators

Together with Terna, these stakeholders make up the electricity supply chain, operating as producers, distributors, wholesalers and consumers. They engage in multiple relations with Terna, which are highly regulated and characterised by reciprocal impact and influence. These stakeholders also have the potential to influence regulatory authorities and public decision makers.

The My Terna portals (a platform that manages the dispatching users with whom Terna has entered into a contract, supported by a dedicated call centre) and GAUDÌ, the management system for the Consolidated Power Generation Plant Register at national level, are also used to management relations with these stakeholders.

Consultation Committee

The Committee is a technical body, chaired by a Terna representative. It is the permanent forum for consultation with operators from the electricity sector, in which the various categories of user (distributors, producers from conventional and renewable sources, large industrial customers, wholesalers and consumers) are represented, and includes the participation of ARERA and MED as observers.
In 2018, the Committee was involved in the process of drawing up the 2018 Development Plan and the 2019 Development Plan. The Committee was also provided with a timely update on the progress of priority development projects.
Discussions with the Committee regarding the Development Plan are published on Terna's website[28]. The Consultation Committee met twice in 2018.
With a view to sharing knowledge of the sector and promoting opportunities to listen to operators' requests, during 2018 Terna organised workshops to present projects and changes to the current regulatory framework.

[28] http://www.terna.it/it-it/sistemaelettrico/pianodisviluppodellarete/consultazioni.aspx





These included:

- a seminar on the capacity market;
- a workshop on the pilot project regarding participation in the Dispatching Services Market for the resources made available by the so-called UVAM (mixed production, consumption and storage units);
- a workshop on the start of the implementation process for the European Balancing Regulation and the integration projects relating to the intraday market (XBID project) and the balancing market (the TERRE project);
- a workshop on the 2018 Development Plan as part of the public consultation promoted by ARERA;
- a workshop on identification methodology for target capacities;
- a workshop with SNAM on the definition of future energy scenarios.

GAUDÌ portal

The GAUDÌ platform, which may be accessed by producers, distributors, dispatching users, authorities and Italy's Energy Services Company (GSE), was created by Terna[29] to manage the Consolidated Power Generation Plant Register at national level.
The Register records all the generation plants and the individual units that comprise them, of any size or source (conventional, renewable, cogeneration), including a total of approximately 840,000 units. It also enables monitoring of the status of each plant - from authorisation to connection, and the market qualification process - as well as all the changes to the plant and to commercial aspects that occur during a plant's operation.
In 2018, the platform implemented important changes to the Register in line with the market reform[30] and the revision of the zonal structure[31]. The algorithms for calculating the main fuel used by plants have also been updated in order to align the GAUDÌ platform with the Terna Transparency Platform.
The new developments were communicated to distributors during meetings organised in collaboration with the Italian Association of Electrotechnics, Electronics, Automation, Information Technology and Telecommunications (AEIT) and with Utilitalia - Association of Energy and Environmental Water Companies. In 2018, the Renewable Energy Sources portal was developed on the Terna website. In charts and tables, the dedicated section[32] shows the stock of renewable plants by source, region, number and power capacity, updated on a monthly basis.

Business relations with electricity service operators

In providing the public electricity transmission and dispatching services operated by the Company under concession, Terna maintains business relations with various categories of operator, including:

- dispatching users (producers, wholesalers or end customers) with regard to the provision of dispatching services;
- distribution companies and other private grid operators in relation to transmission and aggregate metering, required with regard to regulate the dispatching service.
- Since 2017, Terna is also responsible for the settlement of amounts due to and from balancing service providers (BSPs) that provide services on the Dispatching Services Market (DSM), as part of pilot projects launched by Terna in accordance with ARERA resolution 300/2017.

[29] In implementation of ARERA Resolution ARG/elt 124/10.
[30] In implementation of Resolution 300/17 R/eel.
[31] In implementation of Resolution 386/18/R/eel.
[32] https://www.terna.it/it-it/sistemaelettrico/fontirinnovabili.aspx

As part of dispatching activities, Terna manages electricity flows through the National Transmission Grid (NTG) and guarantees that a balance is maintained at all times between demand for and the supply of electricity. To this end, as the sole counterparty, the Company procures the resources needed to meet requirements and to guarantee a reserve margin on the DSM.

In 2018, transactions in the DSM amounted to approximately €1.5 billion.

In addition, for dispatching services purposes, Terna checks the consistency between the final programmes of operators (producers and consumers) with the amounts that have actually been withdrawn from/input into the grid: any deviations represent so-called "imbalances", the value of which entails invoicing the related energy imbalance prices to the individual parties responsible for the imbalance costs. This is done in order to cover the costs generated for the system as a result of their conduct.
Further categories of operator with whom Terna trades include applicants who have requested connection of their plants to the NTG (producers and consumers) and interruptible users, namely customers who are willing to have their electricity supply suspended. Terna signs contracts with these operators regarding the interruptibility service, which is required for the secure operation of the electricity system, and especially with the aim of mitigating the risk of widespread power outages.
Participants in the interruptibility service numbered 243 in 2018, accounting for 4,214 MW of power. The related annual cost amounts to approximately €0.25 billion.

> EU3

ELECTRICITY SECTOR OPERATORS IN RELATIONS WITH TERNA - NUMBER OF CUSTOMERS

CUSTOMERS	2018	2017	2016
Interruptible users	243	288	286
Distributors directly connected with the NTG	51*	27	25
Supply-side dispatching service users (producers and traders)	135	140	135
Demand-side dispatching service users (traders and end users, including the Single Buyer)	187	186	182

(*) In addition to licensed distribution companies, the figure includes operators of closed distribution systems for internal user networks directly connected to the NTG.

Relations with consumer associations

Relations between Terna and the consumer associations were stepped up in 2018, in order to ensure a comprehensive exchange of views on issues of common interest. This involves the mutual exchange of information aimed at facilitating joint assessment of activities relating to the security, reliability and continuity of the electricity service.

Dialogue continued with the aim of improving the location of development and upgrade projects, by examining planning aspects and environmental, landscape and social compatibility.

Periodic consultation with the associations that represent the interests of consumers and users has enabled discussion of issues of common interest, including:

- the evolution of the regulations regarding planning, approval and implementation of the National Transmission Grid Development Plan, authorisation procedures for work on the NTG, policies to encourage renewable energy sources and implementation of the current regulations;
- the benefits to consumers deriving from carrying out works to improve electricity infrastructure and upgrade the grid.

On the basis of the experience gained, a new memorandum of understanding is currently being discussed. In addition to already established activities, this provides for the setting up of a permanent consultation round table between Terna and the associations, comprising representatives of the various parties and tasked with:

- assessing and formulating possible joint actions to inform residents of areas involved in the implementation of projects envisaged in the Development Plan;
- identifying and developing shared research projects designed to implement best practices;
- collaborating in the execution of projects that implement shared consumer sustainability objectives and the related SDGs.

"Terna for the future": the Letter to consumers from the Codacons Research Centre

In line with its policies regarding stakeholder engagement and dissemination of a sustainability culture, Terna commissioned the Codacons Research Centre to undertake a critical reading of the 2017 Sustainability Report and summarise the contents that most closely relate to consumers' interests in a "Letter to consumers - Terna for the future". In June 2018, the Codacons Research Centre emailed this document to a specially selected cluster of 35,600 citizen-consumers potentially interested in environmental issues, social cohesion and administrative transparency.
The subsequent survey of the results showed that 10,233 citizen-consumers read the document, representing 28.7% of the cluster. This a positive outcome given the Terna's role as a B2B enterprise.

Media and opinion makers

These stakeholders have a role as mediators between Terna and other stakeholders. This category includes national and international media outlets, national and international opinion leaders, web users, universities and other scientific and research organisations, study groups and national and international influencers, towards whom - with a view to achieving transparency and fostering a widespread electricity culture - Terna has always adopted an approach based on its willingness to share its often unique information content (see also page 96).
The media indirectly influence public opinion, regulatory authorities and public decision makers. They can have a direct impact on Terna's reputation or an indirect effect on its operating and business environment and on political decisions regarding energy.

All communication activities have been developed in such a way as to make coordination between the various departments and the integration of the various tools and activities even more effective, in order to obtain ever more widespread and consistent coverage across all media. The Group's communication generated coverage via the release of 5,114 significant items, partly thanks to the publication of 99 press releases (up 9% on 2017, as well as 210 local memos and position statements (up 29%). 439 significant articles were published in the national press (up 6%) and 727 in the local press (up 147%), while 3,230 articles were posted on leading websites (up 395%) and 718 items were broadcast on leading TV and radio channels (up 191%). 51 of Terna's senior executives (up 54%) and 81 managers were interviewed (up 285%). Overall, including traditional (newspapers, periodicals, radio and TV) and online media, Terna released a total of 20,053 items (up 3%). In terms of media relations, over 650 direct contacts were made with the editorial staff of national, local and international press, web-based and TV and radio outlets.

CONTENT GENERATION AND MEDIA COVERAGE

	2018	2017	2016
Press releases	99	91	116
Local memos	210	164	79
Published articles	5,114	1,626	522
Total items (traditional and web-based media)	**20,053**	**19,481**	**17,000**

WWW.TERNA.IT WEBSITE - WEBRANKING ITALY RANKING*

	2018	2017	2016
Ranking	4	5	10

** Compiled by Lundquist, in collaboration with the Swedish company Comprend, this is the most important survey for assessing the transparency of the digital channels of leading listed Italian companies.*

Webranking Europe 500: Terna ranked fifth in the Top 10

With a score of 88 out of 100, Terna rose to fifth place in the Top 10 of Webranking Europe 500 by Comprend 2018, the leading survey for assessing the transparency of the digital channels of leading listed European companies. In 2017 Terna was in sixth place.
For the second year running, Terna also ranked among the top five websites in the Top 10 in Italy, rising from fifth to fourth place, up 3.1 points (from 85 points in 2017 to 88.1 in 2018). This important result rewards the Company's digital communication performance regarding not just the financial sector but also sustainability and governance, areas in which Terna was ranked number one for the first time.

SOCIAL NETWORKS

	2018	2017	2016
Facebook			
Fans	13,153	9,209	7,238
Views	3,328,470	3,674,105	3,886,230
Interactions	46,090	42,870	41,981
Twitter			
Followers	4,500	3,838	3,020
Views	485,288	290,611	179,164
Interactions	8,992	4,930	1,205
Linkedin			
Followers	61,490	31,990	25,400
Views	4,635,262	1,764,035	1,418,631
Interactions	108,136	18,925	12,881

Open Data projects: "Evolution of the electricity market" and "Birdwatching 24/7"

A wealth of searchable and "open" data in Excel format, available to all stakeholders, from electricity operators to birdwatchers. This is what unites Terna's two data sharing projects: the evolution of the electricity system: all the data and birdwatching 24/7.
The electricity system data project is undoubtedly Terna's most important native content asset, and anyone interested in understanding its evolution over the years now has a unique working tool available on the Terna.it website to share knowledge on such a fundamental issue as energy transition.
Terna has also been among the forerunners in the use of radar to monitor bird migration. For more than three years, bird movements across the Strait of Messina, a vital migration route between North Africa and Europe, have been monitored. The outcome is an invaluable collection of data regarding the migration of certain bird species, which Terna has made available to birdwatchers and the scientific community.

Relations with environmental organisations

Since 2009, Terna's commitment to further improve the environmental sustainability of the NTG has been implemented in concrete partnership agreements with the main environmental organisations.

The most significant include those with Legambiente, WWF and Greenpeace - which were signed or renewed in 2016 - who support Terna in the identification of grid development solutions in line with national and international environmental targets that are shared with local communities.

Acceptance of electricity infrastructure: Terna's commitment with the RGI

The importance of listening to qualified stakeholders is an increasingly central item on Terna's agenda, which is reflected in the desire to update grid development procedures, orienting them towards the inclusion of such stakeholders in the decision-making process.
Overcoming the problem of local communities not accepting electricity infrastructure works can, in many cases, make it easier to meet expected completion times and, consequently, to reap the benefits generated by Terna's electricity infrastructure in advance.
Meeting stakeholders' requests for comprehensive information regarding initiatives' objectives, and greater commitment to mitigation measures and project choices that can generate benefits for the environment, the landscape and communities, are the starting point for the activities of the Renewables Grid Initiative (RGI). This association, of which Terna is a member together with eight other European grid operators and eight non-governmental organisations focused on environmental issues, including Legambiente, has set up three working groups to: (1) foster dialogue with strategic stakeholders regarding the need for new electrical infrastructure in their local areas, (2) identify the most relevant environmental issues and define guidelines for sustainable design, and (3) develop new indicators relating to the benefits of new electricity infrastructure. Regarding the last point, Terna contributed to the definition of a methodology which, via two indicators, quantifies the economic value of the advance fruition of benefits by the electricity system and the adoption of design solutions or technological improvement options for local areas, such as laying cables underground, the use of pylons with lower visual impact and camouflage works.

Other stakeholders

Information regarding Terna's engagement with regulators of services operated under concession, public decision makers and other regulators is provided below.

Regulators of services operated under concession	These are the national and EU institutions and public bodies that by law are granted regulatory and supervisory powers over Terna, in its capacity as the operator of the electricity transmission grid and of dispatching activities. While carrying out its activities and in full compliance with respective roles, Terna - in its capacity as an independent system operator - maintains transparent and collaborative relations with these bodies, both with regard to compliance with its obligations under the current legislative and regulatory framework, and in order to make a positive contribution towards development of the framework, playing a proactive role and providing technical support to national and European institutions. Collaboration with institutions specifically involves proposals for solutions that - on the basis of Terna's distinctive know-how - enable more effective pursuit of institutional objectives, such as market efficiency, promotion of the integration of renewable sources, integration of the national market within the European market, and the integrity and security of the Italian electricity system. Terna also works with non-governmental organisations to ensure the systemic sustainability of the Development Plan's initiatives, paying ever greater attention to local areas and their enhancement.
Public decision makers and regulators	These public institutions are responsible for regulation, supervision and authorisation of a general nature, and in particular regarding the construction of infrastructure. They exert an influence over Terna and engage with the Company in the performance of their institutional roles. Since 2016, Terna has been on the Transparency Register, established by the Ministry for Economic Development to guarantee transparency and the traceability of meetings with the Ministry's top officials. In 2018, in addition to ordinary communication initiatives and institutional relations, on 19 September 2018 Terna attended a hearing before the Senate's Standing Industry Committee, in connection with item no. 59, regarding support for productive activities via the use of electricity generation, storage and self-consumption systems.

Community

The concept of the community covers current and future end users of the electricity service and the response to their expectations of the electricity service in keeping with the commitments given in the related concession arrangement.

Communication channels

The management of relations with key stakeholders presupposes the availability of dedicated communication channels to receive requests for information, suggestions, reports and complaints of various kinds.
The most accessible and user-friendly tool is e-mail, using dedicated addresses to deal with specific matters[33]. This is publicised via the website, www.terna.it, and in the case of the e-mail address reserved for personnel, also via the intranet.
Via a set of questions, the "Contacts" section in the homepage menu guides visitors who wish to contact Terna. This page also contains certified e-mail addresses, for all communications that are subject to this requirement.

[33] For example, sostenibilita@terna.it , investor.relations@terna.it ; azionisti.retail@terna.it ; tufficio.stampa@terna.it; etc.)

For electricity operators and suppliers, Terna has three separate company portals (GAUDÌ, MyTerna and the Procurement Portal), as well as a dedicated call centre, which may be reached via a toll-free number (800-999333).
From the website's homepage it is also possible to access Terna's social media profiles, which provide a growing opportunity for interaction with the Company. During 2018, the number of messages received in the Facebook page private mailbox folder (photos sent, support requests for CV submissions, reports and suggestions, requests for information and cooperation proposals) grew 23.8%, with a private response rate by Terna of over 83%. Overall, during the three-year period 2016-2018, the total number of messages received by private mail from the Facebook page has risen from 151 in 2016 to 208 in 2018, an increase of 37.7%. This growth was driven by the increase in the numbers of support requests for CV submissions (up from 41 in 2017 to 67 in 2018) and photos sent (up from 67 in 2017 to 91 in 2018).
In addition to these tools, dedicated reporting tools and mechanisms are available relating to ethical and environmental matters.

Community initiatives

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Terna's contribution to Italy's civic growth goes beyond its role as an infrastructure operator, as expressed through the Company's support for social, cultural and environmental initiatives.
Terna's corporate giving activities primarily consist of financial support for projects with social goals and - preferably - the Company's own organisation of initiatives to benefit the community. In addition, assets no longer of use in operations are donated free of charge, and Terna's employees provide support by spending their working hours on various initiatives, especially paid hours for voluntary work or hours spent on social projects organised directly by Terna, as was the case in 2018 with the second edition of the Next Energy programme. All external requests are managed in line with the Group's corporate giving policy and assessed by a special committee comprising the heads of Corporate Affairs, External Relations and Sustainability and Human Resources, Organisation and General Affairs.

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In any event, in line with Terna's Code of Ethics, donations are never made to political parties or their representatives.
Terna is a member of the London Benchmarking Group (LBG) and has adopted its model - developing its own customised version - for the definition, classification and accounting of companies' charitable initiatives. The model is geared towards accounting for what companies do via initiatives that generate actual external benefits. Such initiatives may include cash contributions (donations, portions of sponsorships that generate an actual benefit and membership of associations that promote sustainability), in-kind contributions (the donation of assets at the end of their useful lives) or be in the form of working hours. In some cases, the valuation of contributions thus requires the use of non-accounting criteria and is therefore influenced by interpretative factors. Moreover, it has the advantage of consistently linking the costs and benefits of social initiatives, thus enabling strategic planning and effective management of the related activities.
Indeed, an important part of the model regards the measurement of benefits, with the aim of assessing the effective impact on the end beneficiaries. In the most important projects, Terna appoints specialist external providers to assess the impact. The community initiatives implemented by Terna in 2018, classified in accordance with the LBG model, are broken down in the following table.

COMMUNITY INITIATIVES

	2018	2017	2016
Total value of contributions (excluding internal operating costs)	**1,956,323**	**1,817,996**	**1,189,259**
By type of contribution			
- In cash	1,707,603	1,625,685	867,167
- In kind (the donation of assets)	1,700	28,031	43,140
- Working hours	247,020	164,280	278,952
By type of initiative (*)			
- Donations	110,200	330,000	241,917
- Investment in the community	1,303,314	931,433	519,042
- Commercial initiatives	542,808	556,562	428,300
By purpose			
- Education and youth	880,630	1,067,497	355,829
- Healthcare	23,000	62,900	0
- Economic development	105,300	84,580	107,267
- The environment	242,921	130,721	130,500
- Art and culture	418,575	226,740	432,300
- Social well-being	0	42,000	38,600
- Emergency aid	98,484	100,210	77,463
- Other	187,412	103,347	47,300

*(*) **Donations:** sporadic contributions, typically in response to requests for funds from charitable organisations deemed to be of merit.*
***Investment in the community:** expenditure on initiatives coordinated/organised by the Company in accordance with a medium- to long-term programme, often in partnership with non-profit organisations.*
***Commercial initiatives:** marketing initiatives with beneficial effects (only the portion of expenditure that constitutes a charitable contribution is accounted for).*

Terna's corporate giving policy gives preference to initiatives projects relating to SDGs 4 ("Quality education"), 7 ("Affordable and clean energy"), 9 ("Industry, innovation and infrastructure") and 11 ("Sustainable cities and communities").
In keeping with these guidelines, the most important topics are youth employment - in the form of education and training (see the box below on the "Trasmettere il Sapere" project) and by promoting innovation projects (see the box below on the NEXT ENERGY project). Work on the initiatives included in the partnership agreement with the LUISS University began in 2018. This programme aims to provide high-quality training to talented young students.

NEXT ENERGY, the Terna programme focusing on the young and innovation

In partnership with the Cariplo Foundation and in collaboration with the Cariplo Factory, Terna has launched NEXT ENERGY, a programme that brings together young people and innovation. The initiative has the dual aim of facilitating open innovation, in connection with Terna's growing need for innovation and the development of innovative projects, and increasing, again with regard to innovation within the context of the energy transition, opportunities for young, innovative entrepreneurs and talented new university graduates.
The second edition of NEXT ENERGY came to a conclusion in May 2018, with the announcement of Bettery as the winning project. This is a start-up that has developed a liquid battery that can be recharged in a very short time and offers specific energy with voltages that are higher than the best storage systems on the market. The second edition extended the "Call for Talents" to new university graduates in economics, mathematics, physics and statistics and introduced the "Call for Growth", aimed at finding mature start-ups ready to work with Terna (also see pages 141 and 152).
The third edition of NEXT ENERGY was launched in September 2018 and will come to an conclusion in May 2019.

"*Trasmettere il sapere*" ("Transmitting knowledge"), Terna's work experience scheme

Facilitating young people's transition from school to work via a constructive exchange with the world of companies and with their knowledge networks is the objective of the Good School legislation (Law 107/15). Terna has taken this as inspiration for its work experience scheme, carried out in collaboration with the ELIS Consortium.
The second edition of the scheme, which coincided with the 2017-2018 school year, involved 13 vocational training institutes (electrical engineering students) from all over Italy, with a total of more than 600 students.

Another topic, which is currently of minor importance, but has potential linked to the growth of the Group's International Activities, is access to energy (see the box below on the "Mato Grosso" project).

In 2018, spending on initiatives aligned with priority SDGs 4, 7, 9 and 11 accounted for 71.9% of Terna's expenditure on community initiatives.

For the purposes of full disclosure, it should also be noted that, in 2018, expenditure accounted for as donations and sponsorships amounted to €88,500 and €1,333,878, respectively.

Operation Mato Grosso

Work is continuing on the activities provided for in the agreement signed in November 2016 between Terna, the parish of Chacas and the non-governmental organisation, Operation Mato Grosso, to build a 16.5 km, 60 kV power line in Peru. This will safely connect the local Huallin hydroelectric power plant (3 MW), thereby significantly increasing the availability of electricity, for the benefit of local community development projects.
During 2018, the working group comprising Terna technicians and volunteers from Operation Mato Grosso and the parish defined the route of the line and how it will be connected to the existing Pomabamba - Huari 60 kV line. The authorisation process, which Terna has helped to prepare by supporting the parish in drawing up of technical and design documents, will be completed by the end of the first quarter of 2019. Ahead of the construction phase, which will start in the second quarter of 2019 and will last approximately one year, a new agreement has been signed between Terna Plus - the Terna subsidiary responsible for Non-regulated Activities overseas - and the parish of Chacas regarding implementation of all the planned activities. The new agreement provides for the establishment of Terna Mato Grosso, a Peruvian newco which will be 99.9% owned by Terna Plus and 0.1% owned by Terna Chile, with the task of supervision, engineering and provision of goods and services for installation of the infrastructure, as well as substation components, including a Tamini transformer. The newco's staff will include people trained locally by Terna.

Support for environmental causes has not been included in this table as it is usually linked to the construction of new lines and has therefore been classified under environmental expenditure (see "Environmental costs" on page 190).

Relations with European institutions

During 2018, Terna set up the Brussels Office, which has been operating since last July, to strengthen its links with European institutions and its position in Europe, both as a leading European stakeholder in the energy sector and as the operator of a transmission system that operates under a concession.
The aim is to establish ongoing dialogue with the European Parliament, the Commission and the Permanent Representation in order to take advantage of Terna's experience and expertise.
Being in Brussels also allows Terna to strengthen its presence in European and industry associations - especially ENTSO-E, the association of European TSOs - and to monitor its activities in a structured and coordinated way in order to ensure uniform and consistent participation and constant dialogue and discussion with other European TSOs on the important issues regarding the energy transition in progress.

Participation in European and international associations

A further opportunity for engagement and dialogue is provided by Terna's membership of the principal national and international trade associations.

European Associations

ENTSO-E (European Network of Transmission System Operators for Energy)	ENTSO-E is the European Network of Transmission System Operators for Electricity which is involved in the process of integrating national electricity markets, coordinating the secure operation of interconnected electricity systems and developing electricity transmission grids, in implementation of the EU's Third Energy Package. ENTSO-E's main objectives are to: draw up European network codes, guarantee the coordinated development of the electricity grid at European level by drawing up the European Electricity Grid Development Plan (TYNDP) and the related benchmark scenarios, and draw up the Research, Development and Innovation Plan at European level. In particular, the TYNDP is the European Commission reference document for the identification of Projects of Common Interest (PCI) in implementation of Regulation (EU) no. 347/2013.
EASE (European Association for Storage of Energy)	The European association that is responsible for promoting industrial research and development in the field of electricity storage system applications in Europe and around the world and the use of this technology for the transition to a stable, flexible, sustainable and cheaper continental energy system. In particular, EASE is working on the development of a European platform for sharing information in the field of energy storage.
RGI (Renewables Grid Initiative)	An association consisting of nine European TSOs and eight environmental NGOs which aims to promote the integration of renewable energy sources through the development of electricity grids. In particular, RGI is committed to promoting strategic planning and participating in the construction of new power lines, via a meeting platform involving environmental NGOs and European TSOs. For details of activities in 2018 see page 97.

International Associations

CIGRE (Conseil International des Grands Réseaux Electriques)	An international non-profit association that conducts research regarding high-voltage grids. It has 58 member countries, and Terna has been appointed as the Chair and Vice Chair of the Italian Committee.
GO15 (Reliable and Sustainable Power Grids)	An international association bringing together the 19 leading grid operators worldwide in order to share best practices in the management of electricity transmission grids. Terna chairs the "Reliability and security" group, which deals with the resilience of the electricity system.
Med-TSO (Mediterranean Transmission System Operators)	This association brings together the TSOs from 19 Mediterranean countries, with the aim of promoting the standardisation of development plans and the coordinated management of grids. The association also works to facilitate the creation of a legislative and regulatory framework designed to drive the development of interconnection projects and promote the exchange of electricity between electricity systems in the Mediterranean area. Terna hosts the association's registered office and operational headquarters in Rome and appoints its Secretary General, as well as chairing the Technical Committee, which is responsible for planning the Mediterranean electricity grid.

The association aims to promote renewable energy and energy efficiency projects in the northern and sub-Saharan Africa, enabling the development of projects in these areas to meet local energy needs.	RES4MED&AFRICA (Renewable Energy Solutions for the Mediterranean & Africa)
The Italian national committee of the WEC, an international organisation that brings together operators from over 90 countries, with the aim of promoting a sustainable energy system worldwide.	World Energy Council (Italian committee)

During 2018, in addition to consolidating its presence in industry associations, Terna helped to organise World Energy Week in Milan, which was attended by the world's leading energy experts to discuss the current energy transition. On this occasion, Terna hosted a meeting of the CEOs of the 19 largest electricity system operators in the world belonging to the GO15 association, which focused on the importance of having increasingly resilient and sustainable electricity infrastructure as a key factor in the energy transition.

The Company also continued to participate in the activities of organisations with a broader thematic scope (such as Diplomacy, the Council on Foreign Relations, etc.) in order to monitor the socio-political and economic contexts in which to develop or consolidate its business, focusing its attention on Latin America and the Mediterranean basin. In Latin America, Terna has joined the regional body, CIER (Comision de Integracion Energetica Regional), participated in by energy companies and local authorities, which pursues the objective of regional energy integration through cooperation between its members.

At bilateral level, Terna has initiated a series of contacts with the senior managements of European and non-European system operators, with the aim of concluding cooperation agreements in areas of common interest, particularly with regard to technological innovation, grid development and electricity system operation.

Investigations, litigation and sanctions

Investigations by ARERA

The following measures were issued by the regulator in 2018:

Resolution 158/2018/E/eel - Initiation of an investigation into the availability of transport capacity between Italy and Greece, partly in view of the launch of market coupling on this border pursuant to Regulation 2015/1222 (CACM)

With this resolution, and also at the request of the Greek regulator and in coordination with the latter, the regulator initiated an investigation regarding the availability of transport capacity between Italy and Greece, in view of the expected extension of market coupling on this border from 2019. The purpose of the investigation is to acquire information and data to assess the availability of transport capacity between Italy and Greece, the reliability of the Italy-Greece HVDC interconnector and the actions undertaken by Terna to ensure resumption of service.

Prescriptive measures regarding non-diligent planning strategies in relation to the dispatching service

In 2018, the regulator completed the investigation regarding prescriptive measures referring to dispatching users who have been reported to the regulator for non-diligent planning strategies in the wholesale energy and dispatching services markets.

With reference to previous years, and on the basis of the information in the Company's possession, the following cases are still pending:

- Resolution 450/2013/E/eel of 11 October 2013 - Ruling on electricity price trends in the Sicily area, during the period of maintenance of the Sicily - Mainland interconnector - October 2013;
- Resolution 256/2014/E/com of 6 June 2014 - Launch of a fact-finding investigation regarding investment by regulated companies;
- Resolution 674/2017/ E/eel Urgent rulings regarding potential problems in the wholesale electricity market deriving from the preventive seizure of the Brindisi Cerano power plant. Formal notice to a market operator and initiation of a fact-finding investigation.

Litigation

The main commitments and risks not disclosed in the financial statements at and for the year ended 31 December 2018, relating to the Parent Company, Terna, its subsidiary, Terna Rete Italia S.p.A., and Tamini Group companies, are described below. There are no significant commitments or risks for the other subsidiaries at that date.

Environmental and urban planning litigation

Part of environmental litigation deriving from the construction and operation of Terna's power plants, consists of legal actions taken against the alleged negative effects of electric and magnetic fields generated by power lines.
In general, this litigation necessarily involves the Parent Company, which owns the infrastructure in question.

Moreover, it cannot be ruled out that the parties concerned may also initiate legal proceedings against the subsidiary, Terna Rete Italia S.p.A., as the electromagnetism generated by power lines relates not only to ownership of the plant, but also to its operation and the quantity and quality of electricity it transports.

Regarding this matter, it should be noted that the issue of the Cabinet Office Decree of 8 July 2003 - which specifically set the values of the three parameters (exposure limits, safety thresholds and quality targets) provided for in Framework Law 36 of 22 February 2001, which electricity infrastructure must comply with - led to a significant reduction in any such litigation.

Other environmental and urban planning disputes, which do not relate to electromagnetic fields, are also pending with regard to Terna S.p.A. These disputes are connected with the operation of certain Terna-owned plant, which in the event of an unfavourable outcome could also generate immediate effects for Terna Rete Italia S.p.A. (to date unforeseeable and therefore not included in "Provisions for litigation and sundry risks"), both as the entity appointed by Terna S.p.A. to build the related infrastructure and as the entity responsible for its operation. In particular, charges may arise for Terna Rete Italia S.p.A. connected with changes to the infrastructure involved in such disputes and its temporary unavailability. However, after examination of the disputes in question by Terna S.p.A. and external counsel appointed by the Company, it appears that the possibility of any negative outcomes is remote.

Litigation regarding the legitimacy of construction permits and plant operations

Another aspect of litigation connected with the plant owned by the Parent Company derives from legal actions brought before the competent administrative courts, aimed at obtaining the annulment of decisions granting consent for the construction and operation of infrastructure.

Litigation relating to activities carried out under concession

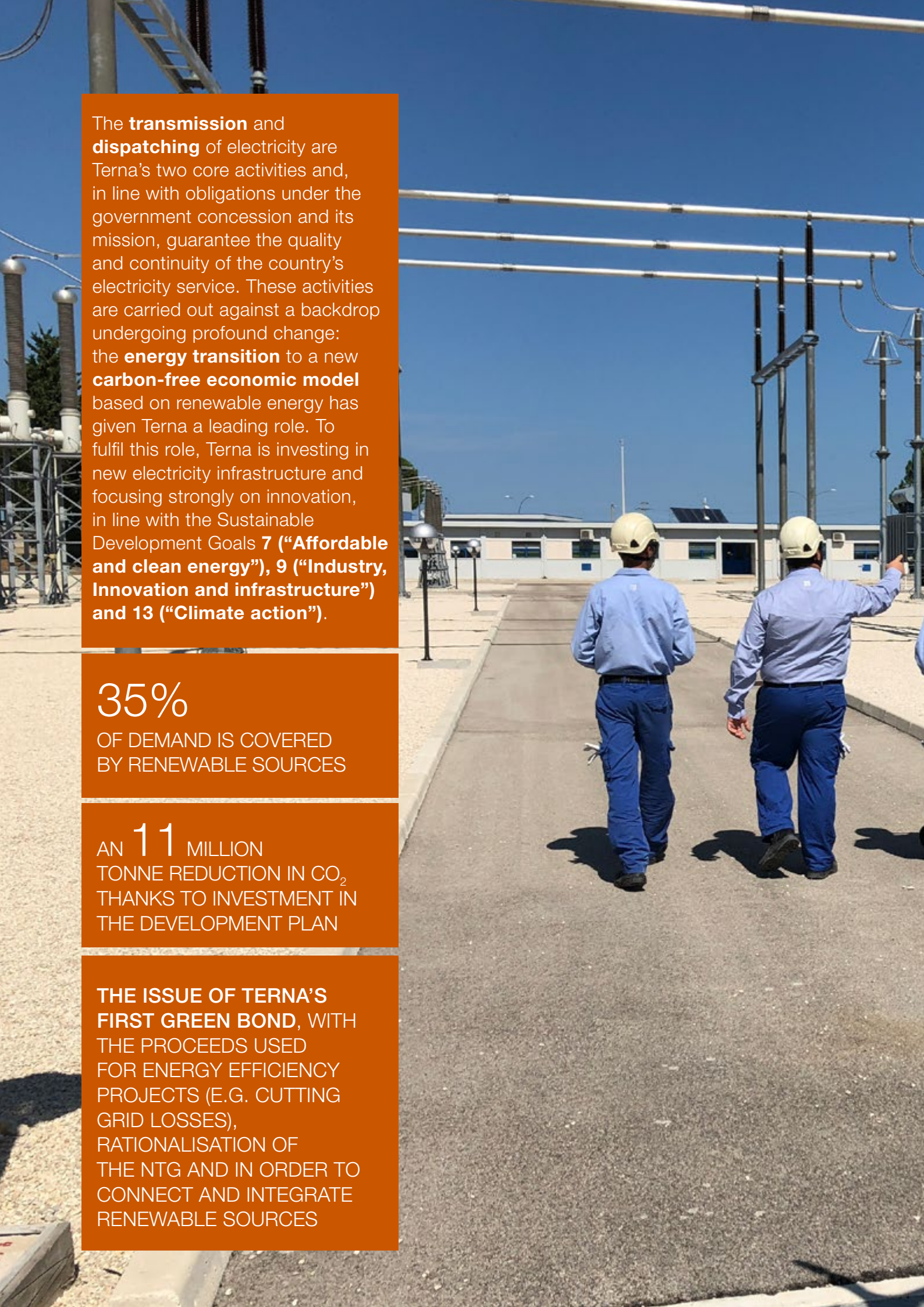
As the operator of transmission and dispatching activities since 1 November 2005, the Parent Company has been a party in a number of court cases, most of which have contested determinations adopted by ARERA (Italy's Regulatory Authority for Energy, Networks and the Environment), and/or the Ministry for Economic Development, and/or Terna, in relation to these activities. In cases in which the plaintiffs have, in addition to inherent defects in the contested determinations, alleged violation of the regulations laid down by the aforementioned authorities, or in cases in which the determination has had an impact on Terna, the Company has also taken action to defend its interests through the legal system. Within the scope of such litigation - even though some cases have been concluded, at first and/or second instance, with the annulment of ARERA's resolutions and, when applicable, of the consequent determinations adopted by Terna - any negative outcomes for the Company itself may be deemed unlikely, as these disputes normally relate to pass-through items.

Litigation regarding supply contracts

This litigation only refers to Tamini Group companies and relates to supply contracts entered into between Tamini Group companies and its customers, regarding the supply of transformers and/or the related components.

It also concerns certain claims for damages brought against companies, regarding alleged damage caused by machinery and/or components supplied by them.
With regard to these judgements, it is impossible to exclude, in absolute terms, any unfavourable outcomes. Where such outcomes are deemed likely, specific provision is made to the provisions for risks and charges.
Further details on the various categories of litigation are provided in the "Key indicator tables" on page 232.


Roma



The **transmission** and **dispatching** of electricity are Terna's two core activities and, in line with obligations under the government concession and its mission, guarantee the quality and continuity of the country's electricity service. These activities are carried out against a backdrop undergoing profound change: the **energy transition** to a new **carbon-free economic model** based on renewable energy has given Terna a leading role. To fulfil this role, Terna is investing in new electricity infrastructure and focusing strongly on innovation, in line with the Sustainable Development Goals **7 ("Affordable and clean energy"), 9 ("Industry, Innovation and infrastructure") and 13 ("Climate action")**.

35%

OF DEMAND IS COVERED BY RENEWABLE SOURCES

AN 11 MILLION TONNE REDUCTION IN CO_2 THANKS TO INVESTMENT IN THE DEVELOPMENT PLAN

THE ISSUE OF TERNA'S FIRST GREEN BOND, WITH THE PROCEEDS USED FOR ENERGY EFFICIENCY PROJECTS (E.G. CUTTING GRID LOSSES), RATIONALISATION OF THE NTG AND IN ORDER TO CONNECT AND INTEGRATE RENEWABLE SOURCES

4

Electricity service and innovation

Energy sector

At international level, guidelines for development of the energy sector are provided in the United Nations Sustainable Development Goals (SDGs), which - in keeping with the decisions set out in the COP 21[34] - set out a path for creating an energy system based around renewable sources by 2030. In the meantime, the European Union's Clean Energy Package, which is in the process of being approved, will lead to major changes in the rules and policies applied to the sector, ranging from the electricity markets to the energy efficiency of buildings. In line with these guidelines, the Italian government approved the country's National Energy Strategy (*Strategia Energetica Nazionale* or "SEN") at the end of 2017. This is a key policy document, forming the basis for plans to develop the Italian energy system of the future. At the end of 2018, the government also drew up a proposed Integrated National Energy and Climate Plan (NECP).
The NECP was recently submitted to the EU and will be consulted on with stakeholders. The document has not introduced significant quantitative changes with respect to the figures included in the SEN, but proposes a revision of the related objectives and is firmly based around the Energy Union's five dimensions: energy efficiency, decarbonisation, the internal energy market, energy security and research, innovation and competitiveness.

One of the objectives of the NECP is to boost the share of total consumption generated by renewable energy sources from 18.6% in 2020 to 30% by 2030. The electricity sector has been set even more challenging goals, with the aim of increasing the share of total electricity consumption represented by renewables from 34.1% in 2017 to 55.4% in 2030. Measures designed to promote security of supply for energy, above all electricity, are dependent on the introduction of the Capacity Market, which is due to be launched in 2019, and on revision of the Emergency Plan for the Security of the Electricity System (*piano di Emergenza per la Sicurezza del Sistema Elettrico* or "PESSE"). The strategy also includes plans to boost storage systems (above all pumping), cross-border interconnections (see page 128) and investment in resilience in order to contribute to efforts designed to increase the ability of the grid to handle extreme weather events and emergencies (see page 134).

In 2018, renewable sources (including hydroelectric and biomass) accounted for 40% of Italy's production (35% of demand).

ELECTRICITY DEMAND IN ITALY	2018*	2017	2016	% CHANGE 2018-2017
Net domestic production	280,234	285,265	279,703	-1.8%
From overseas suppliers (imports)	47,179	42,895	43,181	10.0%
Sold to overseas customers (exports)	-3,270	-5,134	-6,154	-36.3%
For use in pumping**	-2,233	-2,478	-2,468	-9.9%
Total demand in Italy	**321,910**	**320,548**	**314,261**	**0.4%**

* *Provisional data.*

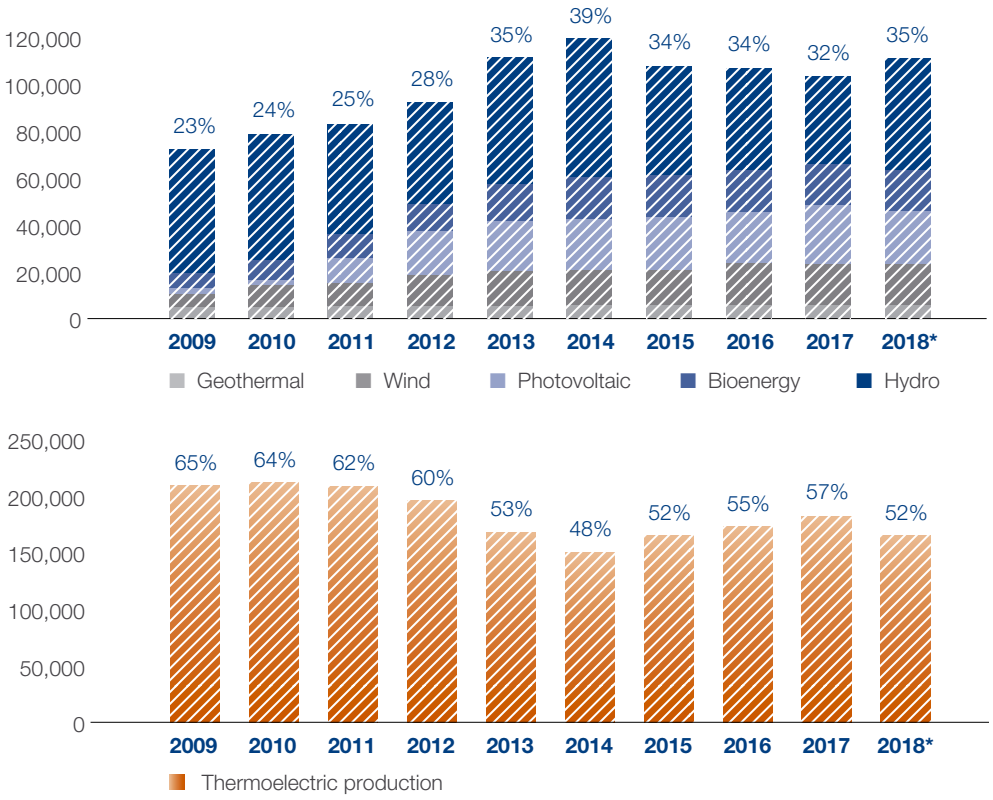
** *Electricity used for pumping water, solely for subsequent use in electricity production.*

[34] The Rio Earth Summit, COP 21 or CMP 11 was held in Paris between 30 November and 12 December 2015. This was the 21st annual session of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) of 1992 and the 11th session of the Meeting of the Parties to the Kyoto Protocol of 1997.

ELECTRICITY PRODUCTION IN ITALY (GWh)	2018*	2017	2016	% CHANGE 2018-2017
Net hydroelectric production	49,275	37,557	43,785	31.2%
Net thermal production	167,363	182,487	172,815	-8.3%
Renewable production	63,596	65,221	63,103	-2.5%
Total net production	**280,234**	**285,265**	**279,703**	**-1.8%**

(*) Provisional data.

PERFORMANCE OF PRODUCTION SOURCES IN TERMS OF DEMAND*



The increase in the share of demand met by renewable production in 2018 is due to the significant rise in hydroelectric production, which offset the slight fall in other renewable sources.

(*) The percentages shown in the two graphs compared refer to the share of demand met by renewable sources (top graph) and thermal sources (bottom graph).

NO. OF HOURS IN WHICH COVERAGE OF DEMAND BY RENEWABLE SOURCES EXCEEDS THRESHOLD

	>30%	>40%	>50%
2015	5,194	2,174	712
2016	5,083	2,298	800
2017	4,434	1,769	524
2018*	**5,617**	**2,537**	**727**

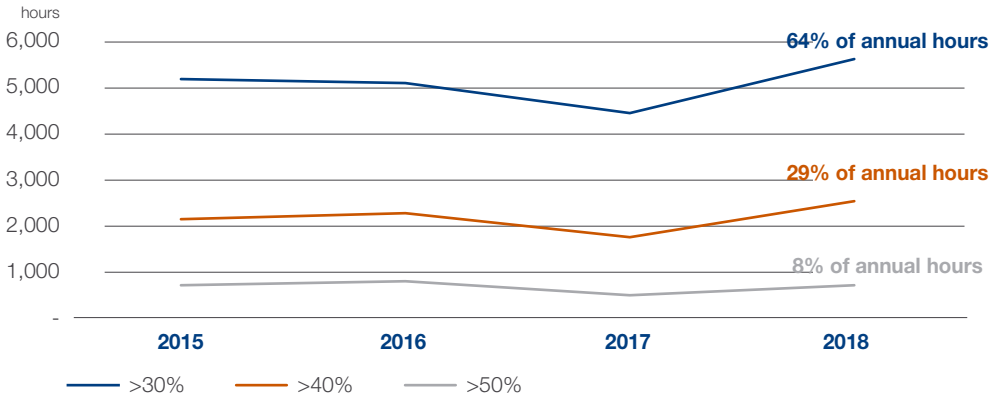
NB: there are usually 8,760 hours in a calendar year, with 8,784 in a leap year.
(*) Provisional data.

The trend in recent years has seen a significant increase in the number of hours during which the share of demand met by RES exceeds the 30% threshold. This reflects both growth in renewable capacity installed and increasing integrated approach managing the various renewable energy sources available.

If we exclude the decline in 2017, due to a lack of water for use in hydroelectric production, we can see that the trend is towards a growing number of hours when there is a contribution from renewable sources.

This shows that the "green transition" is well underway and making solid progress.

SHARE OF DEMAND MET BY RENEWABLE SOURCES



Continuity and quality of service

> EU28

> EU29

Each segment of the electricity system - generation, transmission and distribution - plays a role in ensuring the availability of electricity in Italy, guaranteeing adequate quality standards and keeping the number of outages below pre-set thresholds.

Terna is responsible for service continuity on the transmission grid[35], which is monitored through various indicators, a number defined by ARERA[36].

The RENS and ASA indicators are the most significant, as they record the frequency and impact on the service of events affecting the electricity network and linked to faults or external factors, such as weather events.

INDICATOR	WHAT IT MEASURES	HOW IT IS CALCULATED
RENS*	Energy not supplied following events affecting the relevant grid**.	The sum of the energy not supplied to users connected to the NTG (following events affecting the relevant grid, as defined in the ARERA regulations governing quality of service).
ASA***	Availability of the service provided by the NTG.	Based on the ratio of the sum of energy not supplied to users connected to the NTG (ENS) and energy fed into the grid.

* *Regulated Energy Not Supplied.*
** *The "relevant grid" refers to all the high-voltage and very high-voltage network.*
*** *Average Service Availability.*

The RENS indicator is also important due to the impact it has on regulated revenue. Indeed, ARERA[37] regulates the quality of service provided by Terna through a bonus/penalty mechanism based on this indicator.

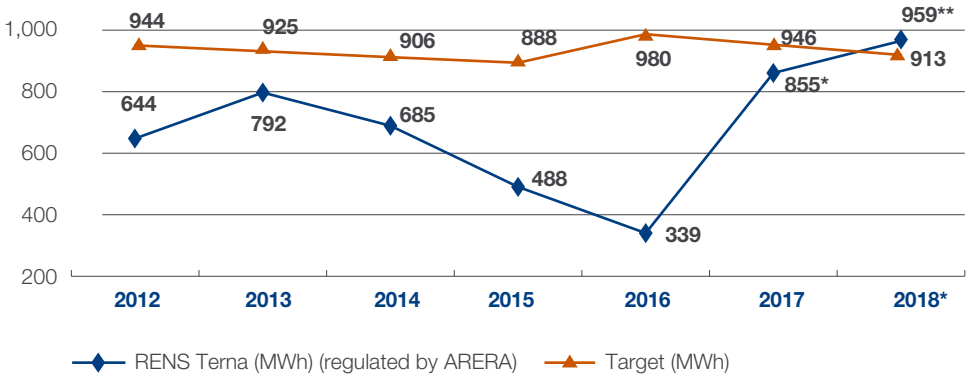
As regards the ASA indicator, the operating performance shows that ASA has remained stable at a high level over the years (the higher the indicator, the better the performance). This indicator shows that the energy not supplied following a fault on the owned grid represents a minimal part of the total quantity of energy supplied to users of the grid.

[35] The monitored portions of the NTG belong to Terna S.p.A. and, from 2012, also the subsidiary, Terna Rete Italia S.r.l.

[36] Resolution 250/04.

[37] Resolution ARG/elt 197/11. This regulates the quality of the service provided by Terna via a bonus/penalty mechanism applicable to the regulatory period 2012-2015 and relating to the Regulated Energy Not Supplied (RENS) indicator attributed separately to the grid owned by Terna S.p.A. and to the one owned by the subsidiary, Terna Rete Italia S.r.l. Since 2016, the quality of the service provided by Terna has been regulated by Resolution 653/15/R/EEL, the latter applicable to the 2016-2023 regulatory period, which takes into account only one indicator, NTG RENS, including the grid owned by Terna S.p.A. and its subsidiary, Terna Rete Italia S.r.l. Resolution 38/2016/R/eel recently clarified that the portion of the network acquired from the FSI Group is excluded from the bonus/penalty mechanism regarding Energy Not Supplied.

RENS INDICATOR

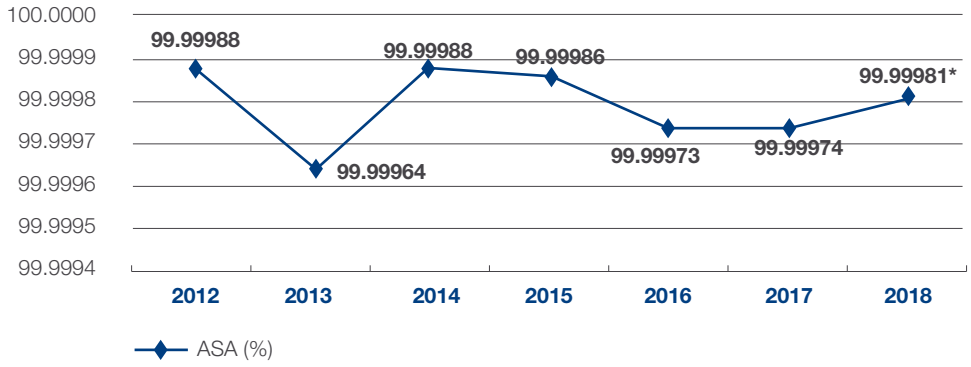


For the RENS indicator, the targets for 2012-2015 have been set as an average of the RENS 2008-2011 indicator, referred to in ARERA Resolution ARG/elt 197/11, with a 2% improvement in performance required for each year compared with the previous one. The target for 2016-2023 has been set as an average of the 2012-2015 RENS indicator, referred to in ARERA Resolution 653/15/R/eel, with a 3.5% improvement in performance required for each year compared with the previous one.

(*) The RENS indicator for 2017 is provisional and is subject to change following confirmation of the related amount by ARERA.

(**) This figure takes into account the major incident of 29 October, which affected northern Italy and led to the misalignment of numerous primary substations in the Padua and Milan local Operating Areas for Transmission (above all in the provinces of Belluno, Trento, Vicenza and Brescia), amounting to 625 MWh. Terna is in talks with ARERA with a view to having the event classified as a catastrophe. The RENS indicator calculated on this basis is 969 MWh and falls within the quality of service allowance.

ASA INDICATOR



The ASA indicator refers to the observation period 2012-2018.
(*) The figures for 2018 have not yet been finalised and approved by ARERA.

Investment and innovation for the SDGs

Terna's main activity coincides with its obligations under the concession and translates into a constant commitment to ensuring a secure, high-quality and affordable electricity service for the whole of Italy, via management and development of the transmission grid.

In the current phase of transition towards a decarbonised economic system, in addition to its traditional tasks, the Company is also responsible for promoting the integration of renewables as far as possible. This is achieved by directly connecting them to the grid or through grid upgrades, and by improving grid management capabilities when using non-programmable renewable sources to meet high demand. Increased use of renewables and development of the electricity grid go hand in hand. Indeed, the latter is an essential enabling factor for the former.

Terna's activities are, therefore, an integral part of the form of sustainable development set out in the United Nations Sustainable Development Goals and, especially, in Goal 7 ("Affordable and clean energy"), Goal 9 ("Industry, innovation and infrastructure") and Goal 13 ("Climate action").

For the specific implementation of its contribution to the achievement of these SDGs, Terna relies on four main instruments:
- investment in development of the transmission grid (the Development Plan);
- investment in the security of the service (the Security Plan);
- investment in the resilience of the grid and the service (the Resilience Plan contained in the Security Plan);
- asset management (the renewal and maintenance of plant);
- innovation, aimed at supporting the transition to renewables and promoting energy efficiency.

The Development Plan also refers to SDG 8 ("Decent work and economic growth"), as the infrastructure drives the country's economic growth, and SDG 11 ("Sustainable cities and communities"), introducing "Focus on local communities" as a driver in the 2019 edition of the Development Plan (such as the integration of electric mobility projects in metropolitan areas).

GROUP CAPITAL EXPENDITURE

(€m)	2018
Development Plan	**472**
Security Plan	**136**
Projects to renovate electricity assets	**296**
- of which electricity assets (before functional separations)	*228*
- of which functional separations	*68*
Other capital expenditure	**85**
Total regulated assets	**989**
Other non-regulated assets*	**103**
TOTAL CAPITAL EXPENDITURE	**1,091**

** includes financial expenses of €15 million in 2018 and €13 million in 2017.*

BENCHMARK SDGs FOR TERNA

TARGET	TERNA' ACTIONS	SDG
7.1 - By 2030, ensure universal access to affordable, reliable and modern energy services. **7.2** - By 2030, increase substantially the share of renewable energy in the global energy mix. **7.a** - By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.	**7.1** - Focus on innovation to increase energy efficiency and contribute towards decarbonisation of the economy (see page 138); Carry out the investment provided for in the Development Plan (see page 119); Seek new non-regulated business opportunities (see page 44). **7.2** - Carry out the investment provided for in the Development Plan (see page 119). **7.a** - Play an active role in policy coordination at international level (ENTSO-E, see page 102) and develop overseas operations (see page 47).	
9.1 - Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. **9.a** - Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.	**9.1** - Carry out the investment provided for in the Development Plan (see page 119) and implement the Resilience Plan (see page 135); Construct cross-border interconnections (see page 128). **9.a** - Develop International Activities (see page 47).	
13.1 - Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.	**13.1** - Implement the Resilience Plan; Research and Development; Innovation. Focus on innovation to increase the resilience of the NTG (see page 135).	

Grid development

Each year, Terna prepares a National Transmission Grid (NTG) Development Plan, which sets out the grid development initiatives envisaged over the next ten years, as well as the state of progress of the development works planned in previous years.

By analysing electricity flows through the grid and developing supply and demand projections, Terna is able to identify areas of the grid requiring attention. As a result, it is able to plan the new projects needed to ensure that the system is fit for purpose over the short, medium and long term, in relation to demand, security of supply, quality, continuity and the cost-effectiveness of the service.
The Plan contains all the investments that Terna is committed to carrying out in order to guarantee the efficiency of the grid, the security of supply and of the service. At the same time, it represents the community's need for a secure, efficient electricity service and Terna's commitment to meet that need.

Given that these objectives are of general interest, all investment in development of the grid is subject to a prior **cost-benefit analysis**, comparing the related expenditure with the resulting benefits, expressed in monetary terms. The cost-benefit analysis largely applies the criteria and methods applied by ENTSO-E, examining contrasting scenario and indicators of the environmental and social benefits. Medium- to long-term development scenarios have been drawn up in line with these guidelines.

A positive cost-benefit ratio is a necessary condition of the investment's inclusion in the Development Plan.

The Development Plan is assessed and approved by the Ministry for Economic Development, following the outcome of the public consultation[38] organised by ARERA, and is submitted for evaluation by the grid users' Consultation Committee (also see page 92).

The Plan is also subjected to a Strategic Environmental Assessment (SEA)[39] process by the Ministry of the Environment and of the Protection of Land and Sea in agreement with the Ministry of Cultural Heritage, with a view to incorporating environmental considerations when preparing the plan, thereby ensuring its environmental sustainability.

[38] Pursuant to art. 36.13 of Legislative Decree 93/11.
[39] Or, if necessary, to the procedures for verification of eligibility for the SEA procedure pursuant to Legislative Decree 1 of 24 January 2012.

2019 Development Plan

The 2019 Development Plan is fully in keeping with changes in the electricity sector at Italian and European level, reflecting the impact of the drive for decarbonisation. This is in keeping with the proposed Integrated National Energy and Climate Plan (NECP) submitted to the European Commission on 8 January 2019 and which should receive final approval during the current year.

The 2019 Development Plan is also a response to changes in the state of the climate and the occurrence of increasingly significant weather events, whilst placing a growing emphasis on local issues and the promotion of local initiatives.

The Development Plan is based on the following drivers:

- **decarbonisation**: the electricity system's transition to complete decarbonisation requires use of all the tools necessary in order to fully integrate renewable production plants in order to reduce emissions, guaranteeing the system's security;
- **market efficiency**: the structure and mix of Europe's generation mix in general and of Italian generation in particular are undergoing a radical transformation, just as transmission lines are being developed in keeping with new European directives regarding Market Design;
- **security of supply**: the third driver for the Plan aims to ensure the security of the national electricity system and, at the same time, create an increasingly resilient system, capable of handling critical events external to the system itself;
- **systemic sustainability**: meaning the ability to conceive, design and implement projects on the basis of cogent analysis capable of maximising the both the environmental and economic benefits.

The 2019 Development Plan entails investment of approximately €13 billion, which will enable the Company to achieve the following electricity system efficiencies and benefits:

800 GWH A YEAR	**OVER 5,000 MW**	**UP TO AROUND 6,000 MW**	**AROUND 5,500 MW**
in reduced energy losses	in reduced congestion	in increased interconnection capacity with other countries	in increased capacity provided by renewable sources in the short term

Terna successfully launches first green bond issue

The positive effects of investment in the development of Terna's grid were behind the launch, in July 2018, of the Group's first ever green bond for institutional investors. The bonds, which proved a great success with investors with the issue being six times oversubscribed, amount to €750 million and have a term to maturity of five years. Further bonds amounting to €250 million were issued in January 2019 in the form of a private placement.

As indicated in the "Green Bond Framework", the net proceeds will be used to finance eligible green projects that Terna has already selected or that will be selected in compliance with the Green Bond Principles 2018 published by ICMA, the International Capital Market Association. The projects will regard energy efficiency (e.g. reducing energy losses), rationalisation of the NTG and the connection and integration of renewable sources. The Green Bond Framework was reviewed by Vigeo Eiris, which provided an independent Second Party Opinion (see the "Green Bond Report 2018" on page 216).

The bond issue was managed by a syndicate of banks consisting of Banca Akros, Banca IMI, Bank of America Merrill Lynch, BNPP (which also acted as Green Structuring Advisor), Credit Suisse, J.P. Morgan, Natixis and UniCredit.

Reduction of CO_2 emissions in the electricity system

Construction of the new power lines and substations provided for in the Development Plan generates positive effects not only regarding the security of supply and the final cost of electricity, but also in terms of a reduction in the emissions produced by the electricity system. The effects, which will be achieved on completion of the Plan, derive from a reduction in energy losses through the grid, improvements to the production mix and interconnections with other countries, as well as the connection of plants that use renewables.

The overall reduction in CO_2 emissions could add up to approximately 11 million tonnes per year.

Reduction in grid losses	Grid losses depend, among other things, on the length of the section of the transmission grid over which the electricity has to travel. In the simplest possible terms, the further away the point of consumption (withdrawal from the NTG) is from the point of production (injection into the NTG), the greater the losses for the same amount of consumption. In addition, over an equal distance, the losses are greater on a lower voltage line. Development works that improve the grid bring the points of withdrawal and consumption closer together: if all else is equal, grid losses are consequently reduced. A similar result is achieved by upgrading a section of the grid, for example, when a 400 kV line replaces a 150 kV line along the same route. The entry into service of the main development works provided for in the 2019 Development Plan will lead to an estimated reduction in energy losses through the grid of approximately 800 GWh a year. If such a loss reduction were to equate to a decrease in production from fossil fuel sources, this would amount to a reduction in CO_2 emissions of approximately 280,000 tonnes per year.
Improvement in the production mix and interconnections with other countries	One of the primary aims of developing the electricity transmission grid is to overcome transport limitations between “electricity zones”. The existence of these limitations imposes certain restrictions on being able to use the most efficient generating units for production, namely those that are less polluting in terms of CO_2 emissions, while at the same time, for grid security reasons, necessitating production by obsolete power plants. The initiatives provided for in the Development Plan, together with the expansion of interconnections with other countries, would enable a more efficient production mix, with a greater share of production from higher yielding plants. The same amount of final consumption would thus be achieved with less fuel: the benefits would add up to a reduction in CO_2 emissions of up to 6,340,000 tonnes per year.

Increase in renewable energy production

The main contribution to the reduction in CO_2 emissions derives from the increased integration of renewable energy plants. Production of energy from renewable sources has grown rapidly in potential in recent years. In particular, wind and photovoltaic generation plants have witnessed a considerable increase, especially in Italy's southern and island regions.

One of Terna's main tasks is to plan upgrades of the NTG in order to promote the production of electricity from renewable sources, seeking to overcome any grid and operational constraints that may affect the injection of such energy into the grid, which benefits from priority dispatching rights.

The development solutions planned in response to these critical issues include interventions to upgrade sections of the primary grid, which indirectly reduces the limits on production from non-programmable renewable sources (NPRS), and interventions designed to upgrade local sub-transmission grids into which the energy produced from NPRS is directly injected (see page 126). In addition to these interventions, collection stations have been planned for NPRS on the primary 400 kV grid, which will limit the number of new 150 kV power lines to be built with respect to the number that would otherwise be required. Overall, the works envisaged in Terna's 2019 Development Plan will release power from renewable resources amounting to approximately 5,500 MW, thereby obtaining a reduction in CO_2 emissions of approximately 4,427,000 tonnes a year.

Cuts in CO_2 emissions in 2018

In 2018, the benefits in terms of reductions in CO_2 emissions were mainly due to the installation of new "zero emission" production plants.

The provisional figures for installed capacity from renewable sources in 2018 are shown below.

ENERGY SOURCE	INSTALLED CAPACITY - MW
Wind	~10,311
Photovoltaic	~20,116
Total	**30,427**

(*) Provisional data from Terna.

Principal projects for the National Transmission Grid

Investment in the Development Plan:

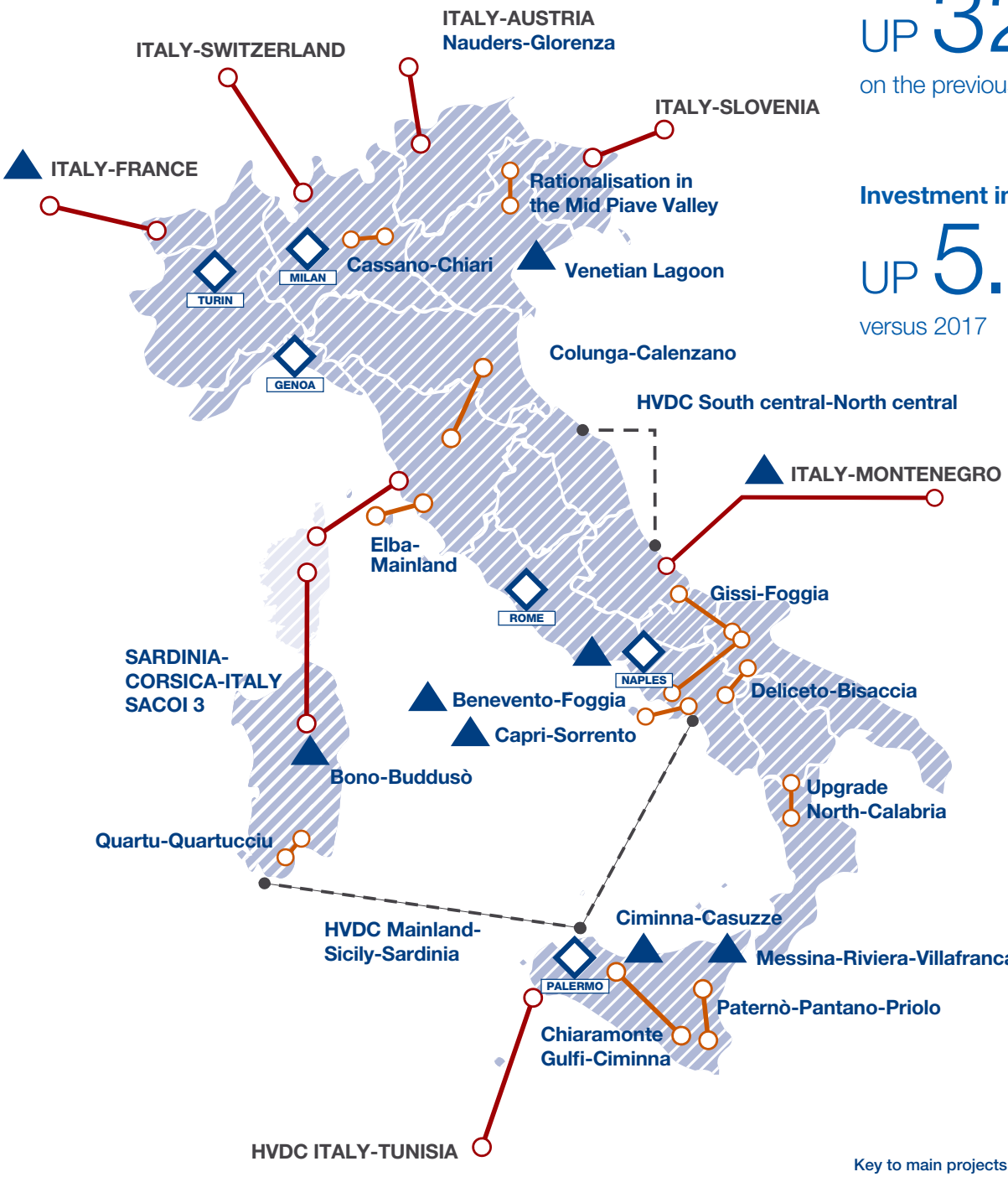
UP 32%

on the previous Plan

Investment in 2018

UP 5.5%

versus 2017



Key to main projects included in the Development Plan

- Lines
- Restructuring in urban areas
- Overseas interconnections
- Grid upgrades

DEVELOPMENT PLAN - €472 million

Interconnectors and lines	Km of circuit	Status	Driver
Italy-Montenegro interconnector	445	◉	
Italy-France interconnector	190	◉	
Italy-Austria interconnector	24	○	
Italy-Switzerland interconnector	100	○	
Italy-Slovenia interconnector	114	○	
Sardinia-Corsica-Italy interconnector	540	○	
HVDC Centre South - Centre North	221	○	
HVDC Italy-Tunisia	200	○	
HVDC Mainland Sicily-Sardinia	882	○	
Venetian lagoon cables	20	●	
Sorrento Peninsula interconnector	20	◉	
Reorganisation of metropolitan areas ✓	182	◉	
Foggia-Benevento II power line	18	●	
Bono-Buddusò	29	●	
Messina-Riviera-Villafranca	12	●	
Ciminna-Casuzze	35	●	
Chiaramonte-Gulfi-Ciminna	173	○	
Rationalisation in the Mid Piave Valley ✓	90	○	
Colunga-Calenzano ✓	85	○	
Gissi-Foggia	140	○	
Cassano-Chiari	36	○	
Deliceto Bisaccia	36	◉	
Upgrade Northern Calabria	10	○	
Paternò-Pantano-Priolo	63	◉	
Elba-Mainland	35	○	
Substations			
8 new substations entered service (San Severo, Quartu Quartucciu, Santa Teresa, San Salvo9, Portella Pero, Siculiana, Ravenna industrial estate, Canino)		●	

SECURITY PLAN - €136 million

Projects	Status	Driver
Fiber for the Grid	◉	
Ice and snow risk mitigation systems ✓	◉	
Control devices	◉	

RENEWAL PLAN - €296 million

The Renewal Plan electricity assets provides for widespread initiatives across the entire NTG, aimed at improving the reliability of the electricity grid. Work continued in 2018 on replacing assets and individual components in the interests of service quality, adopting the most modern market solutions in terms of plant digitisation (replacement of substation systems with digital technology) and in terms of better environmental compatibility with the host environment (replacement of fluid oil cable connections with extruded insulation and use of machinery with insulation using vegetable esters instead of mineral oil).

Key *

✓ Resilience Plan	○ Awaiting consents/under design	◉ Under construction	● Completed/in service
Decarbonisation	Market efficiency	Security of supply	Systemic sustainability

(*) The other initiatives completed in 2018 are shown in the section "Changes in the dimensions of the NTG" in the annexes.

Principal development activities in progress

Each year, grid development activities take the form of numerous interventions at various stages of completion.

Construction work carried out and expected benefits

VENICE LAGOON CABLES - POWER LINES LINKING THE "SACCA SERENELLA PRIMARY SUBSTATION - CAVALLINO PRIMARY SUBSTATION " AND "FUSINA 2 - SACCA FISOLA PRIMARY SUBSTATION"

Status

The 132 kV power lines between the "Sacca Serenella Primary Substation - Cavallino Primary Substation" and "Fusina 2 - Sacca Fisola" in cable, provided for in the Development Plan, have entered service. The related consents were provided by the Ministry for Economic Development on 6 August 2009 with Decree EL-106.

Benefits

→ **For the electricity system:** this infrastructure will improve operational security and increase the reliability of the grid that serves the city of Venice, whilst also overcoming the current structural antenna that powers the Cavallino primary substation and simultaneously increasing connections with the portion of the grid associated with the 380/132 kV Salgareda substation.

→ **For the country as a whole:** the new infrastructure is expected to result in savings of between €9 and €18 million a year for the Italian electricity system.

→ **For local communities:** in terms of the environment, the infrastructure will make it possible to retire around 7 km of 132 kV lines.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			

RESTRUCTURING ON THE CAGLIARI AREA

Status

Work was completed in the Cagliari area in October with the entry into service of the 150 kV cable linking Quarto and Quartuccio. This project is included in the NTG Development Plan and the related consents were received from the Ministry for Economic Development on 9 September 2015 with Decree EL-304/230.

Benefits

→ **For the electricity system:** the new power line brings significant benefits for the electricity system in Cagliari, in terms of both the security and efficiency of the electricity service and greater reliability in the event of maintenance.

→ **For the country as a whole:** the work will result in a major improvement in the security of local electricity supplies.

→ **For local communities:** in terms of the environment, the infrastructure will make it possible to retire approximately 8 km of old lines and 26 pylons.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			





Principal works in progress and expected benefits

380KV "PATERNÒ-PANTANO-PRIOLO" POWER LINE

Status

On 12 April 2018, Terna received the necessary consents to build the new 380 kV power line linking the electricity substation at Paternò (CT) with the 380 kV electricity substation at Priolo (SR).

Benefits

→ **For the electricity system:** the new 380 kV connection will help to improve service continuity and voltage stability in eastern Sicily, partly in the expectation of a significant increase in wind power production in the south-eastern part of the island. The future 380 kV "Paternò-Priolo" power line will be connected to a new 380/220/150 kV electricity substation to be built at Pantano D'Arci (CT).

→ **For the country as a whole:** this will overcome restrictions on the quantity of power that can be produced by plants located in eastern Sicily and enable existing and future plants to be fully exploited.

→ **For local communities:** the project will connect the 380 kV system with the 150 kV network serving the Catania area, where the existing network is due to be rationalised, improving security and the local grid's operational flexibility.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			

380KV VIZZINI SUBSTATION

Status

In September 2018, Terna obtained the necessary consents for construction of a new 380/150 kV electricity substation at Vizzini with 380-150 kV overhead lines connecting to the NTG and the related works.

Benefits

→ **For the electricity system:** the new substation will reduce congestion on the HV grid serving the east-central part of the island, which carries large amounts of renewable energy.

→ **For the country as a whole:** there will be significant benefits in terms of an increase in social economic welfare and the full use of renewable resources, as well as improved electricity supply security.

→ **For local communities:** in terms of the environment, the infrastructure has been designed with the aim of maximising its integration within the local area.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			

Connecting new plants

Terna has an obligation to connect all potential users requesting connection to the grid[40], identifying connection solutions in terms of criteria that guarantee the continuity and safe operation of the grid to which an applicant's new plant will be connected.

In particular, Terna is responsible for high and very high voltage connections to the NTG of plants with a capacity of 10 MW or more.

The technical, procedural and financial terms and conditions regarding provision of the connection service to the NTG are governed by the relevant determinations issued by ARERA. The related resolutions are implemented in the Grid Code, which describes transparent and non-discriminatory rules for granting access to the grid and the technical regulations.

At any one time, Terna handles over 1,600 applications for connection to the grid in relation to future or existing initiatives. These procedures include those for which applicants, having filed an application to Terna, fulfil the obligations of the Grid Code during the various phases of the connection process and in agreement with Terna.

A total of over 800 procedures, relating in particular to the connection of plants using renewable energy sources (RES) to the NTG and representing total capacity of 40 GW, are currently active.

The National Energy Strategy (SEN), which has set challenging targets for growth in the volume the country's energy needs to be met by RES, has given rise to renewed interest in the development of projects for RES plants, as can be seen from the rapid increase in applications for connection to the NTG. New projects at the development stage primarily regard wind and solar power plants, with a sharp rise in the number of photovoltaic projects in 2018 compared with previous years.

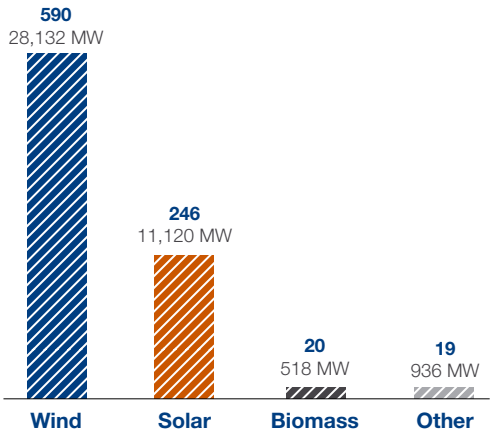
The chart below shows applications for connection to the NTG operated by Terna, broken down by source and geographical distribution.

This shows that:

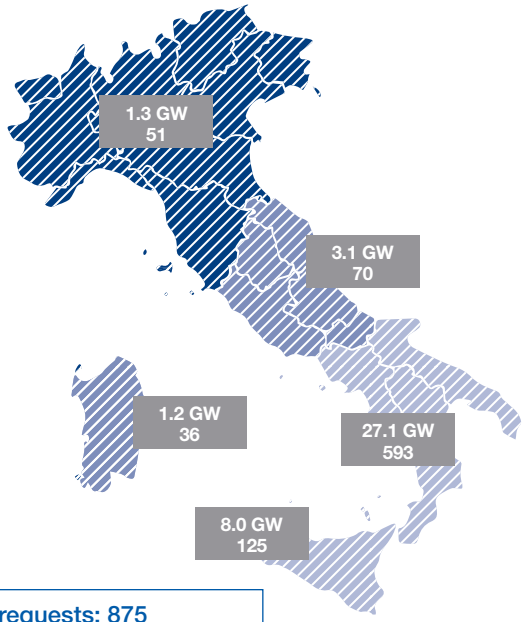
- 86% of the applications received are from southern Italy and the islands (representing capacity equivalent to over 89% of the total);
- applications at an advanced stage, which are close to receiving the related consents and where work is in progress, amount to approximately 4 GW;
- 18 connection contracts were signed in 2018 (representing total capacity of 462 MW), regulating relations between Terna and the applicant in respect of the connection service.

[40] Legislative Decree 79 of 16 March 1999 - art. 3, paragraph 1: *"The Operator has the obligation to connect all those making such a request to the National Transmission Grid, without compromising continuity of service and provided the technical rules as per paragraph 6 of this article, and the technical and financial terms and conditions for access and interconnection established by ARERA, are complied with"*.

Breakdown by source



Breakdown by geographical area

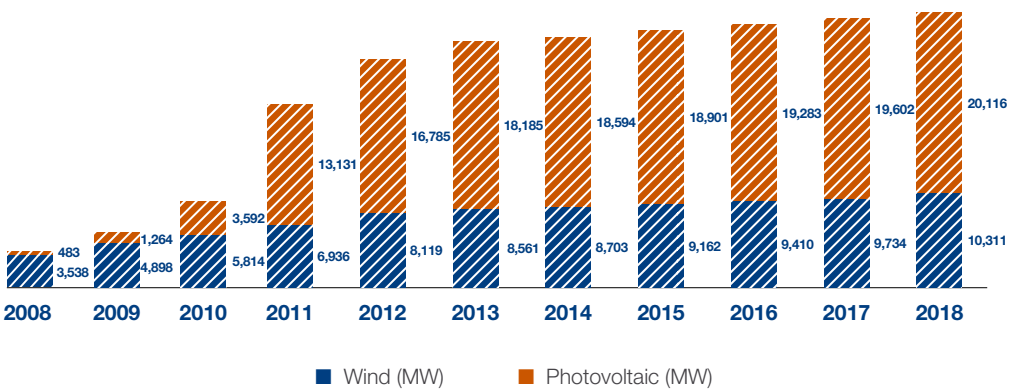


Total number of requests: 875

Total installed capacity: 40.7 GW

Data as at 31.12.2018

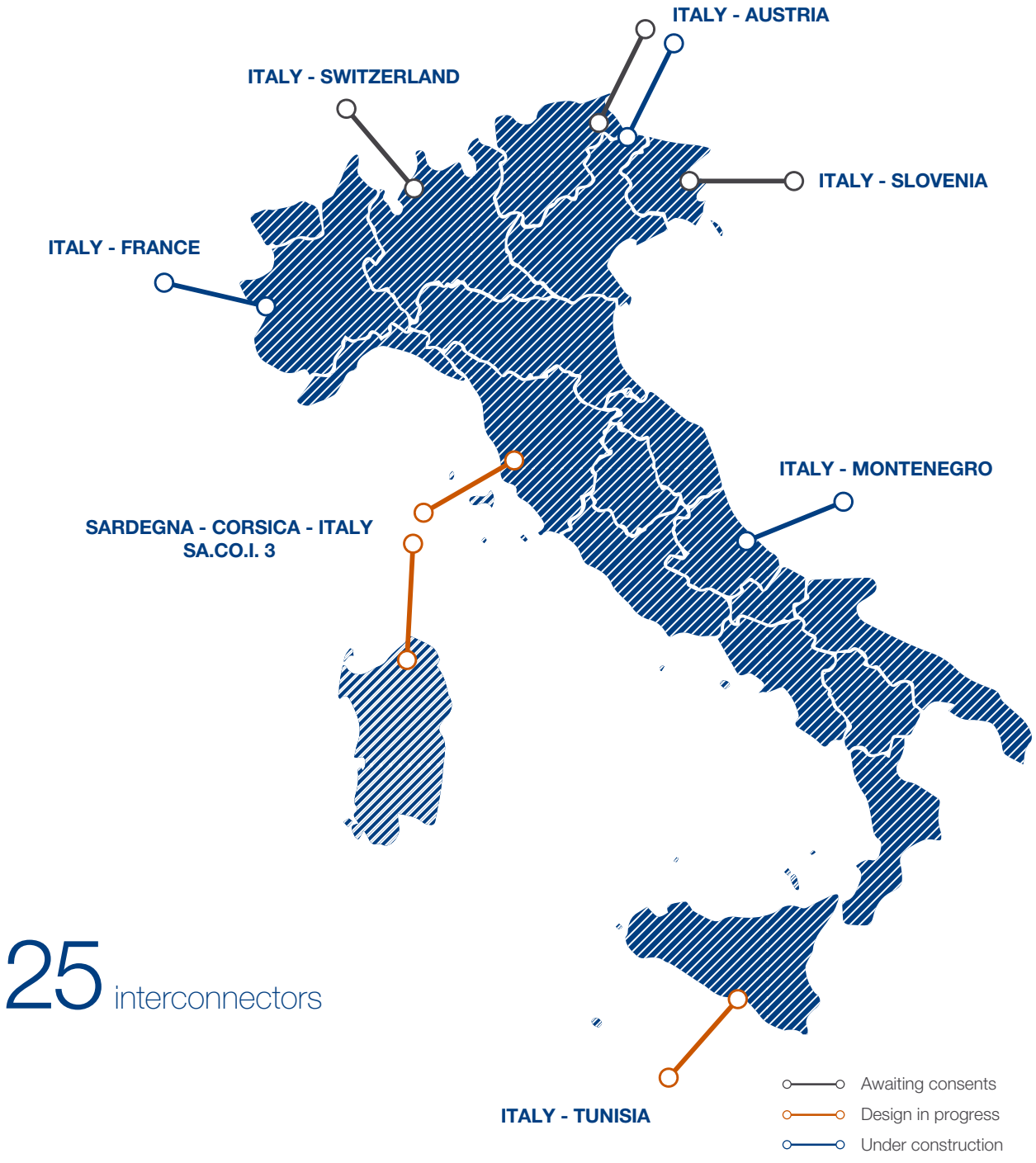
INSTALLED PHOTOVOLTAIC AND WIND CAPACITY 2008-2018* (GW)



(*) Provisional data from Terna for 2018 (updated to 31 December 2018).

Overseas interconnections

Its geographical position makes Italy a natural hub in the Mediterranean area and it can count on an electricity border made up of 25 interconnectors[41], in addition to new lines under construction. This development work (shown on the following map) aims to increase interconnection capacity (Net Transfer Capacity - NTC) on the electricity borders with foreign countries, enabling a reduction in energy procurement costs and the integration of markets, with the possibility of having more resources for use in managing the Italian and European electricity system.



25 interconnectors

[41] These include 3 merchant lines, or lines not owned by Terna, and the Italy - Malta connection owned by Enemalta.

Principal interconnections in progress

"ITALY-FRANCE" INTERCONNECTOR

Status

The new Italy - France interconnector is a project unique in the world in terms of the engineering, technological and environmental solutions used: 190 km of line connecting the substations of Piossasco (Italy) and Grand'Ile (France) through 25 municipalities in the province of Turin, consisting entirely of direct current underground cable.
The power line will be the longest underground line in the world and will have a very low impact on the environment and the local area, thanks to the latest in design techniques.

Benefits

→ **For the electricity system:** the increase in the quantity of energy exchanged will result in a reduction in congestion between the two countries and the possibility of more efficient use of renewable sources. This therefore also makes the interconnector a Project of Community Interest (PCI). In November 2017, it was included in the third PCI list, published by the European Commission[42].

→ **For the country as a whole:** the infrastructure will increase social and economic welfare at European level, reducing the price differential between Italy and France. Additionally, based on the content of the ENTSO-E TYNDP, the interconnector will increase production from renewables in Italy and improve energy efficiency at European level.

→ **For local communities:** the use of underground cable technology guarantees lower environmental and visual impacts, thereby preserving the Alpine landscape in both France and Italy. The creation of the new infrastructure in the same location as road infrastructure, such as the Fréjus safety tunnel, offers another strategic advantage in terms of social/environmental issues.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			

"ITALY-MONTENEGRO" INTERCONNECTOR

Status

The interconnector between Italy and Montenegro is a strategic project at European level, marking a major opportunity for the Italian electricity system as part of efforts to develop the interconnection between Italy and the Balkans. The project involves construction of a direct current connection, part in submarine cable and part in terrestrial cable, between the substations of Villanova (IT) and Lastva (ME) and covering a distance of approximately 445 km.
Construction, which is currently in progress, will involve the use of engineering and technical solutions capable of minimising the environmental impact. Entry into service of the first module of the interconnection will result in interconnection capacity of 600 MW by the end of 2019. To date, the laying and protection of the first pole of the submarine cable between Italy (Pescara) and Montenegro (Kotor) has been completed, as has the laying of the terrestrial cables. The converters in both Italy and Montenegro are at an advanced stage of completion.

Benefits

→ **For the electricity system:** the work, which when completed at the end of 2019 will provide interconnection capacity of 600 MW, has been included by the European Commission among the Projects of Common Interest (PCIs), after the Commission had already co-financed the feasibility studies in connection with the Trans-European Network (TEN-E) programme. The interconnector will enable an increase in cross-border energy exchange, whilst also improving security and the operational flexibility of the national electricity system and facilitating the integration of energy from renewable sources.

→ **For the country as a whole:** the infrastructure is a key step for the European Energy Union and crucial for integrating the electricity system serving the entire Balkan area into the European system, via Italy. As indicated in the NTG Development Plan and in the ENTSO-E TYNDP, the interconnector will lead to major increase in Social and Economic Welfare in Italy and Europe, facilitating the use of more efficient resources, including production from renewable sources in both Italy and the Balkans. The project also an important role to play in boosting security and service continuity at national level.

→ **For local communities:** the project involves the creation of direct current infrastructure extending a total of 445 km between Villanova (Pescara) and Kotor. There will be minimal environmental impact, as it involves the use of cables placed 1,200 metres beneath the Adriatic sea and buried for the remaining terrestrial portion.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			

[42] In accordance with EU Regulation 347/2013.

"ITALIA - AUSTRIA" INTERCONNECTOR

Status

The high-voltage interconnector between Prati di Vizze (IT) and Steinach (AT) will take advantage of the existing Prati di Vizze - Brennero power line. Preparations to create the new 132/110 kV electricity substation in Brennero and the related lines are currently in progress.

Benefits

→ **For the electricity system:** The line will significantly increase electricity interconnection capacity between Italy and Austria, supporting market integration, the use of renewable sources and security of supply.

→ **For the country as a whole:** It will provide significant benefits in terms of increased social economic welfare, helping to reduce price differentials between Italy and Austria, and ensuring full use of hydroelectric resources, whilst also improving the security of electricity supply. The use of existing infrastructure will minimise the environmental impact of the works.

→ **For local communities:** To allow imported power transported along the future Prati di Vizze - Steinach interconnector to be securely added to the grid, the mesh of the local 132 kV grid will be strengthened and transport limitations will be removed as appropriate. This will enable optimal use and further development of production capacity from renewable sources, which will serve the relevant portion of the local grid.

Targets

RES integration	Quality of service	Inter-connectors	Congestion solutions	NTG connection	Resilience	RFI integration	SEN 2018
●		●		●			

Principal interconnections at the planning stage

"Sardinia-Corsica-Italy (Sa.Co.I.3)" interconnector

The existing connection linking Sardinia with Corsica and Continental Italy (Sa.Co.I.2) has reached the end of its useful life.
The new Sa.Co.I.3 connection will ensure that the Sardinian electricity system has adequate capacity margins, avoiding the need to reduce reserve margins to below security limits in order to meet demand. Sa.Co.I.3 will also help to regulate and stabilise a system that is intrinsically weak like the one in Sardinia.
With the aim of ensuring that the infrastructure is well integrated into the surrounding area, a number of solutions designed to minimise the territorial and environmental impact will be adopted.
To coordinate construction of the new Sa.Co.I.3 connection in Italy and Corsica, on 11 October 2017, Terna and the system operator in Corsica, EDF, signed a specific Memorandum of Understanding.

"Italy-Tunisia" interconnector

This project involves the construction of a new HVDC[43] connection between Tunisia and the primary grid in south-western Sicily. The infrastructure is considered to be of strategic importance for the electricity transmission system in the Mediterranean basin as it will enable:
- an increase in energy exchanges between Europe and North Africa;
- integrate higher quantities of renewable energy;
- improve the performances of the electricity systems involved in terms of security and operational flexibility.

In terms of creating a Euro-Mediterranean electricity network, capable of connecting the North African and European markets, the interconnector is also of strategic importance for Europe. For this reason, in November 2017, the project was included for the first time among the Projects of Common Interest (PCIs) pursuant to EU Regulation 347/2013.
The new interconnector will help to bring greater benefits for the Italian electricity system, primarily in terms of sustainability and market integration. Implementation of the project is however, conditional on receiving adequate funding.
In this regard, in view of its strategic and geopolitical importance for the entire Mediterranean area, the project has received funding from the World Bank to finance detailed feasibility studies.

[43] High-Voltage Direct Current.

Private interconnectors pursuant to Law 99/2009

In order to support the development of a single electricity market by expanding the infrastructure needed for interconnections with other countries, EU legislation was introduced, setting out guidelines for the creation of interconnections with other countries by entities other than grid operators.
The European guidelines have been introduced into Italian legislation by Law 99/2009, which assigned Terna responsibility for selecting undertakings (the "selected undertakings"), on the basis of public tenders, willing to finance specific interconnectors in exchange for the benefits resulting from a decree granting a third-party access exemption with regard to the transmission capacity provided by the new infrastructure. In particular, the law states that these entities, in exchange for a commitment to finance such projects, are required to commission Terna to build and operate the interconnectors.
A total of 5 interconnectors are planned for the borders with France, Montenegro (both at an advanced stage of completion), Austria, Switzerland and Slovenia (currently awaiting the necessary consents).

The Group has continued with construction of the private line, in implementation of Law 99/09, on behalf of the company, Piemonte Savoia S.r.l., transferred to the private finance providers on 4 July 2017. On the section not appertaining to Sitaf (Società Italiana per il traforo autostradale del Frejus), the civil works and the laying of cable for the entire section were completed at the end of August 2018. By December 2018, approximately 24.5 km of civil works along the A32 motorway had been completed and 13.2 km of cable laid. In addition, as regards the Middle section, by December 2018, approximately 17.5 km of cable had been laid and around 21.5 km of civil works had been completed. The production of transformers and the converter for the Piossasco Converter has been completed, whilst erection of the main buildings and creation of the area housing the transformers has also been completed.	Private "Italy-France" interconnector
On 29 March 2018, the Ministry for Economic Development and the Ministry of the Environment and of the Protection of Land and Sea issued the decree partially transferring the consents from Monita Interconnector S.r.l. to Terna S.p.A., in line with the new scope of the private interconnector. On 19 April 2018, Monita Interconnector S.r.l. submitted a revised application for exemption to the Ministry for Economic Development. On 14 June 2018, ARERA issued clearance for the exemption. Terna is currently awaiting clearance for the exemption from the Ministry for Economic Development. Entry into service of the first module of the interconnector will result in interconnection capacity of 600 MW by the end of 2019, with a part of this, corresponding with the private interconnector, available in third-party access exemption to the selected undertakings.	Private "Italy-Montenegro" interconnector
The Italy-Austria interconnector (the Reschenpass project), which is currently awaiting the necessary consents, involves construction of a new 220kV AC interconnection between the Glorenza (Italy) and Nauders (Austria) substations. This will consist of 26 km of underground cable and the necessary upgrade of the domestic grid. On 16 July 2018, the Terna Group set up the special purpose vehicle, Resia Interconnector S.r.l., which, on behalf of the energy-intensive companies selected in accordance with Law 99/09, is to prepare and submit a request for exemption from the right of third parties to access the transport capacity the infrastructure will make available. The related consents process on the Italian side is expected to be completed by the end of the first quarter of 2019.	Private "Italy-Austria" interconnector
The project involves the development of new transmission lines between Italy and Switzerland, in part in alternating current and in part in direct current. It will increase interconnection capacity between Italy and Switzerland, raising it by approximately 1 GW.	Private "Italy-Switzerland" interconnector
The creation of a direct current line is planned, partly in undersea cable, between the substations of Salgareda (IT) and Bericevo (SL), together with work on upgrading the domestic grids in Italy and in Slovenia. The project is currently awaiting the necessary consents on the Italian side. The expected increase in cross-border capacity of approximately 1 GW will raise the interconnection capacity to more than double the current level.	Private "Italy-Slovenia" interconnector

Asset management

Asset management is the set of systematic and coordinated activities and procedures that enables Terna to operate and maintain its assets in the best and most sustainable way, optimising the Group's return on investment and demonstrating its ability to create value.

The Asset Management system entails a structured approach based on best practices for managing assets throughout their lifecycle, taking into account the related cost cycles and associated risks. It plays an essential role in the efficient management of assets.

In this regard, the Asset Management system combines management of both financial and engineering aspects and includes management of all the phases that make up the lifecycle of infrastructure: design, construction, commissioning, operation, maintenance, repair/replacement and, finally, decommissioning.

Terna's main benchmark is the international standard, ISO 55001:2014 "Asset Management", which specifies the requirements for an optimal asset management system. In 2018, Terna became the first Italian company to obtain the related certification (see page 61).

To achieve its asset management objectives, Terna prepares an Asset Management Plan (AMP) specifying the activities to be carried out in order to maintain and renew its electricity grid infrastructure.





Infrastructure maintenance

Maintenance of electricity grid infrastructure is essential in order to guarantee quality of service, with the aim of ensuring that grid reliability meets the very highest standards.

The tools used to support maintenance activities are subject to continuous innovation, as regards identification of the most suitable interventions (MBI-Monitoring and Business Intelligence, a tool used to support decision-making), the scheduling and execution of operations (WFM - Work Force Management) and the adoption of modern aerial inspection techniques for the electricity grid.

Implementation of the plan to progressively assume responsibility for operation and maintenance (O&M) of the electricity substations owned by Rete S.r.l. (following acquisition of RFI's assets) proceeded in 2018. By the end of the year, responsibility for 239 of the 354 substations acquired had been transferred.

Infrastructure monitoring and control

- 26,000 checks on substations of various voltage levels;
- visual inspections of 107,700 km of power line, of which 58,500 km using helicopters (visual + infra-red) with an average total frequency of around 1.5 inspections a year for each transmission line;
- a further 46,500 km of power line underwent instrumental controls, both from the ground (including with the use of the LLW or live-line working technique), and from the air using helicopters to operate flights that use laser scanning surveys to identify any obstructions, particularly trees;
- inspections of 44,800 km of underground cable with a total average frequency of 24.2 inspections per year.

Routine maintenance

Repairs are carried out when signs of deterioration are identified as a result of the monitoring process or by on-line sensors. These indications and any problems identified are processed by the expert system used to support decision-making (MBI-Monitoring and Business Intelligence). This system draws up the maintenance plan on the basis of engineering models developed by the Asset Management department.

Vegetation management

During 2018, vegetation was cut back on around 21,200 km of power line (the total length of line where vegetation was cut back); this has to be done to ensure the correct and safe operation of the lines.

Live-line working

Approximately 3,400 checks and line maintenance interventions using live-line working were carried out. These activities, performed with the line in operation, increase the availability of the infrastructure and help to improve quality of service.

Renewal Programme

The Renewal Programme is based on an analytical method that, starting from consistent, objective technical criteria, identifies and evaluates extraordinary maintenance works ("renewal"), assessing the state of repair and technical status of components in relation to the conditions under which they operate and giving priority to components and plant that play a key role in operation of the grid.

The Programme includes work to be carried out on specific components, limiting interventions to parts of the infrastructure that effectively require attention in order to continue operating efficiently over as long a period of time as possible.

Renewal work is associated with three types of benefit:

- **Sustainability**, resulting from the use of more environmentally friendly components, the replacement of fluid oil cables and improvements to the reliability of assets;
- **Innovation and digital transformation**, reflecting the adoption of monitoring systems for existing assets using digital and innovative solutions;
- **Resilience**: work on strengthening the NTG in order to boost the resilience of the infrastructure.

The principal renewal ("extraordinary maintenance") works carried out are as follows:

Extraordinary maintenance

Renewal work (the replacement of components and entire systems) was carried out in 2018 at a cost of approximately €300 million in order to prolong the useful lives of power lines and substations. In terms of power lines, 1,100 km of conductors, 1,400 km of ground wires and 400 pylons were replaced; in terms of substations, 10 static machines, 70 circuit breakers, 120 disconnectors, 289 current transformers and 130 voltage transformers were replaced. Protection and control systems for approximately 200 HV bays were also replaced.

Security and resilience of the electricity system

The Electricity System Security Plan, prepared annually by Terna and approved by the Ministry for Economic Development, is a four-year programme that sets out initiatives to prevent and reduce the consequences of malfunctions on the electricity grid.

In 2018, investment carried out for projects provided for in the Plan totalled approximately €126 million.

The sixteenth edition of the Security Plan for the period 2019-2022 provides for total investment of €803 million.

The Plan breaks down into eight grid operation areas, regarding the planning, supervision, regulation and protection, restart and monitoring of the electricity system, as well as an area dedicated to safe and optimal management of renewable energy sources.

The Plan also defines initiatives to protect the physical integrity of the grid, including surveillance and protection activities regarding the most critical electricity substations and actions to protect the IT security of infrastructure against attempts at forced entry, unauthorised access and possible cyber-attacks.

These areas of intervention are confirmed in the 2019 Security Plan, in which the activities carried out in 2018 and those planned for the period 2019-2022 are described.

The **key drivers** for the **2019 Security Plan** are:

1. **A system that is secure and fit for purpose**, with the continued installation of reactive power compensation equipment in order to manage the system safely and new work on installing STATCOM devices and stabilising resistors to control the grid's stability, improve voltage quality and reduce grid oscillations.
2. **Resilience**, in the form of **Defence Towers** using Terna's existing infrastructure to gather and transmit environmental data to support the grid's physical resilience and the control system.
3. **Digital transformation and system innovation**, to meet new requirements for:
   - a new SCADA control system capable of managing a system with a high level of distributed generation penetration;
   - a reengineering of the new Control, Defence and Monitoring System with innovative modules for grid control and analysis;
   - observable distributed generation to acquire key electrical data, improve the management of real-time, forecasting and ex-post applications and monitor the development and spread of electric mobility in order to analysis its impact on the electricity system;
   - the new IoT Security project in order to adopt adequate Cybersecurity solutions at all levels of the organisation, as indicated in the new corporate IoT model, putting in place tools designed to monitor and guarantee security, governance and compliance with the applicable legislation.

Resilience Plan

In accordance with MED directives[44], starting with the 2018 Security Plan, this document contains a specific section on the "Work plan for increasing grid resilience nationwide" (the Resilience Plan), especially in relation to the measures to be implemented in areas affected by wet snow. This section includes:

- a list of grid development, expansion and upgrade initiatives designed to increase the grid's mesh (included in the Development Plan)
- a list of extraordinary maintenance/renewal works (including scheduled interventions after an accurate assessment of the state of power lines)
- a list of mitigation initiatives.

The Resilience Plan for snow/ice presented in the 2019 Security Plan envisages investment of approximately €410 million over the five-year period from 2019 to 2023. This reconfirms the need to make the electricity system increasingly more resilient and capable of coping with extreme weather events, given that almost all the electricity transmission infrastructure is directly exposed to the immediate impact of atmospheric agents.
On 18 December 2018, ARERA issued resolution 668/2018/R/eel, setting out a mechanism designed to incentivise distributors to take steps to boost resilience. The regulator is continuing to look into the possibility of extending such a mechanism to include Terna, which will be the subject of a later resolution.

Agreement between Terna and the Civil Protection Department for the joint management of emergencies

In July 2018, Terna and the Civil Protection Department signed a Memorandum of Understanding with a view to exploiting synergies in relation to predicting, preventing and mitigating the related risks and managing and overcoming emergencies.
The agreement provides for the optimisation of procedures and the flow of communications between Terna and the Department under both ordinary and emergency conditions. This may include potential integration of the respective information systems, based on the different reference scenarios and types of risk, and the creation of specific training programmes and exercises for staff engaged in managing emergencies, with the aim of improving synergies in emergency response and raising awareness of organisational and operational models. Links between the Company and the various branches of the National Civil Protection Service (at regional and provincial level and within Prefectures and Local Government Offices) will also benefit.

[44] Communication of 3 August 2017.

Information and cyber security

The cyber risk scenario is increasingly complex and intricate. In addition to the traditional threats that affect every ICT project, there has been a sharp rise in the number of threats relating to the current digital transformation process at highly innovative companies and the increase in interconnections between the various operators.

The entry into force of new European regulations, above all the General Data Protection Regulation (GDPR) and the Network & Information Security (NIS) directive means companies are having to rethink some of their information and cyber security processes, in order to ensure full compliance.

For some time, Terna has used an Information Security Governance Model, based on policies and procedures combined with a coordinated Information Risk Management ("IRM") operating programme. This is coordinated by the Group's CISO (Chief Information Security Officer).
The Model takes into account all the risk factors (organisational, technical and technological, physical, environmental and cyber, etc.) to which the Group's ICT ecosystem is exposed, including compliance with data protection legislation and efforts to combat cyber-crime, with the aim of countering their impact (disruption to computer networks or services critical to the operation of the electricity system and/or resulting in potential damage to the National Transmission Grid (NTG); loss of confidentiality; and the theft or alteration of sensitive, strategic and confidential data held by Terna relating to the electricity market and/or third parties).
Finally, via the operational safeguards put in place by the Security and Service department's cyber security unit, Terna promptly identifies and contains security incidents, thereby minimising information loss and facilitating restoration of the services involved.

ACTIVITIES IN 2018	
Cyber security training	An extensive awareness-raising campaign on cyber security issues, aimed at senior managers, middle managers and roles with particular responsibilities, as well as newly recruited staff, has been completed. Terna also took part in a special competition (red team versus blue team type) under the patronage of ENTSO-E and SANS, in which over 100 European TSOs and DSOs took part. Terna performed well during the competition to rank among the top five.
Strengthening of the Information Security Framework	The Information Security Framework and, above all, the set of countermeasures that Terna puts in place to combat cyber risk was updated in line with the latest version of the NIST standard, adopting additional security measures relating to critical areas such as GDPR, IoT and SCADA/ICS systems. During 2018, Terna began the process of assessing and testing solutions for transferring cyber risk to third parties, entering into insurance policies to cover the risks posed by ransomware, phishing and the theft of personal data for which Terna is the data owner or manager. The process was completed once the Company had obtained cover and the policy will be extended to cover additional risks in the three-year period 2019-2021.
Consolidation of the capabilities of the Cyber Security Operations & Data Protection Centre	The process of strengthening and refining corrective actions and new initiatives designed to prevent cyber risk continued within the Security and Service department. Terna's Computer Emergency Readiness Team (CERT) redesigned its Real Time Security Monitoring, Incident Handling, Threat Intelligence and Security Content Engineering & Threat Hunting processes on a 24h/365d basis. Info Sharing with public bodies, other essential service providers and the CERT's Threat Intelligence partners was further developed as regards tailored intelligence. The Cyber Security Engineering centre was used to set up important working groups aimed at reducing the cyber risk associated with the Industrial Automation and Control Systems (IACS) that support Terna's core business. These new departments complement and integrate with the Cyber Security Assessment department, which carried out periodic assessments of the vulnerabilities in Terna's IT systems and checks on the related recovery plans.

Consolidation of GDPR compliance

An audit of GDPR compliance was completed, with the adoption and initial implementation of numerous initiatives necessary in order to ensure full compliance and the rollout of a data protection model across the Group.
This included training and internal communication initiatives, including specific workshops for senior management and online courses and training pills for all staff, with the aim of creating a Group-wide privacy and data protection culture.

Identity and Access Management (IAM)

The Identity and Access Management (IAM) process regarding the management of access authorisations to critical IT resources has been strengthened. This has involved the implementation of first use case monitoring (identity governance) in order to extend visibility (and governance) for applications supporting Terna's operational activities and financial reporting.

Monitoring and cyber defence capabilities

During the year, the extension and update of security monitoring services for systems and networks of platforms incorporated within Information Security and Event Management (ISEM) system continued. With regard to the detection of cyber threats, a technological solution based on machine learning and artificial intelligence using non-formal logic was adopted. There was also continuous analysis and threat hunting using Indicators of Compromise (IOC) reports, especially those deriving from public bodies (e.g. the Italian Computer Emergency Response Team, the National Anti-Cyber Crime Centre for the Protection of Critical Infrastructure, etc.) and the entry into operation of an advanced anti-malware solution for all workstations, involving monitoring, analysis and continuous recording of all executable and non-executable file activities, regardless of whether they are already known to be malware. Work on the protection of SCADA systems using a whitelisting solution and on the logical segregation of networks is continuing.

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As in previous years, no complaints have been received regarding data protection violations, or improper use or unauthorised processing of personal data entrusted to Group companies, neither via the dedicated mailbox (privacy@terna.it) nor through other reporting or communication channels.

Agreement between Terna and the Italian Police to combat cybercrime

On 10 May 2018, Terna and the Italian Police signed an agreement designed to ensure the protection of the information networks and systems that support the Company's operations. The agreement aims to develop cooperation between the Police and the grid operator in order to adopt effective strategies for preventing and combatting cybercrime.
On the part of the Police, support will be provided by the National Anti-Cyber Crime Centre for the Protection of Critical Infrastructure unit within Italy's Postal and Communications Police service which, for many years, has been engaged in protecting the information systems of public and private organisations of strategic importance to the country.
Risk analysis, information exchange, projections for the future of cybercrime and growing cyber threats, and the management of critical events and situations with the support of the 24-hour operations room are some of the initiatives covered by the agreement, and which represent an effective response to continually evolving cyber threats.

Innovation

At a time of transformation and innovation, value added activities are central to the creation of long-term value, not only for Terna, but for the country's entire electricity system.

The current energy transition process requires a new systemic and organic approach to innovation, based around the acceleration of a portfolio of effective Research, Development and Innovation initiatives in keeping with the Group's strategies.

Terna decided to further speed up innovation in 2018, adopting a centralised, coordinated vision in order to encourage and coordinate research and the development of ideas, with the aim of creating a synergistic innovation ecosystem within the Company, capable of enabling the transition to a new TSO 2.0 model. The transition requires a new, smarter approach to managing the electricity system, which should be increasingly intelligent and flexible both at the level of the grid, thanks to the use of Industry 4.0 enabling technologies, above all the Internet of Things or IoT (advanced sensors, big data, advanced analytics), and in terms of the market. This will entail an unprecedented revolution that will rapidly result in the integration of distributed generation resources, storage and market demand for services, and the Europe-wide integration of national markets. Moreover, in the medium term, it will be necessary to ensure the progressive integratability and interoperability of electricity grids and other networks (transport, gas, water, etc.), in order to make the Italian and European economies stronger and more eco-sustainable.

The steps taken in this regard include implementation of an Open Innovation process within the Company and the creation of a structured Innovation Plan. Today's form of innovation calls for an approach capable of opening up new possibilities for development and cooperation with the outside world and the creation of dynamic interactions, including close attention to start-ups, which offer Terna the chance to invest in technological initiatives capable of creating more value for the Company and for Italy's electricity and energy system.

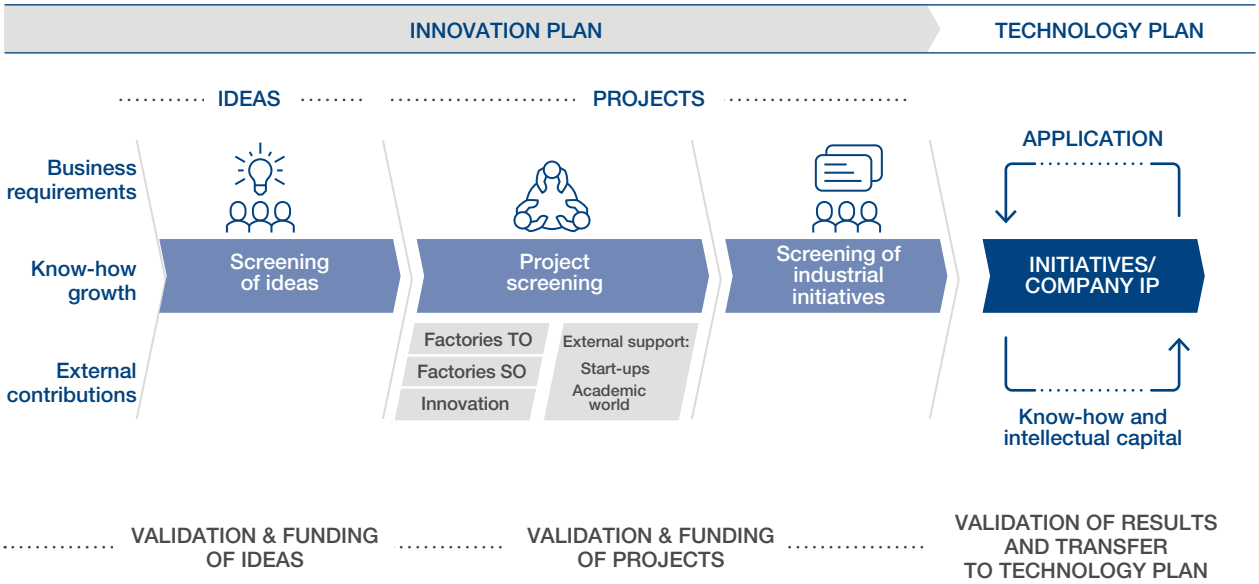
The Innovation Plan organises the innovation flow in a consistent manner, from the birth of new ideas through to project development. New initiatives, which may be driven by requirements within the Company or by the Open Innovation process, are classified within a coherent framework, based on the principal new technologies earmarked by Terna as being capable of influencing both current and future innovation:

1. Internet of Things: IoT, Industrial IoT, Sensors and Wearables;
2. Energy Tech: technologies linked to the new Energy Resources (Storage, Demand Side Response, E-mobility) and Smart Grids;
3. Advanced Materials: nanotechnologies, biomimicry and smart dust.

Factories

The main strategic project streams relating to Transmission Operator (TO) and System Operator (SO) activities have been identified and the related innovation factories set up: the TO Innovation Factory and the SO Innovation Factory, with the role carrying out innovation projects.

Management model: from ideas to projects



Specifically, R&D and Innovation activities regarding TO activities are guided by the Development Plan. In this regard, priorities are focused on aspects relating to HVDC (High-Voltage Direct Current), cable laying technologies, the optimisation of overhead lines and asset management technologies. The primary focus in relation to SO activities is on enabling the market participation of distributed generation resources and demand for electric power and storage, with the main aim of encouraging the penetration and integration of non-programmable renewable sources within the National Electricity and Energy System. The priority innovation project streams in this sector, therefore, relate to the flexibility of the Electricity System (e.g. vehicle-to-grid projects, demand-side response, etc.) and the secure management of the Electricity System (e.g. R&D activities regarding the resilience of the Electricity System, pilot projects on improved observability of distributed resources, etc.).

Digital transformation is the main enabling tool for innovation and, in general, the current energy transition, to be implemented via projects in the following areas: connectivity (e.g. IoT technologies for Asset Management and dynamic network management), synchronous data management (e.g. advanced forecasting technologies for data management and electricity market processes), asynchronous data management (e.g. big data technologies and machine learning for use in data analytics and the exploitation of historical data).

Innovation within the Company is supported and promoted through a series of tools and resources, most of which managed centrally, such as:

- **Systems and processes to support the enhancement of assets and internal expertise:** this includes tools for enhancing intellectual capital and sharing corporate know-how, as well as portfolio management tools;
- **Open innovation:** this encourages openness towards new areas for development within and beyond the Company, through dynamic interactions with universities and research centres, partnerships with peers and large industrial players, as well as access to start-ups and innovative small and medium-sized enterprises;
- **Access to incentive and soft financing mechanisms:** this promotes access to incentives (e.g. tax relief for companies investing in research and development and patent box schemes) and specific funding programmes for both international and national R&D projects.

OPEN INNOVATION IN THE INNOVATION PLAN

Sector	Description
Energy sector and infrastructure peers	The signature of agreements and partnerships with energy businesses who are not competitors (TSOs, DSOs, utilities, etc.). Membership of and active participation in leading associations and international bodies involved in the electricity sector and innovation. Examples: RTE, ENI, RFI, ENTSO-E, EASE
Universities and research centres	Collaborations to promote and coordinate studies and research with national universities and research centres of excellence in areas of strategic interest, in order to contribute to the preparation of expert researchers in this field and to promote and encourage initiatives aimed at teaching and training in the energy sector. Examples: RSE, Ensiel
Large Companies and Industries	The signature of agreements and partnerships with suppliers or companies who may be competitors, regarding areas of common interest in the electricity sector or applications aimed at ensuring greater sustainability, cost-effectiveness and security in the management of grids.
Start-ups and SMEs	The scouting of start-ups and mature enterprises in order to grasp opportunities for the development of specific initiatives of interest to Terna and/or business partnerships. Examples: the Next Energy programme

The key innovation, research and development initiatives undertaken in 2018 are summarised below.

KEY INITIATIVES

Projects and programmes	Description
NEXT ENERGY programme and the start-up ecosystem	Terna and the Cariplo Foundation ran the third edition (2018-2019) of the initiative, using the same proven structure for the three calls: the "Call for Talent", "Call for Ideas" and "Call for Growth". The third edition of Next Energy relates to the theme "Interaction between electricity infrastructure and local areas", focusing on environmental sustainability, and includes: • "Call for Talent": 10 internships lasting 6 months for talented young engineers, economists, mathematicians, physicists and statisticians; • "Call for Ideas": the selection of 10 early-stage start-ups with a medium to low level of technology readiness (a TRL of 2-5). The chosen start-ups will have access to incubators selected by the Cariplo Factory and the winner will receive a €50,000 voucher to be exchanged for services; • "Call for Growth": the selection of up to 5 mature start-ups with medium to high levels of technology readiness (a TRL of 5-8), chosen on the basis of specific requirements identified by Terna with the aim of developing pilot projects.
Monitower Call	Terna has entered into partnership with the start-up accelerator, Digital Magics, an incubation program specialising in digital start-ups which, in the energy sector, works in partnership with Compendia, an innovative energy services company. The first call, which was completed on 20 November, resulted in the selection of Wisense, a start-up based in the Marche region of Italy founded by three Ancona University students. The company is using Artificial Intelligence and Machine Learning technologies to develop a system capable of recording and analysing data on seismic wave propagation, for potential use in projects that Terna is developing as part of efforts to boost the resilience of the electricity system.
Academy	Terna has joined the research programme launched in October 2016 by the Precourt Institute of Energy at Stanford University (one of 30 research centres at this Californian university that specialises in engineering). The programme, called Bits & Watts as a reminder of the strong correlation between electricity grids and digital transformation, aims to identify solutions to facilitate and accelerate the current transition in the electricity sector, by combining university and industry expertise to develop innovative projects and solutions. The initiative's strategic value lies in its integrated approach to research focusing on three key areas, ranging from the coordinated management of electricity transmission and distribution grids, to the active integration of consumers within the electricity system and the use of data analysis in the development of new automated energy management tools. Following the memorandum of understanding signed with Ensiel (a consortium set up by the main Italian universities operating in the power systems sector), and the adoption of the innovative contractual format with the direct award of contracts for research and development services, in 2018, Terna launched 11 projects involving 9 Italian universities from among those most active in the electricity and energy systems sector.

Terna's **human capital** is vital to enabling the current energy transition.
Alongside its constant long-term commitment to the issues of **safety** and **accident prevention**, Terna has launched an intensive innovation programme designed to boost **digital** skills within its workforce, whilst also accelerating the process of **generational turnover** introduced in recent years. This requires the reconstitution of technical expertise through training. Personnel development is based on an extensive programme of performance appraisal. The Group's welfare schemes were added to in 2018 with the launch of the Smart Working project.

55
HOURS OF TRAINING PER CAPITA

"ZERO INJURIES"
TRAINING PROGRAMME

19.7% OF THE GROUP'S MANAGERS ARE WOMEN, HIGHER THAN THE PROPORTION OF WOMEN IN RELATION TO THE TOTAL WORKFORCE (13.5%)

5

People

Terna and its people

The Company's human resources are, at the same time, a vital element in the business and people whose aspirations should be nurtured and rights respected. Terna's commitment to its staff is characterised by:

- **attention to safety and accident prevention** (see page 160);
- **investment in training** to ensure the development of the Company and its employees (see page 153);
- the creation of management and development systems designed to **improve performance and develop individual skills** (see page 157);
- **remuneration and welfare policies** that aim to align individual performance with business objectives and provide people with financial security (see page 158);
- **listening to employees** by using ways to gauge their opinions (see page 148);
- a complex system of **industrial relations based on engagement with the trade unions** (see page 150).

The Human Resources, Organisation and General Affairs department is responsible for defining and implementing staff policies, including aspects relating to occupational health and safety.

Overview of workforce

The Group employs a total of 4,252 people (up 355 compared with 2017). This figure includes 355 Tamini Group personnel, 38 people employed under local contracts by overseas subsidiaries (17 in Brazil, 9 in Montenegro, 5 in Peru and 7 in Uruguay) and 16 people employed by Avvenia, a company acquired in 2018 (see page 27).

The tables below present Group data on a like-for-like basis compared with 2017, and therefore excluding the Tamini Group, recently acquired companies (Avvenia) and the overseas subsidiaries. The tables show a total of 3,843 personnel (up 9.5% on 2017).

COMPOSITION OF THE WORKFORCE

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	2018	2017	2016
Total	**3,843**	**3,508**	**3,468**
By category			
Senior managers	57	61	64
Middle managers	614	550	549
Office staff	2,124	1,873	1,830
Blue-collar workers	1,048	1,024	1,025
By type of contract			
- permanent [1]	3,842	3,508	3,466
- of whom men	3,325	3,076	3,061
- of whom women	517	432	405
- fixed-term	1	0	2
- of whom men	1	0	1
- of whom women	0	0	1
By type of employment			
- full-time	3,822	3,478	3,440
- of whom men	3,320	3,065	3,056
- of whom women	502	413	384
- part-time	21	30	28
- of whom men	6	11	6
- of whom women	15	19	22
By age			
- below the age of 30	885	706	622
- between the ages of 30 and 50	1,681	1,553	1,539
- over the age of 50	1,277	1,249	1,307
Average age (years)			
Average age	**41.8**	**42.6**	**43.5**

(*) Permanent contracts also include apprenticeships.

The total turnover rate (12.0%) reflects the effect of the policy of generational turnover launched in 2017 and the new initiatives included in the Strategic Plan for the period 2018-2022.

420 people joined the Group in 2018, including 284 people under the age of 30. The process of generational turnover has resulted in a gradual reduction in the average age and a constant increase in the level of education among the Group's workforce. In 2018, 94.5% of employees had a universitry degree or a high-school diploma. The average length of service is 15.3 years.

The turnover rate for staff leaving the Group is 2.4% and is linked primarily to retirements and, to a lesser extent, to summary dismissals (34 in 2018).

As at 31 December 2018, there were 13 active agency contracts (51 in 2017 and 54 in 2016).

WORKFORCE TRENDS

401-1 >

	2018	2017	2016
Total employees	**3,843**	**3,508**	**3,468**
Employees recruited during the year	**420**	**243**	**186**
- men	326	202	166
- women	94	41	20
- below the age of 30	284	168	125
- between the ages of 30 and 50	130	64	60
- over the age of 50	6	11	1
Rate of recruitment (1)			
Total	**12.0**	**7.0**	**5.6**
- men	9.3	5.8	5.0
- women	2.7	1.2	0.6
- below the age of 30	8.1	4.8	3.8
- between the ages of 30 and 50	3.7	1.8	1.8
- over the age of 50	0.2	0.3	0.0
Employees leaving during the year	**85**	**203**	**51**
- men	76	187	45
- women	9	16	6
- below the age of 30	16	6	11
- between the ages of 30 and 50	16	14	11
- over the age of 50	53	183	29
Turnover rate (2)			
Total	**2.4**	**5.9**	**1.5**
- men	2.2	5.4	1.4
- women	0.3	0.5	0.2
- below the age of 30	0.5	0.2	0.3
- between the ages of 30 and 50	0.5	0.4	0.3
- over the age of 50	1.5	5.3	0.9

(*) The rate of recruitment shows the ratio of employees joining the Company to the number of employees at 31 December of the previous year.
(**) The turnover rate shows the ratio of employees leaving the Company to the number of employees at 31 December of the previous year.

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Generational turnover

Terna dedicates a host of initiatives to generational turnover which, since 2015, have been stepped up considerably due to a voluntary early retirement scheme.

The most important initiatives include the transmission of knowledge and experience, often one-of-a-kind, via internal tutoring as part of training programmes and on-the-job experience.

The table below provides an overview of staff who could potentially qualify for retirement in the next 5 to 10 years (the figures have been estimated on the basis of the available data regarding ages and pension contribution records):

a. **8.56%** of the workforce as at 31 December 2018 in the next 5 years, of which:		b. **16.55%** of the workforce as at 31 December 2018 in the next 10 years, of which:	
• Senior managers	0.03%	• Senior managers	0.31%
• Middle managers	1.35%	• Middle managers	3.75%
• Office staff	4.35%	• Office staff	8.17%
• Blue-collar workers	2.84%	• Blue-collar workers	4.32%

IMPACT OF GENERATIONAL TURNOVER IN THE PERIOD 2014-2018 (*)

INDICATOR	UNIT	2018	2014
Average age	y	41.8	46.6
Average length of service	y	15.3	21.2
Percentage composition by age: >50	%	33.2	45.3

(*) The period in question starts from 2014. The first generational turnover plan, involving the recruitment of 300 young people, took place in 2015 (see the 2015 Sustainability Report, page 126).

Focus

STAFF TURNOVER: COMPARATIVE DATA

By staff turnover, Terna means the ratio of employees leaving the Company during the year to the number of employees at 31 December of the previous year.

As the staff turnover rate is an indirect indicator of the corporate climate that affects all sectors, data for transmission companies (the TSO group) and large Italian listed companies (FTSE-MIB) were examined, as well as data for electric utilities included in the World Index of the Dow Jones Sustainability Index.

In 2018, Terna registered a turnover rate of 2.4%. In 2017, the last year for which comparative data are available, Terna's turnover rate stood at 5.9%, reflecting the generational turnover plan. Examination of the average rates recorded by the peer groups reveals that Terna's turnover rate, in 2017, was broadly in line with the average for the TSO group and below the average for companies in the FTSE-MIB and the Dow Jones Sustainability Index.

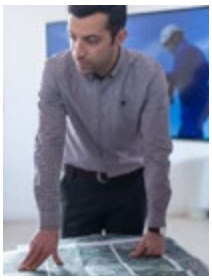
2.4 %
TURNOVER RATE IN 2018

TURNOVER RATE (%) - 2017	TSOS	FTSE-MIB	DJSI- ELECTRIC UTILITIES
Available data	19	34	8
Min.	1.3	2.4	3.7
Average	5.4	11.5	7.1
Max.	18.6	38.8	10.1
Terna		**5.9**	

Further details on how the benchmarking of staff turnover is conducted may be found in the "Sustainability" section of the Company's website.







Employee engagement

As engagement tools, we use direct or sample surveys, internal communication initiatives and focus groups on specific topics.

In 2017, the Company conducted the 2017 Engagement Survey, an internal climate survey involving the entire workforce. The response rate was 80%.

Overall, Terna's engagement score (81%) is broadly in line with the average across other companies in Italy who use this form of survey.

Once the survey results had been shared (through a series of internal communication initiatives focusing on the key data and subsequent working groups around the country), a specific action plan focusing on five priority areas was drawn up:

- staff development;
- inter-departmental cooperation and between central and local units;
- role of managers;
- internal communication.

The plan was communicated to everyone in the Company via the intranet.

Internal communication

Internal communication can make a major contribution to fostering a sense of unity, belonging and pride among the workforce, essential in enabling an organisation to respond to challenges and achieve its goals.

It has a vital role to play in spreading the Company's corporate culture and in its development, encouraging team work and achieving ever greater integration between central and local units and among the various teams via the comprehensive sharing of information and key messages. The main tools are the intranet, communication plans and events organised around the country.

With the aim of sharing and cementing Terna's unique, distinctive and enduring values, in December 2018, the Company launched its first Identity and Values campaign.

PUBLICATIONS

Type	Circulation / no. of news items
"Internamente" (company intranet) / headline news	68 news items published.
"Internamente" (company intranet) / other news	321 news items published.
"Internamente" (company intranet) / videos	54 videos published
Identity and Values campaign	Videos and displays within the main offices
Communication plans	Terna Welfare, Terna Smart Working, Terna Plastic Free, People4Performance, etc.
Office displays (panels, leaflets)	Strategic "Grids and Values" plan, Terna Welfare, Values, etc.

EVENTS

Type	Target
The Terna Achievement Award (Premio Terna al Valore)	Colleagues who have distinguished themselves for their courage, commitment, competence and sense of responsibility.
Open2Family Culture - Evening cultural events	Colleagues and their families.
Open2Family Games - Day-long events focusing on sports, games and entertainment	Colleagues and their families.
End-of-year greetings from senior and middle management	All members of staff connected via streaming on the intranet.

Industrial relations[45]

This stakeholder category also includes representatives of employees' interests. All Terna's employees are covered by the collective labour agreement adopted by companies in the electricity sector[46].

In 2018, the unionisation rate of Terna's workforce was 46%, with membership concentrated among the largest trade unions.

Relations between Terna and the trade unions are regulated, at Group level, by the "Industrial relations system protocol", which sets out the terms of bargaining, dialogue, consultation and prior and/or periodic reporting. In line with current regulations, relations between the trade unions and the entire Group's workforce are facilitated via provision of dedicated space and noticeboards at each workplace.

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The involvement of trade union organisations in the event of organisational changes, which is one of the central pillars of industrial relations, is governed by legislation, industry contracts and company agreements. In accordance with trade union agreements in force at Terna, in the event of significant organisational changes, preliminary discussions are held with the trade unions.

In the three-year period 2016-2018, negotiations with the trade unions led to the signature of 50 statements of agreement.

Finally, in the second half of 2018, Terna and the unions set up a Bilateral "Health, Safety and Environment" Committee, establishing its duties and terms of reference, with the aim of boosting dialogue, discussion and participation in these areas. The Committee held its first meeting in December.

Regulation of industrial action in the electricity service sector

In the event of industrial action, the essential services needed to guarantee continuity of service are regulated by the National Labour Union Agreement signed in February 2013. As far as Terna is concerned, some shift workers who work in dispatching (real-time monitoring of the national electricity system; the remote operation of transmission plant; checks on production plans and the procurement of production resources; the monitoring, coordination and operation of IT systems; ancillary services and plant used in dispatching) and staff from the Security Operations Centre are prohibited from taking part in industrial action.

Staff on call, whilst entitled to suspend their normal duties during a strike, are obliged to ensure that they are contactable, even during the hours scheduled for the strike.

[45] The data reported in this section does not include Tamini Trasformatori S.r.l. or Avvenia.

[46] Tamini Group employees are covered by the collective labour agreement for the engineering sector, Avvenia's employees by the collective labour agreement for trading companies.

HR process

Recruitment and selection

The staff recruited on the external labour market are university graduates - especially engineers - and graduates from technical colleges, most of whom have specialised in electrical engineering. Once hired, new recruits acquire the specific knowledge and skills they need via dedicated training courses.

2018 witnessed an increase in the recruitment of the specialists and middle managers needed to acquire new expertise and skills.

The Human Resources, Organisation and General Affairs department manages relations with schools, universities and job centres in order to support the process of recruiting new staff and to sustain a virtuous exchange process between the Company and the outside world. To this end, 13 events were organised at technical colleges in order to present the Company and begin the process of recruiting college graduates. In terms of relations with the academic world in 2018, Terna took part in 17 Career Days, signed 17 sponsorship and partnership agreements with accredited universities and business schools, entered into over 40 other agreements and recruited 29 apprentices and interns.

Trasmettere il Sapere ("Transmitting knowledge", Terna's work experience scheme)

The second edition of *Trasmettere il Sapere*, Terna's work experience scheme, took place. The scheme involved 13 vocational training institutes from all over Italy and approximately 600 4th and 5th year students. In the last quarter of 2018, planning began for the third edition, which will feature a more active format (project work, digital contests, tutoring) and will involve 15 vocational training institutes and approximately 750 4th and 5th year students.

In line with the business drivers in the Strategic Plan, which includes people and their digital skills and innovation among the enablers of the current energy transition, Terna has experimented with the following innovative methods of recruitment and selection.

Innovative selection formats

In line with the aim of assessing digital skills and innovation potential, Terna organised a recruitment day at the Teatro Eliseo, a theatre in Rome, involving 100 Engineering and Economics graduates. This led to the hire of 18 new personnel. The same approach was used in the "Talent selections" conducted as part of the NEXT ENERGY 3 programme, which saw 100 of the best candidates compete for 10 internships with Terna. The two events, hosted by Luiss Enlabs in Milan and Rome, took the form of a series of digital and interactive tests for individuals and groups and networking sessions and chats with personnel from Terna.

A number of international partnerships focusing on innovation become fully operational in 2018. These involve the participation of Terna's personnel in overseas projects and Training and Exchange programmes:

International partnerships

As part of the five-year partnership entered into by Terna with Stanford University, the first Terna Visiting Scholar was selected through an internal job post. The winner of the competition will attend university courses at Stanford for 6 months from February 2019 and will contribute to a research project sponsored by Terna, focused on studying the adoption of a nodal market model in Italy.

The first Training and Exchange of Personnel initiative, run in partnership with RTE, took place with four members of staff working on the cable used for the Italy-France interconnector - two from Terna and two from RTE - hosted by the partners for a period of four weeks (November 2018).

Training

Training is continuously provided at Terna throughout employees' working lives. The aim is to create value for people by increasing and diversifying their skills (employability), and to create value for the Company by developing human capital in line with its mission and business strategy. The Grid Experience Campus is the name that brings together all the different kinds of training, which is provided in accordance with a training model based on the transfer of specialist know-how by the most experienced staff (faculty) and on external contributions (universities and business schools), in order to guarantee a variety of incentives.

The **"Terna 4.0 Go Digital"** project was launched in 2018, with aim of strengthening digital aptitudes and an innovation-oriented mindset. The content of this programme is described below:

Terna 4.0 Go Digital

The project breaks down into 2 PHASES, as follows:

- PHASE 1: an online digital assessment to be conducted by all employees, with the aim of mapping digital aptitudes and approaches to innovation. Following the questionnaire, which was completed by 80% of staff, the next steps were (i) classroom workshops and (ii) individual interviews with the various target populations based on the level of "digital aptitude". At the end of this first phase, 16 training pills on digital themes were made available to all the workforce and an initiative was launched with the aim of developing awareness of issues relating to the digital transformation, targeted at around 400 people;
- PHASE 2: launched in early 2019, this consists of the creation of a Digital Academy and a two-year training programme to provide population clusters with high-level digital skills and mindset with the methods and competencies necessary to play a leading role in the Digital Transformation process.

Terna ran a series of training initiatives in 2018 with the goal of consolidating its distinctive technical expertise. One of these was the multi-year Multi-skill programme.

Multi-year Multi-skill training programme

The programme aims to develop operational roles with multi-skill expertise in power lines and substations. It consists of two courses, each divided into five modules focusing on theory and practice (classroom and hands-on training) and a structured on-the-job module overseen by the technical team coordinator. Trainees will sit two exams during the course, one intermediate to enable them to progress to the on-the-job module and one final exam to see if they have reached the required level.

349 staff participated in the programme in 2018, including 262 that completed the course by 31 December 2018. The remaining 87 staff are due to complete the course in 2019.

A total 10,380 hours of classroom and hands-on training, including a safety component, and approximately 47,000 hours of on-the-job training were provided.

As part of the "Onboarding Terna" project, the first 9 editions of the **"Noi siamo On Board-facciamo rete per crescere insieme"** course was run at the end of 2018. This is a course for employees who have joined the Company since 2015 and aims to build awareness of Terna's values and develop team-working skills.

Onboarding Terna

The "Onboarding Terna" project was launched in the second half of 2018 with the aim of supporting employee engagement, strengthening the sense of belonging and highlighting the range of job prospects offered by the Company.

Two programmes were designed and implemented: the first for approximately 1,000 staff hired in the last 36 months; the second for everyone hired in the following year (high-school and university graduates).

The main initiatives forming part of the Onboarding programme involve training in soft skills, job shadowing and counselling.

"DEVELOPING COMPETENCIES" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET		
Digital skills	**2019**	**2020**	**2021**
Number of people trained in digital skills	450	700*	-
Safety culture training via the "Zero Accidents" project (from 2019)			
Infrastructure unit personnel who have received safety training (%)	50%	80%	100%

(*) Target brought forward to 2020.

In 2018:

- 203,556 hours of training were provided, of which around 70% led by internal trainers;
- all members of staff attended at least one training course;
- 55 hours of training were provided per capita, in line with the target of 45 hours per capita for the two-year period 2018-2019, which continue to represent an excellent performance compared with the average for Italian blue chips 8approximately 30 hours per capita among FTSE-MIB companies).

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TRAINING	2018	2017	2016
Average hours of training			
- per employee [1]	55	50	61
By category [2]			
- senior managers	*29*	17	*31*
- middle managers	*32*	36	*49*
- office staff	*59*	43	*48*
- blue-collar workers	*64*	73	*90*
By gender [3]			
- men	53	50	61
- women	47	32	31

[1] *Ratio of total hours of training to the average number of employees.*

[2] *Ratio of total hours of training by category to the average number of employees by category.*

[3] *Ratio of total hours of training by gender to the total number of employees during the year (including those working for the Company for less than a year) by gender.*

Further information on training indicators is provided in "Key indicator tables" on page 236.

Focus

STAFF TRAINING: COMPARATIVE DATA

Comparison of the staff training performance is based on the per capita hours of training provided by companies. As per capita training is not necessarily linked to the size of a company or the sector in which companies operate, data from all the three peer groups (TSOs, electric utilities in the Dow Jones Sustainability Index and FTSE-MIB companies) were examined.

In 2018, Terna provided 55 hours of training for each employee, marking an increase with respect to 2017, when an average of 50 hours of training per employee was provided. This ranks Terna above the average figure for all three peer groups. As further evidence of Terna's commitment to skills development, its above-average performance is confirmed by the average for the five-year period 2013-2017 (49 hours of training per capita each year at Terna, compared with the less than 30 hours provided by the FTSE-MIB group).

It should be noted that the Terna figure does not include on-the-job training.

55 HOURS
OF TRAINING FOR EACH EMPLOYEE IN 2018

HOURS OF TRAINING PER CAPITA - 2017	TSO	FTSE-MIB	DJSI-ELECTRIC UTILITIES
Available data	14	34	8
Min.	17.0	7.0	34.4
Average	48.2	28.6	49.9
Max.	108.0	67.9	108.0
Terna		**50**	

Further details on how the benchmarking of staff training is conducted may be found in the "Sustainability" section of the Company's website at www.terna.it.

Development

In support of human resources development policies, Terna uses the Professional System as its main tool for managing roles, skills and development paths within the organisation, enhancing competencies and crafts ("professional families") identified on the basis of core business and corporate processes. As part of human capital development initiatives, work on the design of a new Performance Management System was completed in the first half of 2018. The system is used to define and communicate objectives, outcomes and expected organisational behaviours, as well as to promote a culture of appraisal and feedback as a way for managers to develop and coach members of their teams.

An initial pilot project, "People for Performance", was launched in the second half of 2018. This involved approximately 600 people, with the aim of gradually extending the project to all the workforce from 2019.

In order to support achievement of its strategic objectives and performance, Terna has introduced variable incentive schemes differentiated by type of role, and taking into account the time frames for achievement of the results on which the remuneration is based. These include:

- A Long-Term Incentive (LTI) plan, linked to long-term corporate objectives, including sustainability, for managers who perform key roles in attainment of the Company's strategic objectives
- MBO (Management by Objectives) for management, linking the amount of individual bonuses to:
  - the extent to which quantitative objectives are achieved, both at Company and individual level, some of which relate to Terna's social and environmental commitments (e.g. the occupational safety indicator)
  - the qualitative assessment of performance, based on management behaviours.

The following table shows the percentage of employees who have taken part in the People for Performance appraisal process and in management incentive schemes:

"APPLICATION OF PERFORMANCE EVALUATION" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET					
	2019	2020	2021	2022	2023	2023
Employees taking part in performance appraisals (%)	70%	85%	85%	85%	85%	85%

To boost productivity, Terna has also signed an agreement with the unions regarding a performance-related bonus for blue-collar workers and office staff, which takes into account the Company's overall performance and specific targets linked to employees' operational performance.

Company welfare

Pay and conditions for Terna's staff (remuneration, working hours, holidays and other aspects of employment) are, as in other large companies in the electricity sector, substantially better than the Italian average.
Benefits are provided for all employees, including those on part-time contracts and apprenticeships:

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- supplementary healthcare;
- supplementary pension schemes (voluntary);
- insurance for non-occupational accidents;
- recreational associations;
- maternity leave that goes beyond legal requirements;
- soft loans for first-time homebuyers and to meet needs arising from serious family situations;
- canteen or food vouchers.

Terna's employees (excluding senior managers, who can participate in a different fund) are automatically enrolled into the Supplementary Healthcare Fund for Enel Group Employees (FISDE).
Medical care for illnesses is partly covered by FISDE, for members (enrolled employees) as well as for their dependants.

BENEFICIARIES	INFORMATION AND RISK PREVENTION	TREATMENT
Employees	yes	yes
Employees' dependants	no	yes

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Terna offers its staff defined contribution supplementary pensions on a voluntary basis. Senior managers can join the Fondenel pension fund[47]. Other employees (blue-collar workers, office staff, middle managers) can join the Fopen pension fund[48].

In addition to pension plans, the employees of Italian companies are also entitled to other defined benefits. In particular, during their working lives, all employees are contractually entitled to receive a "loyalty bonus" on reaching their 25th and 35th year of employment at the Company.

Terna also launched 2 initiatives focusing on company welfare and smart working in 2018.

[47] http://fondenel.previnet.it

[48] www.fondopensionefopen.it

Terna Welfare

Following a specific union agreement, the **Terna Welfare** initiative was launched in 2018. The enables the Terna Group's staff to use a part of their performance-linked cash bonus to purchase welfare goods and services or to make supplementary pension contributions. Staff can convert up to the legally permitted limit of €3,000. The converted portion of the bonus is tax-exempt and topped up by 12% by the Company.

Smart Working

Under the related union agreement, a smart working trial was launched in the second half of 2018. This involved around 100 employees who work at the Company's Rome offices in Viale Galbani and Via Palmiano. In view of the positive outcome of the trial, in February 2019, Terna and the unions signed a further agreement designed to extend smart working to a total of approximately 500 people, involving certain regional offices as well as the Rome sites.

Care for children and other family members

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Italian law regulates maternity leave and parental leave, and provides general coverage. In comparison, Terna offers more favourable conditions, in application of the National Collective Labour Contract for the industry and company agreements. The most important measures include:

- five months' paid parental leave, provided to a mother before and after the birth. Terna guarantees full pay compared with the 80% provided for by law;
- an additional six months of parental leave may be taken on 30% pay. Terna raises this amount to 45% and 40%, respectively, in the first and then in the second and third months of this period. Paternity leave may also be taken, up to a maximum of eleven months of leave based on the period taken by both parents. If not used in the first six years of a child's life, the leave may be taken later up until the age of twelve, but in the form of unpaid leave;
- unpaid leave, with no restrictions on use, in the event of the illness of children under the age of 3;
- three days per month, or two hours a day, of paid leave to look after children or other family members with serious disabilities;
- special leave for two years in the event of a child or other close relation having a serious disability;
- paid leave for working fathers, with up to 5 days paid by the Company as well as 2 days paid by the state (INPS).

Under a specific union agreement signed in 2017, Terna has also introduced additional measures to improve the work-life balance and further support for parenthood, such as, for example, the possibility to take half a day's leave to accompany a child on their first day of primary school (55 employees took advantage of this option in 2018).

The table below shows the number of employees who have taken at least 29 days' parental leave.

	2018	2017	2016
Total	**16**	**26**	**19**
- women	14	25	18
- men	2	1	1

Employees taking parental leave in the three-year period shown subsequently returned to work. There was just one case of an employee who, after taking parental leave between 2016 and 2017, then resigned in 2017.

Health, safety

and correct working practices

Working safely, without putting their health at risk, is a fundamental right of employees, and Terna invests a great deal in order to guarantee this right for its people.
A safety culture is present across the Company, so that the supply chain actors who play a decisive role in operations may also be involved in the process of ensuring constant attention and improvement.
This applies more generally to respect for human and workers' rights: the Company undertakes to ensure that such rights are also guaranteed by contractors.

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The involvement of employees in matters relating to health and safety and the environment is currently regulated by law and collective bargaining, which provide for the election by all employees of Staff Representatives for Safety and the Environment, who thus represent 100% of the workforce.

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The National Collective Labour Contract also provides for the establishment of a bilateral body - at electricity sector level - regarding "Health and safety and the environment", tasked with making proposals relating to the monitoring and coordination of training on environmental and safety issues.

Protecting employees' safety

Terna's commitment to safety must be seen in the context of existing statutory requirements. Italian safety legislation (Legislative Decree 81/2008 "Consolidated law on the protection of health and safety in the workplace") is one of the most stringent among any such laws in Europe and requires companies to carry out an analytical assessment of the risks to employees' health and safety. At Terna, special attention is paid to analysing the risks deriving from interference caused by works being carried out by contractors and subcontractors, covering all the activities involved in work at a construction site. Terna's approach to occupational safety hinges on a system of tools that are applied to all corporate processes, including:

Clear safety policy guidelines	The importance of protecting people from physical harm is enshrined in Terna's Code of Ethics. The occupational safety policy sets out its guidelines with an explicit commitment to promoting accident prevention for all employees, including those employed by contractors.
BS OHSAS 18001:2007 certified management system	This system, which covers 100% of the Company's activities and is incorporated within the quality and environment system, is based on accurate risk assessment, with a particular focus on activities entailing electrical risk (Provisions for the Prevention of Electrical Risk).
Organisational unit responsible for safety	This unit, consisting of a central team and local managers in area offices and at construction sites, carries out inspections of workplaces and construction sites and also constantly analyses and monitors the risks arising from the Company's activities.

The correct and complete application of the procedures is subject to inspections by Prevention and Protection Service managers, internal compliance checks for all Terna Group companies, and the external audits required for certification. Elected staff representatives are also present who are responsible for verifying the application of standards (staff health and safety representatives). As regards activities carried out by contractors, Terna conducts inspections of its own construction sites in order to verify the correct application of accident prevention regulations by the responsible health and safety officers and contractors (see also page 80).	Supervisory activities
An archive of health and safety legislation (national, regional and technical regulations issued by the competent bodies) is available on the Company's intranet.	"Safety" section of the Document Centre on the Company's Intranet
All staff have access to key information regarding health and safety and innovations through various channels, including the Company's intranet and information meetings. In 2018, around 44,105 hours of training were dedicated to health and safety issues, of which over 60% was aimed at blue-collar workers (additional data about training may be found on page 153). The equipment at the Viverone Training Centre (BI) enables training to be carried out on safe working practices when climbing pylons (via the use of life-size pylons), and regarding live-line working in a controlled environment.	Information and training activities
The system of indicators includes the "occupational safety indicator", comprising the injury rate and the lost day rate, to which the variable remuneration of personnel in the departments concerned is linked.	Occupational safety performance targets
A specific organisational unit within the Engineering department tests safety materials and devices, assessing their reliability via strength tests under extreme conditions.	Applied research

The actions taken are designed to create an increasingly deep-rooted safety culture, based on a constant and continuous commitment, resulting also in new forms of initiative. This led to the development of a new structured and integrated project in 2018, called Zero Infortuni ("Zero Accidents"), which aims to promote a global approach to safety involving all the Company's staff, as well as people working at Terna's plants in various capacities.

The project, launched in 2018, consists a series of different activities focusing on: - operational safety (working methods, equipment, etc.); - behavioural safety (training, etc.); - the safety of personnel employed by external contractors. In terms of operational safety, among other things, an effective internal prevention system has been created. This involves a new way of conducting site inspections, replacing the traditional onsite visits with a new approach centred around an assessment of the organisation and processes. As regards behavioural safety, a safety training programme has been created for 2019. This is based on developing behaviours through both classroom and outdoor experience. This training course, one of the most important regarding behavioural safety, is designed for operational personnel and involves the 33 Infrastructure Units and maintenance units working around the country, amounting to approximately 1,700 people. Procedures have been put in place for close monitoring of the safety of the personnel of external contractors, and for analysing any injuries that take place. Procedures have also been adopted in order to record the data needed to compute contractors' injury rates (see also page 80).	Zero Injuries





Occupational injuries

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As in previous years, there were no fatal workplace accidents among the Group's employees in 2018. Likewise, there were no serious injuries resulting in an initial prognosis of more than 40 days. The total number of injuries amounts to 40, including 6 with a prognosis of less than 3 days. Since 12 October 2017 (art. 3, paragraph 3-bis of Law Decree 244/2016), companies have an obligation to report to INAIL any injuries resulting in an absence from work of at least one day, excluding the day of the relevant event. Previously, the obligation only applied to absences of over 3 days, excluding the day of the event.

Both the injury rate and the lost day rate have registered slight increases compared with the previous two years (further details regarding health and safety data and injury rates by gender are provide in "Key indicator tables" on page 239).

OCCUPATION INJURIES SUFFERED BY TERNA EMPLOYEES - GRI-ILO DEFINITIONS (*)	2018	2017	2016
Injury rate	**1.28**	**0.81**	**1.00**
Lost day rate [1]	**34.40**	27.62	31.28
Absentee rate [2]	**6,937.4**	6,239.9	6,831.4
Occupational diseases rate [3]	**0**	0	0
Number of injuries	**40**	24	28
- of which serious, where the initial prognosis is more than 40 days	**0**	1	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 aid comparison with other sources, the following notes show the figures for the same indicators calculated using alternative formulae. It was not deemed necessary to further break down the data by region, because Terna only operates in Italy.

***Injury rate**. The number of injuries registered and reported to the competent social security office, divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To aid comparison with other sources, the injury rate is also calculated in accordance the UNI 7249:2007 Standard. This indicator has been calculated using a multiplication factor of 1,000,000 instead of 200,000 (thereby resulting in an injury rate 5 times the ILO injury rate). Based on this method of calculation, the injury rate is **6.4 in 2018, 4.0 in 2017 and 5.0 in 2016**.*

***Lost day rate**. The ratio of days lost due to injury to the number of hours worked during the year, multiplied by 200,000. The days lost are calendar days and are counted from the day on which the injury occurs. To aid comparison with other sources, the lost day rate is also calculated in accordance the UNI 7249:2007 Standard. This indicator has been calculated using a multiplication factor of 1,000. Based on this method of calculation, the lost day rate is **0.17 in 2018, 0.14 in 2017 and 0.16 in 2016**.*

***Absentee rate**. The number of days of absence due to illness, strikes, injuries and leave out of the number of days worked in the same period, multiplied by 200,000. To aid comparison with other sources, this indicator has also been calculated as a percentage of days worked. Based on this method of calculation, the absentee rate is **3.5 in 2018, 3.1 in 2017 and 3.4 in 2016**.*

***Occupational diseases rate**. The total number of cases of occupational disease divided by the number of hours worked during the year, multiplied by 200,000.*

(1) Calculation of the lost day rate took into account days of absence due to injuries occurring in 2017 and any cases of absence due to injuries occurring in previous years, accounting for days of absence on an accruals basis.

(2) The causes of absence taken into account do not include maternity leave, marriage leave, study leave, trade union activities, other forms of paid leave and suspensions.

(3) As in previous years, there were no cases of occupational disease among Terna's employees in 2017. Terna's operations do not entail the types of work, as defined by law, associated with the potential occurrence of occupational diseases. Terna's occupational disease rate therefore remains at zero.

OCCUPATION INJURIES SUFFERED BY CONTRACTORS AND SUB-CONTRACTORS - GRI-ILO DEFINITIONS	2018	2017	2016
Occupational injuries suffered by contractors' employees	**21**	**9**	**8**
- of which serious	**2**	1	0
- of which fatal	**1**	0	0
Injury rate [1]	0.99	0.42	0.41

(1) The number of injuries entailing at least one day's absence from work, divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To aid comparison with other sources, this indicator has also been calculated using a multiplication factor of 1,000,000 instead of 200,000 (thereby resulting in an injury rate 5 times the ILO injury rate). Based on this method of calculation, the injury rate is 4.9 in 2018, 2.1 in 2017 and 2.0 in 2016. The figures for 2017 and 2016 differ from those published in previous reports as the method of estimating the number of hours worked by contractors' personnel has changed (see page 80).

In addition to the information provided in the table, for the sake of completeness it should be noted that, in 2017, a contractor's employee was taken ill. The resulting fatality, even though occurring during working hours, was due to natural rather than occupational safety causes. Checks carried out also confirmed that the construction site was managed in full compliance with health and safety regulations. Contractors' health and safety protection measures are described in the section "Sustainability in the supply chain" on page 76.

In addition, in 2018, the Group began monitoring construction sites and injuries to people employed by contractors and sub-contractors carrying out work for the Group's subsidiaries overseas (see the specific section on page 47). There was a total of 45 injuries, none of which were fatal or serious, and the injury rate was 2.0.

"HEALTH AND SAFETY" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET					
SAFETY INDICATOR*	2018	2019	2020	2021	2022	2023
	1,2	≤ 1	≤ 1	≤ 1	≤ 1	≤ 1

(*) The Safety Indicator is the ratio between the weighted injury rate (weighting: 30%) and lost day rate (weighting: 70%) for the target year and that for the previous three-year period.

Diversity and equal opportunities

> 405-1

Terna uses staff selection, development and compensation systems that recognise and reward merit. All forms of discrimination, starting with the selection and recruitment process, are explicitly prohibited by the Group's Code of Ethics and Guidelines (e.g. its Human Rights Policy).

> 405-2

The vast majority of employees are men, due to a traditional shortage of female labour for the more technical and operational roles. However, the presence of women is increasing, partly reflecting general labour market trends, which show that female participation is on the rise.

The percentage of women in the total workforce in Italy was 9.0% at the end of 2005 (the year in which Terna became an independent company). This figure has grown steadily since then, registering 13.5% at the end of 2018. 26.6% of hires, not taking into account blue-collar workers, were women (24.1% in 2017).

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, it should be noted that, in 2017, the proportion of women managers in relation to the total number of managers (19.7%) was once again higher than the proportion of women in relation to the total number of employees, without taking into account blue-collar workers (18.5%). Remuneration data also show moderate pay gaps for office staff and middle managers, with wider gaps for senior managers, although the number of people considered is smaller and the pay gaps are consequently more influenced by the nature of the related roles and the fact that there are few incoming and outgoing staff.

EQUAL OPPORTUNITIES FOR MEN AND WOMEN (PERCENTAGES)	2018	2017	2016
Pay gap between men and women in % [1]			
Senior managers	78.9	79.4	70.6
Middle managers	93.9	96.6	96.4
Office staff	97.7	97.3	97.7
Pay gap between men and women in % [2]			
Senior managers	74.3	72.1	67.3
Middle managers	95.0	99.0	98.3
Office staff	93.6	94.0	93.9

[1] The figure is based on the annual basic pay of women in the different categories as a percentage of the annual basic pay of men in the same categories. The figure has not been calculated for blue-collar workers as there are no women in this category.

[2] The figure is based on the total annual pay of women in the different categories as a percentage of the total annual pay of men in the same categories. In addition to basic pay, total pay also includes productivity bonuses, various forms of incentive and the value of benefits received during the year.

> 202-2

Almost all employees are Italian citizens (only 27 employees have foreign citizenship).

At 31 December 2018, 140 people from legally protected categories (144 in 2017 and 138 in 2016) were employed, in line with the regulations applicable to Terna. Additional indicators regarding equal opportunities may be found in the "Key indicator tables" (page 241).


PETZL

Investment in developing the grid so as to facilitate its role in **enabling the energy transition to a decarbonised system, based on renewable energy**, is Terna's most important contribution to the environment.
In these actions to achieve its objectives, Terna puts great store by efforts to **minimise the impact its assets have on the surrounding environment** (visual impact, occupancy of land and biodiversity).
Moreover, in keeping with its role as an enabler of the energy transition, Terna is committed to cutting its carbon footprint, aiming to minimise leakage of the greenhouse gas SF_6 and to increase energy efficiency in the offices and substations.

87 km
OF LINES DEMOLISHED

86%
OF WASTE RECYCLED

0.38%
LEAKAGE RATE FOR SF_6 (AS A % OF THE TOTAL AMOUNT INSTALLED), OUR BEST EVER PERFORMANCE

6

Environment

Terna and the environment

In terms of environmental impacts, Terna's most significant activities regard not so much the use of natural resources or the emission of pollutants, but rather the physical presence of power lines and power stations and their interaction with the surrounding natural and man-made environment.

Occupancy of the land, the visual impact on the landscape, electric and magnetic fields, and the effect of power lines on biodiversity, especially birdlife, are aspects that relate to the implementation and physical presence of Terna's assets. Greenhouse gas emissions and hazardous waste, however, are relevant within the context of operations.

Terna has adopted an Environmental Policy that sets out its commitment to containing and reducing its environmental impact, which in some cases goes beyond legal requirements, when this does not compromise the protection of other general interests provided for under the concession. This Policy is fully implemented via the Integrated Management System (see page 60) - which also covers efforts to reduce greenhouse gas emissions, the implementation of energy efficiency initiatives (see page 186) and the adoption of measures designed to protect birdlife (page 177). Terna extends the issue of environmental protection to its supply chain (page 76) and also to local stakeholders directly affected by NTG development projects (pages 84 and 118). In organisational terms, these matters are managed by several departments with responsibility for specific aspects.

With reference to the scope of the environmental data, it should be noted that the data relating to Tamini Trasformatori S.r.l. and Avvenia -The Energy Innovator S.r.l. - subsidiaries of Terna Energy Solutions, which is in turn controlled by Terna - are not included in this section (for details on the scope of reporting, see the "Methodological note"). The environmental indicators of the Tamini Group are shown in a specific Focus (see page 194). With regard to Avvenia, a company acquired in 2018, the monitoring of environmental impacts will begin in 2019.

Management of environmental impacts

of the electricity grid

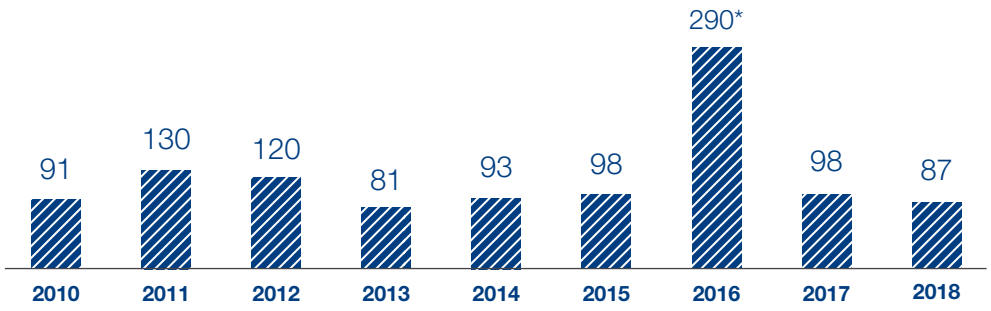
The construction, maintenance and presence of electricity infrastructure have an impact on their surroundings. The responsible management of these impacts is illustrated below. Aspects relating to greenhouse gas emissions, connected with grid operation and electricity transmission, are dealt with in the section on "Atmospheric emissions and energy efficiency" on page 180.

Power lines and local communities

< 413-2

The transmission grid has effects on the environment, primarily in terms of the visual impact on the landscape produced by the physical presence of power lines and electricity substations.
The physical removal of existing lines is one of the most radical ways in which Terna reduces environmental impacts, also in terms of land use. Demolitions are a component of upgrade initiatives, often resulting from agreements signed with local authorities during the consultation phase prior to the construction of new infrastructure.
In 2018, 87 km of lines were demolished, while in the period 2010-2018, a total of 1,089 km of lines were demolished.
Demolition is defined as the physical removal of overhead lines (or their replacement with underground cable) and does not include declassified or upgraded lines.

POWER LINES DEMOLISHED (KM)



(*) The figure for 2016 is exceptional due to the demolition of over 200 km of obsolete power lines in Valtellina, which had been in preparation in previous years. After adjusting for this removal, demolitions amounted to approximately 80 km, in line with previous years (approximately 100 km per year).

1,089 km
of lines demolished

"TRANSMISSION IMPACTS" TARGET

KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET					
Visual impact	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
Km of overhead lines demolished during the year	87	82	107	59	87	47
Km of new underground lines during the year	53	46	243	56	100	166

An approach based on environmental sustainability guides all of Terna's activities, especially those regarding grid development. In terms of NTG development requirements, the interventions with the least environmental impact are rationalisation and reclassification.





Rationalisation	Complex initiatives involving several components of the grid, replacing certain components with others of a superior type, thereby eliminating parts of the grid that are of little use following the installation of new infrastructure or adding new elements of the grid to avoid the upgrade of power lines that have reached saturation point.
Reclassification	This involves the conversion of existing power lines to a higher voltage through the installation of new conductors and pylons to replace existing ones, which may be larger in size and therefore take up more space. Compared to the construction of a new line, this type of intervention usually has the advantage of using existing infrastructure corridors, thus avoiding the occupation of new areas of land.

When grid development requirements entail the construction of new infrastructure, environmental sustainability considerations are taken into account in all phases of a project.

Planning and consultation	Terna's planning uses assessments based on digital thematic maps, mostly deriving from official sources (regional authorities, water concession authorities, monitoring agencies), which are organised in a large and constantly updated database. Since 2002, Terna has voluntarily brought forward dialogue with local stakeholders in order to identify shared solutions ahead of any consents process for new projects. Dialogue with local authorities, the Strategic Environmental Assessment (SEA) procedure in the Development Plan and public initiatives that address the members of local communities directly affected by the presence of new infrastructure, all contribute to the design of initiatives to mitigate environmental impact (see page 118).

Design

Choosing the route is the most delicate phase of the design process, as it determines the environmental impact of the entire development project.

For this reason, notwithstanding the need to identify a route that makes it possible to operate and maintain the power line, Terna looks for design solutions that minimise land use, interference with areas of environmental, natural, landscape and archaeological value, as well as urbanised or built-up areas, and the related easements. Terna's design process includes the study of construction plans aimed at using existing roads or tracks to minimise the opening up of new access routes, especially in wooded or protected areas, and the assessment of problems relating to vegetation management. This entails the adoption of methods and tools to minimise the impact on biodiversity, such as optimising the height of pylons and their location.

The drawing up of the Environmental Impact Study provides detailed information on the various components that help designers to turn the blueprint into an optimised project.

Great attention is paid to minimising the visual impact. If this cannot be mitigated by means of precise and appropriate choices of location and/or by taking advantage of morphological features, the following actions may be taken:

Choice of pylons with reduced visual impact

In recent years, Terna has expanded the range of available pylons that may be used, with the introduction of new single-pole pylons with a low environmental impact (with an overall surface area of 10 square metres compared to 150 square metres for traditional pad/pyramid type pylons) and the design by internationally renowned architects of pylons that are more integrated into the landscape.

NUMBER OF PYLONS INSTALLED AT 31 DECEMBER 2018

TYPE OF PYLON	LINE	TOTAL
Single pole	380 kV lines	498
	220 kV lines	43
	150 kV and 132 kV lines	2,244
	Minor 150 kV and 132 kV lines	798
"Germoglio" and "Foster"	Trino - Lacchiarella	6
	Santa Barbara - Tavarnuzze - Casellina	9

Use of underground cables, which eliminates or reduces the typical visual impact of overhead lines, is perceived as negative especially in built-up areas. Underground cables, although appreciated and requested by local authorities, pose technical and financial problems. Underground lines can only be built for a limited number of consecutive kilometres, are less reliable than overhead power lines over time and require much longer repair times in the event of a malfunction. For this reason, they often do not guarantee adequate security for the electricity system and continuity of service. Underground cables also have a greater impact during the construction phase - for example, in terms of road works - and higher construction costs.

Execution: site operations

> EU13

Terna manages the impact of its construction sites on the environment via the operating manual, "The management of environmental aspects during infrastructure construction", in line with the Group's Environmental Policy and existing regulations.
This operating manual introduces the role of the environmental contact, a person tasked with monitoring the environmental requirements contained in the EIA Decrees and in the opinions of authorities with responsibility for the environmental, as well as compliance with legal obligations, also with reference to the activities carried out by contractors. The environmental contact also monitors the indicators set out in ISO 14001 certification, relating to complaints/reports, environmental accidents, waste, and the consumption of energy and natural resources.
Special attention is paid to the identification of areas and access roads to sites which, if compatible with technical and design requirements, are located in areas of reduced natural importance. On completion of the construction work, Terna restores the areas concerned to their original state.
If these areas regard natural or semi-natural habitats, in addition to the normal restoration works, specific interventions are implemented, based on natural engineering techniques, to provide favourable living conditions for animal species (https://www.aipin.it/). These include re-naturalisation, aimed at creating environments suitable for species or plant and/or animal communities (habitat reconstruction), the replanting of native live plants, which do not require irrigation or special fertilisation or the use of materials, even if only inert.
Terna's environmental policies, which are also applied at construction sites, have been drawn up in accordance with the applicable environmental laws and the ISO 14001 standard. These include such aspects as prevention of groundwater contamination and limitation of damage to vegetation, the management of accidents, the minimisation of atmospheric and noise pollution, the use of vehicles, and the proper management of waste and excavated earth (see page 174).
Internal audit campaigns regarding construction sites enable any deviations from the Company's environmental policies to be identified.

Mitigation and offsetting

In compliance with requirements received during the consents process, or voluntarily, Terna adopts mitigation measures to reduce the impact and improve the integration of electricity infrastructure within local areas.
Specifically, in its design process the Company gives priority to line locations that take advantage of natural morphological features, creates camouflage systems for its electricity substations, and makes use of natural engineering techniques for habitat reconstruction and the stabilisation of slopes and embankments.
With regard to the new overhead power lines, other mitigation measures consist of camouflaging pylons with paint and the use of coloured insulators that enable the new lines to blend in better with the landscape.
Offsetting, which is usually of a technical and/or environmental nature, is specified by the authority issuing the consents. In the preparation of a project proposal - together with national, regional and local regulations - this constitutes a "binding standard" for the detailed design and execution of the project.
In most cases, offsetting accentuates or better defines the mitigations proposed in the environmental impact study, or imposes new offsets on the advice of specialist bodies (government authorities, the grantors of water concessions, park authorities, etc.). Offsets may take the form of compensation. If the competent authority does not consider a residual impact to be sufficiently mitigated, it takes into account another initiative located elsewhere capable of offering environmental compensation.





Activities in 2018

In line with the approach described above, in 2018 a camouflaging project on the Villafranca substation ("Sorgente-Rizziconi" line), and the rehabilitation of a habitat of community importance involving the magredi del Cellina grasslands ("Udine West-Redipuglia" line) were implemented. A theoretical model for an Incremental Ecological Indicator (IEI) has also been developed.

This innovative tool is used to make a qualitative and quantitative assessment of the ecological status of new ecosystems resulting from initiatives, such as vegetation restoration, camouflaging, offsets, etc. This indicator will enable the ongoing monitoring of mitigations and offsets regarding vegetation, showing the various stages of progress and "health".

During the year, Terna finally launched a process for evaluating adoption of the Envision protocol, the first rating system to be applied during the construction of sustainable infrastructure, based on a grid for assessing projects and adaptable to any infrastructure development project. The system covers all the various phases involved, from planning through to consultation, design and construction.

With a view to implementing the Envision protocol, a number of Terna staff were trained and qualified as Envision SPs (Envision Sustainability Professionals) in 2018.

Use of resources and waste management

> 303-1

Development and maintenance of the NTG requires a substantial amount of capital goods, such as power lines (pylons, conductors, insulators), transformer substations (transformers, circuit breakers, other equipment) and control systems.
It should be noted, however, that water is not part of the production cycle for electricity transmission and dispatching. Normally, the water used - for hygiene purposes, office cleaning and cooling systems - derives from connections to water systems for civil use (water withdrawn is shown in the Key Indicator Table on page 245).
The production and direct management of waste primarily regards the maintenance of electricity infrastructure.

Resources

> 301-1

Terna does not use raw materials, but does purchase finished products (electrical equipment, conductors, tools and other components). An estimate of the materials contained in the main products purchased is shown in the table below. Amounts have been estimated taking into account the average material content of the various products purchased in the years referred to.

MAIN MATERIALS PROVIDED BY SUPPLIERS in tonnes	2018	2017	2016
Porcelain	715	303	193
Polymers	406	193	93
Copper	4,323	2,068	461
Aluminium	8,061	3,978	2,858
Steel	11,148	7,347	13,253
Glass	3,879	1,466	859
Dielectric oil	1,275	1,298	227
- of which vegetable oil	364	486	-
SF_6	8	9	34

In particular, the amounts shown in the table reflect the increase in the purchase of equipment used in operating electricity substations: autotransformers, current and voltage transformers, circuit breakers and disconnectors. It should be noted that the figures for 2017 have been updated to include the amounts relating to certain new types of machinery purchased for the first time in 2017. In particular, the amounts for autotransformers using vegetable oils have been included.

First two Tamini transformers using vegetable oil are in operation

Udine West and Tavazzano (LO) are the first two substations in which “green” transformers insulated with vegetable oil have been installed.
This innovation - developed over the last two years by the subsidiary, Tamini Trasformatori - replaces the mineral oil petroleum distillate with ester, a product of vegetable origin that is renewable, almost 100% biodegradable and drastically reduces the risk of fire and environmental impact.
This solution, which will be gradually extended across the whole country, confirms the attention Terna pays in adopting safe, reliable and sustainable technical solutions to minimise the environmental impact of electricity infrastructure.

Waste

< 306-2

At the end of their normal lifecycle, the materials used in electricity infrastructure are recovered for reuse in operations. Only a residual portion is sent to landfill and has an impact on the environment.

The percentage of waste recovered amounted to 86% in 2018 (87% in 2017 and 93% in 2016).

The effective amount recovered depends on the materials contained in the waste: some of them are easy to separate out and thus reuse (for example, the iron parts of pylons); in other cases, instead, it is not possible or it is too costly to separate the various parts, above all when dealing with the most obsolete equipment.

For this reason, annual changes in the amount of waste generated and the percentage of waste recycled should not be interpreted as indicating a trend.

WASTE BY TYPE [1] (in tonnes)	2018	2017	2016
Waste produced [1]	**6,774.2**	**4,801.5**	**4,941.6**
of which hazardous	3,484.2	2,250.6	1,842.5
of which non-hazardous	3,290.0	2,550.8	3,099.1
Waste sent for recovery	**5,799.1**	**4,188.1**	**4,581.4**
of which hazardous	2,936.1	1,832.1	1,560.6
of which non-hazardous [2]	2,863.1	2,356.0	3,020.8
Waste sent for disposal [3]	**1,050.3**	**315.6**	**351.6**
of which hazardous	555.8	171.4	275.6
of which non-hazardous	494.5	144.2	76.0

[1] Only special waste produced during production processes is included, not waste produced by services (urban waste). Effluents and waste from septic tanks, produced by substations not connected to the sewer network, are not included; the quantity for effluents and waste from septic tanks was 388 tonnes in 2018, 617 tonnes in 2017 and 789 tonnes in 2016.

[2] This comprises uncontaminated metal waste deriving from the decommissioning of transformers, electrical equipment and machinery (e.g. generators), with an average recovery rate of 100%.

[3] Waste sent for disposal may differ from the mere disparity between waste generated and recovered due to temporary waste storage.

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

This derives from the decommissioning of transformers, electrical equipment and machinery no longer in use and is contaminated by hazardous substances; they have an average recovery rate - after treatment by third parties - of over 95%.	Metal waste
In the event of a blackout, batteries enable emergency generators to be switched on in order to keep the energy transformation and transportation service up and running during emergencies; they have a recovery rate of 100%.	Batteries (lead and nickel)
These are used for insulating transformers replaced after periodic checks carried out for maintenance purposes. They constitute hazardous waste and have a recovery rate in the three-year period of around 100%.	Dielectric oils

The waste sent for disposal consists mainly of materials deriving from infrastructure maintenance and cleaning activities (sludge, oily emulsions and rags containing solvent oils) and insulating materials containing asbestos, for which no form of recovery is envisaged.

As in the previous two-year period, no significant spills of polluting liquids were reported in 2018.

< 306-3

Monitoring and supervision of electromagnetic fields

Protection of the population from exposure to electromagnetic fields is precisely defined by law (the Cabinet Office Decree of 8 July 2003). This legislation provides for:

- **Exposure limits**: In the event of exposure to electric and magnetic fields generated by power lines at a frequency of 50 Hz, the limit is 100 microteslas for magnetic induction and 5 kV/m for the electric field, considered as effective values.
- **Safety thresholds**: As a precautionary measure to protect against possible long-term effects, which may be connected with exposure to magnetic fields generated at the network frequency (50 Hz), in children's play areas, residential areas, schools and places where people spend not less than four hours a day, a threshold of 10 microteslas has been set for magnetic induction, based on the average of measurements taken over 24 hours under normal operating conditions.
- **Quality targets**: In the design of new power lines at the above-mentioned sensitive locations, and in the design of new settlements and new areas close to lines and electricity installations already present in the vicinity, in order to gradually minimise exposure to electrical and magnetic fields generated by power lines operating at a frequency of 50 Hz, a quality target of 3 microteslas has been set for magnetic induction, based on the average of measurements taken over 24 hours under normal operating conditions.

The values of the three parameters, and especially the threshold value (10 microteslas) and the quality target (3 microteslas), show that Italian legislation has adopted the prudential approach described in art. 15 of the Rio Principles. These parameters are among the strictest at European level. Terna's compliance with the law in its activities implies that it has adopted the same principle.

Terna carries out inspections on its own lines to ensure compliance with the limits laid down by the regulations in force, and seeks innovative technological solutions in order to mitigate the impact of magnetic fields. If any complaints or requests are received from competent administrative bodies and authorities, the Company provides the necessary data to assess the actual exposure to electric and magnetic fields generated by its infrastructure.

Finally, with a view to providing accurate information on the subject that is easy to understand, Terna has prepared an in-depth study on electromagnetic fields (EMF) which may be found in the "Sustainability" section of the Company's website, www.terna.it.

Reports and complaints regarding environmental concerns

In line with the ISO 14001 Environmental Management System, Terna monitors and classifies complaints received regarding significant environmental matters.
Any written communication from stakeholders, reporting that an activity carried out by Terna causes or has caused damage, may be submitted to one of the Group's offices or organisational units, where it will be filed and handled by the operating unit.

Complaints received are classified in terms of environmental aspects as defined by environmental analysis: waste, noise, biodiversity, landscape, electrical and magnetic fields, lighting, the management of vegetation and others.

This year too, most of the concerns reported regard power lines and refer to the noise emitted by the lines when in operation, requests to measure electromagnetic fields and the need to cut back vegetation along power line corridors.

Terna replies as soon as possible, and in any event within 30 days of the date of receipt of a request, or within 60 days if the scope and complexity of a request is such that it cannot be handled within the first 30 days.
In this case, Terna promptly notifies the person making the request of the extension, and explains why it is necessary. Details of the concerns reported and dealt with over the last three years are published on pages 231-232.

Electricity power lines, biodiversity and birdlife

The impact of Terna's grid on biodiversity may take different forms.
During the grid construction phase, the impact on biodiversity is linked to construction site activities (e.g. the opening up access routes to build pylons, soil excavation and the removal of residual materials), and is temporary and reversible.

< EU13

During the operational phase, the potential impacts of existing lines on biodiversity are twofold. On the one hand, the route of the line may be a factor in increasing biodiversity and protecting certain species as pylons, with their bases, make it impossible for land to be used for intensive agriculture and constitute "islands" where biodiversity can flourish. On the other hand, the presence of lines has potentially negative effects on biodiversity, in particular on birds, due to the risk of collision, and in protected areas or areas of natural interest.

The main tool for identifying critical line sections is a fully comprehensive land use database, containing data provided by regional authorities and ministries. This GIS (Geographic Information System) enables integrated analysis of all the layers of information on the various types of land use and protections (local, natural, cultural, landscape, etc.). Using this tool, Terna has compiled an inventory of the lines that may interfere with protected or highly biodiverse areas, as shown in the table below.

< 304-1

HOVERHEAD POWER LINES IN PROTECTED AREAS*

	UNIT	2018	2017	2016
Lines impacting on protected areas	km	6,138	6,024	5,512
Lines with an impact as a percentage of total lines operated by Terna	%	10	10	10

(*) To calculate the percentage of lines impacting on protected areas, the Company has used "ATLARETE" data, which may contain differences compared with the data presented in the tables showing indicators of the number of lines.

On this basis, potential threats from the risk of collision for bird species included in the IUCN Red List have been assessed.

The presence of power lines may have negative effects on birdlife. While the risk of electrocution regards LV and MV lines and therefore does not concern Terna's infrastructure, HV lines are associated with the risk of collision.

In order to minimise this risk, special devices called deterrents have been installed along sections of line with frequent bird traffic, which, with their visual impact and the noise they generate when blown by the wind, make the power lines easier to see for birds in flight.

BIRD DETERRENTS ON THE NTG

	UNIT	2018	2017	2016
Lines involved	n.	70	66	57
Length of lines involved	km	237.6	221.8*	212
Total deterrents installed	n.	15,503	14,728	14,472

(*) The 2017 figure regarding the length of lines involved has been recalculated following the emergence of revised data after publication.

Over the years, Terna has promoted research and scientific studies to further investigate this issue and identify increasingly effective solutions. The first Italian study dedicated to collisions, based on the results of an agreement between Terna and LIPU (the Italian League for the Protection of Birds), highlights a low risk of collision (see, for example, the 2010 Sustainability Report, page 116 "Terna-LIPU agreement: a study of the interaction between birdlife and the National Transmission Grid").

In order to support scientific research and the re-naturalisation of local areas, in collaboration with environmental associations, Terna carries out targeted projects Over recent years, Terna has implemented the following projects:





Collision risk prevention tools

In 2018, CESI conducted a market survey on the availability of different types of deterrent, including a scientific study on their effectiveness. In 2019, the deterrents deemed suitable for installation on our assets will be purchased and field-tested.
Radar monitoring of the passage of migratory birds along the "Sorgente-Rizziconi" power line (last year), and assessment of the effectiveness of deterrents via surveys of the areas around power lines, was completed. Terna published the results of the monitoring on its website: www.terna.it.
Trials of AVIMON, the device that records bird strikes against ground wires on power lines, were completed on the "Villanova-Gissi" power line after a period of six months without registering any collision. New trials were launched on the "Redipuglia-Planais" power line where it crosses the Isonzo river.

Identification and monitoring of bird species on the IUCN Red List

> 304-4

Terna has carried out a study aimed at identifying the protected species included in the IUCN Red List that are potentially impacted by its infrastructure.
The IUCN Red List is the largest existing international database on the conservation status of thousands of plant and animal species, which are catalogued according to their risk of extinction. In its analysis, Terna specifically considered the presence of bird species on the IUCN Red List and at Natura 2000[49] sites, namely in protected areas with a high level of biodiversity (approximately 3,000 SPAs and SCIs).
The study selected the Natura 2000 areas affected by Terna power lines, then verified which protected species - among those included on the Red List and classified as Vulnerable, Endangered, Critically Endangered and Regionally Extinct - had chosen them as their habitat[50]. These species are conservation priorities as without specific measures to neutralise the threats they face, and in some cases to increase their populations, their extinction is a real prospect. The analysis showed that Terna's electricity infrastructure could interfere with the habitats of eight species. After checking scientific publications and via targeted consultations, no specific critical issues emerged regarding bird species except for a potential risk of collision for the corncrake, a species present in the Alpine area between Friuli-Venezia Giulia and Lombardy. A specific study on the ecology of the species is in progress with a view to mitigating this risk.

[49] Natura 2000 is the main instrument of the European Union's biodiversity conservation policy. This ecological network which covers the entire territory of the European Union, was set up under the Habitats Directive (Council Directive 92/43/EEC) to ensure the long-term maintenance of natural habitats and of endangered or rare species of flora and fauna at EU level. The Natura 2000 network consists of Sites of Community Importance (SCIs), identified by Member States in accordance with the Habitats Directive, which are subsequently designated as Special Areas of Conservation (SACs), and also includes Special Protection Areas (SPAs) established under Directive 2009/147/EC "Birds" regarding the conservation of wild birds.

[50] There are 11 risk categories, ranging from Extinct (EX), applied to species for which there is a definite certainty that the last individual has died, to the Least Concern (LC) category, used for species that are not at risk of extinction in the short or medium term. The Extinct and Least Concern categories include categories under threat, which identify species at increasing risk of extinction in the short or medium term: Vulnerable (VU), Endangered (EN), Critically Endangered (CE) and Regionally Extinct (RE).

Alternative uses for electricity power lines

Terna, in partnership with environmental organisations, has for some years been working on projects that aim to develop alternative uses for power lines. The most important, carried out in collaboration with *Ornis italica*, is the **Nests among the pylons** project. This involves the installation of nest boxes, followed by annual surveys of the species that occupy the nests and the results of the breeding season. The project regards many species, including: the kestrel, peregrine falcon, scops owl, cuckoo, common roller, bat and stork. Launched in 2015, the GIS census (location via geographical coordinates) of the nests installed is still in progress, which to date has registered 384 nests.

GEOREFERENCED NESTS AT 31 DECEMBER 2018

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	95	31	Kestrel, scops owl, cuckoo, common roller
Lazio	47	14	Kestrel, scops owl, common roller
Lombardy	15	0	
Piedmont	54	25	Common roller
Puglia	72	0	
Sicily	30	10	
Trentino-Alto Adige	8	0	
Veneto	1	1	
Overall total	**384**	**104**	

(*) The relevant species are identified by the type of nest box installed and by subsequent monitoring. However, the possibility that nests may be used by another unrecorded species cannot be excluded.

As part of the contract regarding new nest box installations, in addition to the supply of boxes, Terna has also contracted out monitoring of occupation of the new boxes.

MONITORING OF NEST OCCUPATION AT 31 DECEMBER 2018

LOCATION	MONITORED	OCCUPIED
Abruzzo	30	17
Calabria	30	17
Piedmont	20	12
Sicily	30	15

The **Birdcam** project completes this type of initiative, providing for the installation of cameras on the artificial nests to follow the birds' breeding period online on the www.birdcam.it website and on Terna's website.

Avian Team

In 2017, Terna set up a group of operational experts (currently 17) to systematically control and manage initiatives and activities regarding the interaction of birds and bats with Terna's power lines and substations. The Team's objectives are to resolve - with respect for birdlife - problems arising from line operations due to causes attributable to birds, to develop solutions in line with national and international regulatory frameworks, to improve relations with environmental associations, and to disseminate information on Terna's actions regarding biodiversity. The activities of the Avian Team were presented during the 19th Italian Ornithological Conference (Turin, 27 September - 1 October 2017).

Atmospheric emissions

and energy efficiency

At international level, convergence on the action to be taken to combat climate change was best reflected in the agreement signed at the United Nations Climate Conference (COP21) in Paris in December 2015.

The guidelines in Terna's Strategic Plan are consistent with these positions and with the objective of facilitating the transition to the production of energy from renewable sources and, more generally, the decarbonisation of production processes.

Climate change entails both risks and opportunities for Terna's business (see page 68) in terms of Regulated and Non-regulated Activities. In particular, with regard to the former, investment in grid development meets the need to facilitate the energy transition by strengthening transmission capacity and interconnections with other countries, while research and innovation are aimed at identifying smart and sustainable solutions to be offered to the customers of the Non-regulated Activities.

Terna is a European leader in the field of battery storage, which could specifically encourage the use of renewable energy sources and, at the same time, solve problems with control of the grid deriving from sudden reductions in renewable electricity production. In partnership with Italian State Railways, Terna is also developing production plants that use renewables.

With regard to the reduction of CO_2 emissions into the atmosphere by the electricity system as a whole, Terna's main contribution is to carry out the investment provided for in the NTG Development Plan (see page 120). In this section, the focus is on emissions relating to Terna's operating activities.

Direct and indirect CO_2 emissions

< 305-1

< 305-2

Direct greenhouse gas emissions (Scope 1) connected with Terna's activities derive mainly from SF_6 gas leaks (87% of total direct emissions in 2018), which are down on the previous year, partly thanks to maintenance of plants where the highest leaks were recorded in 2017. The remaining direct and indirect emissions (Scope 2) are due to energy consumption, especially electricity. Indirect emissions decreased by 12% in 2018, reflecting the combined effect of the different conversion factor compared to the previous year and a reduction in electricity consumption, partly due to efficiency measures (see the dedicated section on page 186). It should be borne in mind that, for technical reasons, Terna's energy consumption is not attributable to a supply contract. This makes it impossible to reduce indirect emissions by selecting supplies from renewable sources, and accounts for the need to use an average conversion factor for Italian electricity production.

TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS

TONNES OF CO_2 EQUIVALENT [1]	2018	2017	2016
Direct emissions			
Leakages of SF_6	54,846.1	67,371.4	54,101.9
Leakages of refrigerant gases (R22, R407C, R410A)	427.9	489.4	478.5
Petrol for motor vehicles	36.8	39.9	37.7
Diesel for motor vehicles	6,295.0	6,269.0	5,730.6
Jet fuel for helicopters	605.6	582.2	499.5
Natural gas for heating	316.0	419.9	458.8
Fuel oil for heating and generators	471.8	621.3	684.6
Total direct emissions	**62,999.2**	**75,792.9**	**61,991.7**
Indirect emissions			
Electricity [2]	**64,050.5**	**72,489.3**	**74,715.5**

[1] *The conversion of direct energy consumption and leakages of SF_6 (sulphur hexafluoride) and refrigerant gases into equivalent CO_2 emissions has been carried out using the parameters indicated in the IPCC Fifth Assessment Report (AR5) and the Greenhouse Gas Protocol (GHG) Initiative.*

[2] *The conversion of indirect electricity consumption is carried out taking into account the share of total Italian electricity production represented by thermoelectric production in 2018. Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.*

The reduction in total direct and indirect CO_2 emissions, which is mainly linked to the reduction in SF_6 leakages, is reflected in the decrease in the figure for carbon intensity, namely the ratio between direct and indirect emissions and revenue.

< 305-4

CARBON INTENSITY - TONNES OF CO_2 EQUIVALENT / REVENUE (€M)

	2018	2017	2016
Total emissions (direct and indirect)	127,049.7	148,282.2	136,707.2
Ratio of total emissions to revenue	57.8	66.0	65.0

Focus

Carbon intensity: comparative data

In the Sustainability Report for 2018, Terna has decided to extend its benchmarking to include carbon intensity for the first time, in order to compare its CO_2 emissions normalised by revenue with peer groups. The analysis was carried out by comparing Terna's emissions figure with three peer groups: FTSE-MIB listed companies, electric utilities included in the Dow Jones Sustainability World Index, and TSOs. In the absence of normalisation factors applicable to all sectors, it was deemed worthwhile to present the emissions data normalised by revenue which, despite differences in the value chains in the various sectors, is an important initial step in standardising the comparison.

In 2018, carbon intensity attributable to Terna's activities amounted to 57.8 tonnes of CO_2 equivalent normalised by revenue per €m.

57,8
TONNES OF CO_2 EQUIVALENT NORMALISED BY REVENUE PER €M

In 2017, however, the year for which comparison with the other companies is available, carbon intensity amounted to 66 tonnes of CO_2 equivalent normalised by revenue per €m.

As can be seen from the comparison with all three peer groups, in 2017 Terna was significantly below the average.

CARBON INTENSITY (TONNES OF CO_2 EQUIVALENT NORMALISED BY REVENUE PER €M) IN 2017	TSO	FTSE-MIB	DJSI-ELECTRIC UTILITIES
Available data	13	36	8
Min	13.4	0.5	16.3
Average	774.7	373.8	809.5
Max	6,719.3	7,280.7	1,760.7
Terna		**66**	

Further details on how the benchmarking of carbon intensity is conducted may be found in the "Sustainability" section of the Company's website at www.terna.it.

Terna focuses its attention on a number of voluntary action programmes aimed at reducing its main sources of greenhouse gas emissions, which primarily regard curbing the SF_6 leakage rate, the energy efficiency of buildings and energy saving at electricity substations.

Containment of direct emissions: SF_6

< 305-1

< 305-5

SF_6 (sulphur hexafluoride) gas is used as insulation in certain electrical equipment (circuit breakers, current transformers and armoured equipment). Part of the gas in the equipment leaks into the atmosphere due to defective seals, when faults occur, and also sometimes during the repressurising process. SF_6 has a very powerful greenhouse effect, which is 23,500 times greater than CO_2: leakage into the atmosphere of 1 kg of SF_6 is equivalent to 23.5 tonnes of CO_2.

The amount of SF_6 present in the Group's infrastructure has risen steadily. This trend, which is common to many transmission grid operators, is linked to the better insulating performance of this gas and the smaller footprint of substations built with equipment containing SF_6 in comparison with more traditional solutions.

In the four-year period 2009-2012, Terna implemented a campaign to install new, more leak-proof equipment, with an estimated reduction in the leakage rate regarding total equipment installed - after exceptional faults - of approximately 0.10% over the five years after the installation campaign. Based on this estimate, the leakage rate was expected to be around 0.60%, given that the average rate for the period 2007-2008 was 0.70%, after exceptional faults.

During the period in which the 0.60% target was applied (2012-2017), Terna managed to keep SF_6 leakages below the pre-set target, thereby avoiding 88,741 tonnes of CO_2 emissions.

Compared with the average of 0.70% recorded in the period 2007-2008, 165,770 tonnes of CO_2 were saved, an amount comparable to Terna's total annual direct and indirect CO_2 emissions.

In the light of the actual performance recorded until 2017, in the early months of 2018 the target was reformulated as follows: 0.47 for 2018 and 2019; 0.45 in subsequent years.

"TRANSMISSION IMPACTS" TARGET

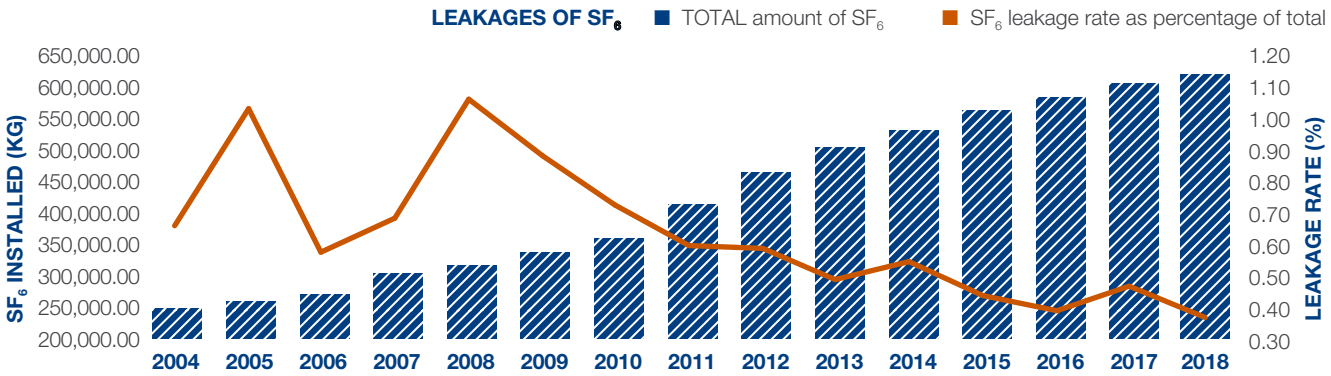
KPIS AND TARGETS IN THE STRATEGIC PLAN 2019-2023

KPI	TARGET					
	2018		2019	2020	2021	2022
	TARGET	ACTUAL				
SF_6 leakage rate (*)	0.47	0.38	0.47	0.45	0.45	0.45

(*) Baseline: average of the five-year period 2013-2017 (0.47%).

The target values should be qualified, bearing in mind the already substantial decrease recorded in the previous five-year period, and the higher average leakage rates of other leading European TSOs (0.7% in 2017, the latest available figure)

In the following three-year period 2020-2022 the target will be even more challenging (0.45%), thanks to the expected effect of the additional containment measures implemented in the first two years.



Routine and extraordinary maintenance has enabled the faults that caused the rise in 2017 to be dealt with, and led to an all-time low rate of 0.38% being registered in 2018. This figure is well below the average for the five-year period 2013-2017 (0.47%), enabling Terna to save 13,541 tonnes of CO_2.

Focus

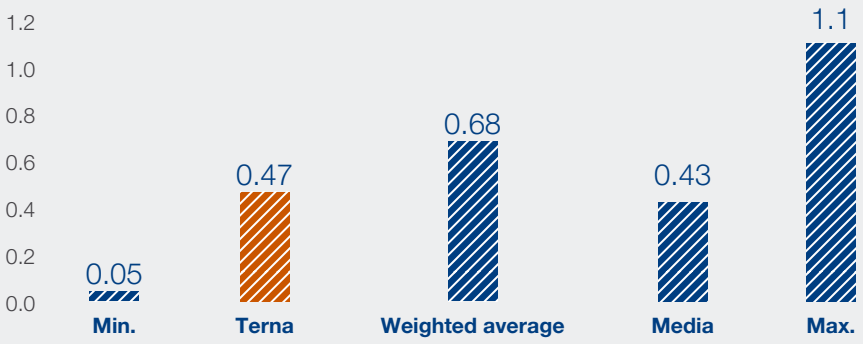
SF_6 leakage: comparative data

SF_6 gas is used by electricity transmission companies because of its excellent electrical insulation properties. The specific nature of the use of SF_6 gas limits comparison to the peer group of other TSOs only. The indicator compared is the leakage rate with respect to the total amount of gas installed in substation equipment. In 2018, Terna registered a leakage rate of 0.38%. This is a marked improvement on the figure for 2017, the year to which the comparison refers, when SF_6 leakage stood at 0.47%. In comparison with the other transmission operators, in 2017 Terna reported a percentage of SF_6 leakage below the peer group weighted average, calculated as the ratio between the sum of the leaks and the sum of the quantities installed by the TSOs as a whole, and slightly below the arithmetic mean.

0.38 %

OF LEAKAGE RATE IN 2018

SF_6 LEAKAGE RATE (%) – 2017



Further details on how the benchmarking of "SF_6 leakage" is conducted may be found in the "Sustainability" section of the Company's website at www.terna.it.

Energy consumption and energy efficiency initiatives

Energy consumption

< 302-3

< 302-1

The transmission of electricity only requires direct energy consumption for certain support activities, including:

- fuel for the Company's operational vehicles, cars and helicopters used for line inspections, fault repair and other line and substation maintenance activities (see "Asset management" on page 132);
- fuel oil for emergency generators that only come into operation in the event of a power failure. It is estimated that, nationwide, generators were used for a total of 6,237 hours (consumption equal to 0.3 GJ per hour);
- fuel oil and natural gas for office heating.

Indirect energy consumption coincides with the electricity used for the operation of substations and operating equipment (approximately 80% of the total) and for office and laboratory use. The figure relating to office consumption is 111,113 GJ which, compared to the total number of Terna employees (less blue-collar workers), corresponds to per capita consumption of 39.7 GJ, down compared with 2016 (47.8 GJ in 2017 and 53.5 GJ in 2016).

DIRECT AND INDIRECT ENERGY CONSUMPTION BY PRIMARY SOURCE - GIGAJOULES [1]

	2018	2017	2016
Direct consumption in GJ			
Petrol for motor vehicles [2]	531.8	576.8	544.8
Diesel for motor vehicles [2]	85,056.6	84,704.5	77,430.6
Jet fuel for helicopters	8,470.0	8,193.5	7,030.5
Natural gas for heating	5,636.3	7,489.9	8,184.0
Fuel oil for generators and heating	6,375.2	8,394.2	9,250.1
Total direct consumption	**106,069.8**	**109,358.8**	**102,439.9**
Indirect consumption in GJ			
Electricity to power substations and offices [3]	**684,672.4**	**703,737.8**	**702,286.9**

[1] *Direct consumption data in tonnes and thousands of m3 are shown in detail in the "Key indicator tables". To convert the volumes of primary resources into gigajoules, the parameters set out in the Global Reporting Initiative (GRI) protocols were used.*

[2] *Only the consumption of operating vehicles is taken into account and not the cars used by managers.*

[3] *Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.*

The reduction in direct consumption is primarily attributable to the effect of renovation work and the use of more efficient heating systems. The effect of efficiency measures (see page 186) is also reflected in the reduction in electricity consumption in offices. As far as electricity consumption at substations is concerned, in 2018 the scope of data recording increased due to the addition of the former RFI substations (see page 133). Despite this, consumption fell by 2%, mainly due to the closure of some construction sites at substations, the effect of certain efficiency measures and, finally, improvements to measurements.




Energy Management System

In line with its energy efficiency objectives, since 2015 the Terna Group has been certified in accordance with the UNI CEI EN ISO 50001:2011 standard.

In 2017, sensors were installed at 80% of Terna's main sites to measure energy consumption in real time. The analysis, which was carried out using time bands and the entire calendar year, highlighted numerous peculiarities regarding electricity use and enabled the definition of long-term improvement targets for all the sites monitored in 2018.

In 2018, a pilot project regarding the online monitoring of the electricity consumed by transformer substations was also launched, and in 2019 a representative sample of 23 substations, broken down by type of activity, will be involved nationwide. More than 20 meters will be installed in each station to accurately monitor the electrical energy used and, after monitoring, energy audits will be carried out to define improvement targets.

In 2018, energy audits were carried out at construction sites, office buildings, substations and sites. In 2019, energy audits will be carried out on a sample of 23 stations and other sites to be identified (construction sites and offices). The results of the audits will be submitted to Enea to comply with Legislative Decree 102/2014.

Energy efficiency in substations and offices

At Terna, the development of energy efficiency programmes relating to the use of electricity in substations and offices is experimental, as the Company's electricity consumption falls within the category of "own transmission uses" which, according to the industry's regulator, are not to be included in operating costs.

In offices, the main sources of energy consumption relate to lighting, air-conditioning, heating and the use of computers and printers. A number of Terna's offices have either been refurbished or are newly built under a long-term programme, which aims to upgrade the energy efficiency class of buildings owned by the Group, thereby combining civil engineering works with improved energy performance. With specific reference to Terna's main offices, the aim is to upgrade 70% of the buildings, measured in terms of total volume, to qualify for the highest energy efficiency classes (A-B-C).

Initiatives launched in recent years to reduce energy consumption, of which the benefits are measurable, include:

In 2018, Terna implemented a project to improve the efficiency of air conditioning systems at the head office in Rome, involving replacement of two air conditioning units. This initiative will lead to a reduction of approximately 115 tonnes in annual CO_2 emissions.	Improving the efficiency of air conditioning systems
In 2018, Terna implemented projects to improve the efficiency of lighting systems in the Naples transmission operating area and at the Montalto and Rome West electricity substations, which will reduce annual CO_2 emissions by approximately 56 tonnes.	Improving the efficiency of lighting systems
Since 2014, energy efficiency initiatives have been launched, leading to a reduction of around 444 tonnes of CO_2 at 31 December 2018 (equal to 174 tonnes of CO_2 in 2018).	Summary of previous years' initiatives
For 2019, six new energy efficiency initiatives have been planned with an estimated annual reduction of 120 tonnes of CO_2.	Forecast for initiatives in 2019
In 2018, the plant for self-producing electricity from renewables for the Turin Botticelli office entered service, which resulted in a reduction of approximately 22 tonnes of CO_2. In addition, a self-production plant has been operating at the Camin (PD) Infrastructure Unit since 2017, resulting in estimated savings of approximately 6 tonnes of CO_2 in 2018.	Self-production of electricity from renewable sources

Vehicle fleet

The Company's operational vehicles are used nationwide to carry out power line inspections and, in general, to visit infrastructure and construction sites.

Terna's vehicle fleet consists of four helicopters, purchased in 2015, for carrying out scheduled and random inspections of power lines, and a fleet of cars that is frequently renewed, of which 86% are equipped with Euro 6 and Euro 5 engines (for further information on vehicles and the related impact of the fleet, see the relevant table in the "Key indicator tables" on page 244).

> 305-3

Other indirect CO_2 emissions

In addition to emissions relating to electricity consumption, Terna's most significant indirect emissions are connected to grid losses. The indicators relating to emissions produced as a result of air travel by staff are shown on page 244.

Grid losses

> EU12

Grid losses are defined as the difference between energy injected by producers (including imported energy) and final consumption; the relevant losses for Terna are those associated with the transmission grid. The figures shown in the following table are based on direct measurement of the energy injected and withdrawn from the transmission system. In 2017, pursuant to Resolution 458/16, Terna became responsible for direct measurement of the entire high voltage grid, whereas in previous years the Company was responsible for measurement of the energy injected into the NTG, while for the energy withdrawn, it could carry out remote readings for which the distribution companies remained responsible. This entailed a margin of uncertainty regarding the accuracy of the readings made, which, tended to decrease over the years as a result of cross-checks and the gradual elimination of discrepancies with distributors' data.

In order to reduce the margin of uncertainty and the risk of interpreting the effect of measurement errors and the related corrections as actual trends, it was decided to use the arithmetic moving average of losses with a three-year window as annual data (three-year period 2014-2016 for 2016; three-year period 2015-2017 for 2017). In order to maintain the consistency of the published data, the three-year moving average was also published for 2018.

GRID LOSSES

	2018		2017		2016	
	% compared with energy demand	GWh	% compared with energy demand	GWh	% compared with energy demand	GWh
VHV and HV grid	**1.4**	**4,613**	**1.4**	**4,583**	**1.5**	**4,525**

Terna can only determine the extent of the losses, which are not completely under its control. Dispatching operations, which are needed to guarantee a constant balance between injections and withdrawals and to prevent the occurrence of grid security problems and disruptions, are carried out in accordance with regulatory criteria within the production set-up created by the energy market, and cannot be influenced by Terna with the aim of minimising losses.

Grid development activities, given the same structure of production, would lead to greater efficiency and thus a reduction in losses. However, the actual impact of development initiatives on losses is unpredictable and not under the control of the transmission operator, as it depends on concomitant changes in production capacity and electricity supply and demand at local level.

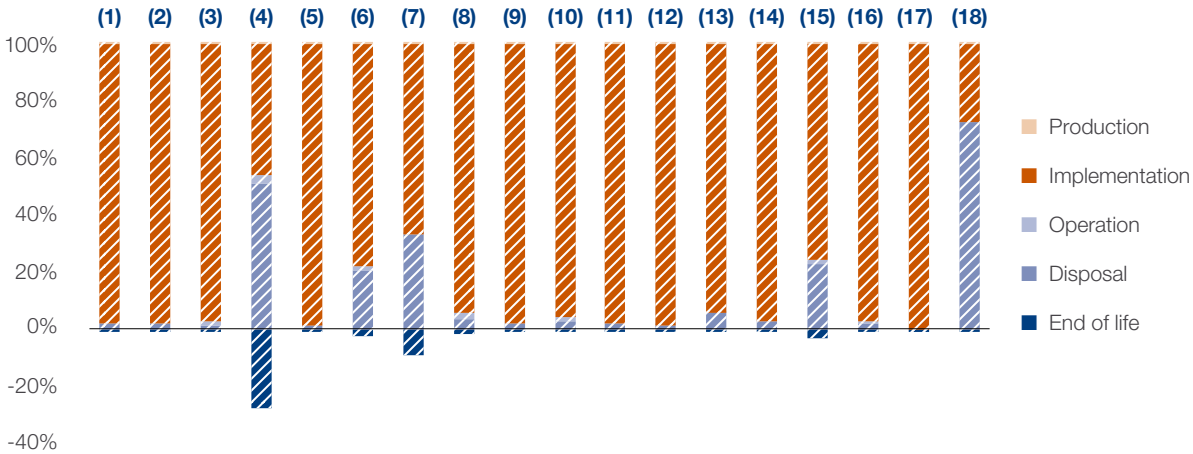
CO_2 emissions associated with grid losses amounted to 1,553,716 tonnes in 2018 (1,699,607 tonnes in 2016 and 1,700,916 tonnes in 2015). The trend differs from the one regarding losses measured in GWh, due to changes in the conversion factor used to convert energy into CO_2 equivalent emissions (see note on page 181), which in turn is affected by changes in the production mix among Italian power generators.

LCA studies on power lines

In recent years, in collaboration with CESI, Terna has conducted various Life Cycle Assessment studies on power lines in accordance with the UNI EN ISO 14040:2006 and UNI EN ISO 14044:2006 standards. These studies have enabled assessments of the environmental performance of lines to be carried out. Although the LCA studies are strongly influenced by the assumptions used and the functional unit taken into account, an analysis of the results clearly shows that, regarding both overhead lines and cables, the operating phase is the predominant one, in particular due to the effect of grid losses. Regarding the production phase, however, the materials used in conductors and in the structural works has a significant impact. It should be noted that in these LCA studies the impacts associated with grid losses are assessed taking into account the impacts generated by production of the electricity needed to offset them, as these are strongly influenced by the energy mix under consideration. This means that in the current energy context, which is decisively moving towards decarbonisation, the impact of grid losses will tend to become less and less relevant. Therefore, in addition to the absence of substantial influence on grid losses, Terna is interested in the entire life cycle of lines and all the other categories of impact.

Terna aims to use the LCA studies to conduct an initial analysis of the environmental impact of the entire National Transmission Grid, and to enable improvements in environmental performance through the evaluation of new technologies and alternative materials within a life cycle and circular economy context.

LIFE CICLE - HOVERHEAD POWER LINE 380 KV



1) Climate change Total
2) Climate change Fossil
3) Climate change Bio
4) Climate change Land use and transformation
5) Ozone depletion
6) Human toxicity, non-cancer effects
7) Human toxicity, cancer effects
8) Particulate matter
9) Ionizing radiation HH
10) Photochemical ozone formation
11) Acidification
12) Terrestrial eutrophication
13) Freshwater eutrophication
14) Marine eutrophication
15) Freshwater ecotoxicity
16) Land use
17) Water resource depletion
18) Mineral, fossil & ren resource depletion

Environmental costs

Terna's commitment to the environment is reflected in the costs incurred for environmental reasons, in terms of both capital expenditure and operating costs. Separate representation of environmental costs is based on the definitions set out below, through aggregating information derived from the Company's general and management accounting. These definitions and the methodology described below are taken from the Terna Group's operating guidelines.

Accounting methodology

The identification of environmental costs is based primarily on available definitions, primarily those of ISTAT (Italy's Office for National Statistics), Eurostat and GRI, as well as the European Commission Recommendation on the recognition, measurement and disclosure of environmental data in annual accounts and annual reports (Recommendation 2001/453/EC). According to this Recommendation, the term "environmental expenditure" includes the cost of initiatives undertaken by a company, directly or via third parties, in order to prevent, reduce or repair damage to the environment caused by its operating activities.

Secondly, the relevant definitions have been cross-referenced with the environmental aspects assessed as being significant (e.g. substation noise, electromagnetic fields, etc.) within the Company's ISO 14001 certified Environmental Management System, in order to identify Terna's environmentally relevant operating and capital expenditure activities within the main business processes.

Many of Terna's activities described in this Report entail environmental expenditure. However, certain limitations have been introduced in determining the scope of reporting:

- the exclusion of integrated costs, namely those related to activities that have no exclusively environmental purpose (e.g. the use of pylons with innovative characteristics, also in terms of how well they blend into their surroundings) due to the subjective nature of accounting for environmental components only;
- the exclusion of additional costs linked to the consideration of environmental constraints and demands when planning and designing new lines (re-routings and sections of cable laid underground).

Additional conditions were also imposed if costs were significant, consistent with annual accounting requirements (a clear distinction between operating costs and capital expenditure) and directly measurable on the basis of the Company's existing accounting system.
The latter condition meets the need to minimise the use of estimates based on non-accounting procedures.

Capital expenditure and operating costs

The table below provides the best possible view of Terna's capital expenditure and operating costs in relation to the environment.

It should be noted that these costs exclude expenses relating to internal resources, and only take into account the cost of external supplies. An exception is the item "Environmental activities - Existing plant", which does include the cost of internal personnel.

Based on the methodology adopted and the footnotes to the table, it should be noted that the environmental costs shown represent a subset of the total environmental costs actually incurred, as defined above.

ENVIRONMENTAL COSTS - CAPITAL EXPENDITURE AND OPERATING COSTS (€m)

	2018	2017	2016
Capital expenditure			
Environmental offsets [1]	7.1	7.9	14.7
Environmental impact studies [2]	3.5	4.2	2.4
Environmental activities - new plant [3]	3.9	4.8	4.3
Environmental activities - existing plant [4]	2.9	3.6	7.5
Demolitions [5]	2.2	0.8	0.9
Total capital expenditure	**19.6**	**21.2**	**29.8**
Costs			
Cost of environmental activities [6]	23.8	24.1	19.1
Total operating costs	**23.8**	**24.1**	**19.1**

[1] ***Environmental offsets***: *These are amounts allocated to offset the works provided for in the Grid Development Plan, as identified by specific agreements signed with local authorities.*

[2] ***Environmental impact studies***: *These relate to plants provided for in the Grid Development Plan that are under construction or awaiting the necessary consents from the competent authorities.*

[3] ***Environmental activities - new plant***: *The amount shown is an estimated figure. Based on an analysis of certain large investment projects, it has been found that at least 1% of total project costs correspond to environmental items, usually deriving from regulatory requirements (for example, tree screens, noise barriers, the installation of bird deterrents, environmental monitoring, the testing of excavated soil and rocks). Therefore, a value of 1% of the capital expenditure cost for projects with similar characteristics has been taken into account.*

[4] ***Environmental activities - existing plant***: *These are the costs of upgrading existing plant to comply with new legal requirements and regulations in the environmental field (e.g. noise and visual and landscape aspects).*

[5] ***Demolitions***: *This is the cost of the final decommissioning of power lines as part of rationalisation programmes.*

[6] ***Cost of environmental activities***: *This regards vegetation management, grass cutting, waste management and demolition/decommissioning activities, which represent small amounts and are not included under investment. These cost items, which are directly identifiable within the management accounts, do not cover all environmental operating costs, but do comprise the majority of such costs.*


TAMINI

7

Focus on the Tamini Group

Tamini Group

The Tamini Group - acquired on 20 May 2014 by the subsidiary, Terna Plus - operates in the electromechanical sector and is a leader in the design, production, commercialisation and repair of power transformers for electricity transmission and distribution grids, of industrial transformers for the steel and metals industry and of special transformers for convertors used in electrochemical and electrolytic production. The Group's operations are based at six production plants located in Italy at Legnano (MI), Melegnano (MI), Novara, Valdagno (VI), Ospitaletto (BS) and Rodengo (BZ).

The Rodengo plant specialises in services, whilst the Novara production plant continues to manufacture coils, operating as a service centre for all the production sites that manufacture for both the Power and Industrial sectors. Tamini received orders for transformers worth approximately €123 million in 2018, a 12% increase on 2017 and in line with expectations. Two 250 MVA "sustainable" transformers using vegetable oil were installed during the year. Finally, Tamini won a contract to produce a 400 MVA vegetable oil transformer.

TAMINI GROUP CERTIFICATIONS AND ACCREDITATIONS

TYPE	SCOPE	YEAR OF 1ST ISSUE	YEAR OF RELEASE	YEAR OF EXPIRY
ISO 9001:2015	Tamini Group	1993	2018	2021
ISO 14001:2015	Tamini Group - Legnano, Valdagno and Ospitaletto plants	2015	2018	2021
BS OHSAS 18001:2007	Tamini Group	2015	2018	2021

In line with the sustainability targets (see page 62), in early 2019, an initial materiality analysis was conducted for the Tamini Group, the results of which are described below. The description is followed by a summary of the Group's key environmental and social indicators for 2018.

Tamini Group's materiality analysis

As part of the process of progressively applying the Group's reporting standards to its subsidiary, Tamini, an initial materiality analysis has been conducted for the Tamini Group.

As described in the "Methodological note" (see page 10), in view of its business model and activities, the Tamini Group is considered to be unlike the rest of the Terna Group. For this reason, data for the Tamini Group is not aggregated with the data for the Terna Group. The materiality analysis represented an opportunity to take a closer look at the particular nature of the Tamini Group.

From a methodological viewpoint, as Terna has adopted the GRI-Standards as the basis for its reporting, GRI Standard 103 also formed the basis for the analysis conducted for the Tamini Group. The materiality analysis entailed a series of activities that have enabled identification of the various aspects and processes that characterise the Tamini Group's business and its stakeholder relations. The process began with an analysis of documents, resulting in the mapping of content, projects and initiatives that play a major role in the Group's activities.

Following this analysis, the data obtained was organised and structured in order to produce two charts:

- a Topic Tree, consisting of 17 topics organised into five macro areas;
- a Stakeholder Map, showing fourteen categories of stakeholder, grouped into four areas based on the business context they belong to.

In order to determine the internal significance of topics, interviews were carried out with key departments to gain a further insight into activities and internal processes relating to:

- personnel management;
- supply chain relations and management;
- the quality of processes;
- customer relations.

Having consulted the various departments, a meeting was held with Tamini's Chief Executive Officer.

As regards stakeholder opinions, an initial analysis of external sources (e.g., national media coverage, local press coverage, news releases issued by labour unions and trade associations) was conducted. These sources were then supplemented with the views of departments, resulting in an initial assessment of external significance. However, given that there was no direct engagement with external stakeholders, the following chart shows a list of topics in order of internal significance for the Tamini Group.

TAMINI GROUP'S RELEVANT TOPICS

MACRO TOPIC	TOPIC DETAILS	INTERNAL SIGNIFICANCE
People and the community	Workers' health and safety and correct working practices	
Production, sale and installation	Marketing and level of service provided by the sales network	
Production, sale and installation	Quality of production to meet customers' needs	
Business management	Achievement of financial targets	
Production, sale and installation	Quality of product installation and after-sales service	**HIGH**
Business management	Quality and management of the supply chain	
Business management	Business development and diversification	
People and the community	Personnel development	
Environmental impact management	Reduction of consumption and energy efficiency initiatives	
Business management	Product and process innovation	
Production, sale and installation	Quality and competence of servicing of products not branded Tamini	
Production, sale and installation	Plant monitoring and implementation of maintenance systems	**AVERAGE**
Ethics and governance system	Robustness and integrity of governance system	
Environmental impact management	Monitoring of environmental emissions and reduction in ecological footprint	
People and the community	Promotion of initiatives benefitting local communities	
Business management	Attentive risk management	**LOW**
People and the community	Promotion of welfare, diversity and equal opportunities	

Taking into account the opinions of external stakeholders, the following topics are more significant: cuts to consumption and energy efficiency, the monitoring of emissions and the promotion of initiatives for the benefit of local communities.

With respect to the Terna Group's materiality analysis, there are certain specific topics relating to process, product, marketing and customer needs.

Key social data

COMPOSITION OF THE WORKFORCE AT 31 DECEMBER	2018	2017
Total	**355**	**368**
Senior managers	9	10
Middle managers	16	17
Office staff	121	129
Blue-collar workers	209	212

WORKFORCE TRENDS	2018	2017
Total employees	**355**	**368**
Employees recruited during the year	14	5
Employees leaving during the year	26	33
Turnover rate (%) [1]	*7*	*8*

[1] *The turnover rate shows the ratio of employees leaving the Company to the number of employees at 31 December of the previous year.*

PERSONNEL DEVELOPMENT	2018	2017
Hours of training provided	4,051	4,452
Percentage of employees undergoing performance appraisal	62	71

OCCUPATION INJURIES SUFFERED BY EMPLOYEES - GRI-ILO DEFINITIONS	UNIT	2018	2017
Injury rate [1]		3.8	4.8
Lost day rate [2]		71.7	101.5
Injuries	no.	12	16
- of which fatal	no.	0	0

[1] *The number of injuries resulting in the loss of at least one day divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To aid comparison with other sources, this indicator has also been calculated using a multiplication factor of 1,000,000 instead of 200,000 (thereby resulting in an injury rate 5 times the ILO injury rate). Based on this method of calculation, the injury rate is* **19.0 in 2018 and 24.0 in 2017.**

[2] *The ratio of days lost due to injury to the number of hours worked during the year, multiplied by 200,000. The days lost are calendar days and are counted from the day on which the injury occurs. To aid comparison with other sources, this indicator has also been calculated using a multiplication factor of 1,000. Based on this method of calculation, the lost day rate is* **0.36 in 2018 and 0.51 in 2017**.

Key environmental data

CONSUMPTION	UNIT	2018	2017
Electricity	GWh	4.6	4.4
Natural gas	000's of m^3	1,047	970
Water	cubic metres	15,573	19,903

DIRECT AND INDIRECT ENERGY CONSUMPTION - GIGAJOULES (*)	2018	2017
Direct consumption in GJ		
Natural gas for heating	419	388
Indirect consumption in GJ		
Electricity	16.619	15.735

TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS - TONNES OF CO_2 EQUIVALENT (*)	2018	2017
Direct emissions		
Natural gas for heating	23	22
Indirect emissions		
Electricity (**)	**1,556**	**1,621**

(*) To convert consumption into CO_2 equivalent emissions, the parameters set out in the IPCC Fifth Assessment Report (AR5) and Greenhouse Gas Protocol (GHG) Initiative were used.

(**) The conversion of indirect electricity consumption is carried out taking into account the share of total Italian electricity production represented by thermoelectric production in 2018. Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.

WASTE BY TYPE (IN TONNES)	2018	2017
Waste produced (*)	**1,027.7**	**1,151.4**
of which hazardous	145.8	278.4
of which non-hazardous	881.9	873.1
Waste sent for recovery	**1,046.2**	**773.6**
of which hazardous	164.3	-
of which non-hazardous	881.9	773.6
Waste sent for disposal	**2**	**377.8**
of which hazardous	2	278.4
of which non-hazardous	-	99.4

(*) Only special waste produced during production processes is included, not waste produced by services (urban waste). The data for waste is based on the figures in the Environmental Declaration forms for 2018 and 2017. As a result, the waste shown in the table was produced during the two-year period 2017-2016.


Terna

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GRI Content Index

GRI-Standards Content Index

The GRI content index is a table showing the pages in the document in which the information relating to each disclosure requirement can be found. The page references refer to the disclosures required by the GRI-Standards. In certain cases, reference is also made to the key indicator tables provided in the annex and which, whilst not falling within the scope of the "Non-financial Statement", enable the reader to obtain a more detailed view of the data presented in the document.

GRI 102 GENERAL DISCLOSURES

	INDICATORE	PAGE AND NOTES
Organisational profile	102-1	23
	102-2	23, 27-29, 36-38, 44-48
	102-3	23
	102-4	27-29, 36-38, 44-48
	102-5	30
	102-6	36-38, 44-48
	102-7	23, 27-29,145
	102-8	145-147, 235
	102-9	76-81
	102-10	27-29
	102-11	169-179
	102-12	24-25, 58-61, 65, 101-103
	102-13	65, 102-103
Strategy	102-14	4-5
	102-15	14-15, 16-17, 60-64, 68-69
Ethics and integrity	102-16	58-59 - Report on Corporate Governance and Ownership Structures
	102-17	73, 98-99, 176, 231 - Code of Ethics: 44-45
Governance	102-18	32, 60-61 - Report on Corporate Governance and Ownership Structures
	102-19	32, 60-61 - Report on Corporate Governance and Ownership Structures
	102-20	32, 60-61 - Report on Corporate Governance and Ownership Structures
	102-21	Report on Corporate Governance and Ownership Structures
	102-22	32 - Report on Corporate Governance and Ownership Structures
	102-23	Report on Corporate Governance and Ownership Structures
	102-24	Report on Corporate Governance and Ownership Structures
	102-25	Report on Corporate Governance and Ownership Structures
	102-26	32, 60-61 - Report on Corporate Governance and Ownership Structures
	102-28	Report on Corporate Governance and Ownership Structures
	102-29	14-15, 32, 60-64, 66-69 - Report on Corporate Governance and Ownership Structures
	102-30	Report on Corporate Governance and Ownership Structures
	102-31	12-13, 60-62, 66
	102-32	10-13
	102-35	Report on Corporate Governance and Ownership Structures
	102-36	Report on Corporate Governance and Ownership Structures
	102-37	Report on Corporate Governance and Ownership Structures
Stakeholder engagement	102-40	83
	102-41	150
	102-42	83
	102-43	12-13, 83
	102-44	12-15, 83, 92-97, 99-101,148-150
Reporting practices	102-45	18, 27-29
	102-46	10-13
	102-47	12-13,15
	102-48	18, 80, 163
	102-49	12-13
	102-50	18
	102-51	10, 18
	102-52	10, 18
	102-53	98
	102-54	10
	102-55	201-205
	102-56	10, 210-213

GRI 103 MANAGEMENT APPROACH

	103-1	12-13, 15, 18
	103-2	The following section on the GRI topic specific standards includes page references for the information on standards 103-2 and 103-3 for each material topic
	103-3	

GRI Topic Specific Standards

GRI 200: ECONOMIC TOPICS

CODE	TOPIC / INDICATOR	PAGE	LIMITATION AND NOTES
ECONOMIC PERFORMANCE		52-55, 68, 116-117	
201-1	Direct economic value generated and distributed	52, 229	*A description of how Terna determines value added and its distribution is provided on page 52.*
201-2	Financial implications for the organization's activities due to climate change	68	
201-3	Coverage of the organisation's defined benefit plan obligations	158	
201-4	Financial assistance received from government	43	
INDIRECT ECONOMIC IMPACTS		52-55, 98-101	
203-1	Infrastructure investments and services supported	99	
PROCUREMENT PRACTICES		76-81	
204-1	Proportion of spending on local suppliers	76, 230	
ANTI-CORRUPTION		71-73	
205-1	Proportion of business units assessed for risks related to corruption and risks identified	71	
205-2	Communication and training about anti-corruption policies and procedures	73, 236	*Information on suppliers is provided on page 76; for the members of the Board of Directors, see the "Report on Corporate Governance and Ownership Structures".*
205-3	Confirmed incidents of corruption and actions taken	70	
ANTI-COMPETITIVE BEHAVIOUR		23, 66, 92-94	
206-1	Total legal actions for anti-competitive behaviour, antitrust and monopoly practices and related judgements	70	

GRI 300: ENVIRONMENT TOPICS

CODE	TOPIC / INDICATOR	PAGE	LIMITATION AND NOTES
MATERIALS		168, 174	
301-1	Materials used by weight or volume	174, 245	
ENERGY		168, 186, 187	
302-1	Energy consumption within the organization	185, 245	
302-3	Energy intensity	185	
BIODIVERSITY		168-169, 171-173	
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	177, 243	
304-4	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	178	
EMISSIONS		168, 180, 183	
305-1	Direct greenhouse gas emissions by weight (scope I)	181, 183, 243	
305-2	Indirect greenhouse gas emissions by weight (scope II)	181, 243	
305-3	Other indirect greenhouse gas emissions (scope III)	188, 244	
305-4	Carbon intensity	181, 244	
305-5	Initiatives to reduce greenhouse gas emissions and results achieved	183	
EFFLUENTS AND WASTE		168, 174, 175	
306-2	Total weight of waste by type and disposal method	175, 242	
306-3	Total number and volume of significant spills	175	
ENVIRONMENTAL COMPLIANCE		168, 70	
307-1	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	70	
SUPPLIER ENVIRONMENTAL ASSESSMENT		76, 80, 81, 168	
308-1	Percentage of new suppliers that were screened using environmental criteria	76	
308-2	Significant negative environmental impacts identified in the supply chain and actions taken	76	

GRI 400: SOCIAL TOPICS

CODE	TOPIC / INDICATOR	PAGE	LIMITATION AND NOTES
EMPLOYMENT		80, 144	
401-1	Total number and rates of new employee hires and employee turnover	145, 146, 235	
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	158	
401-3	Parental leave	159	
LABOUR/MANAGE-MENT RELATIONS		144, 150	
402-1	Minimum notice periods regarding operational changes including whether these are specified in collective agreements	150	
OCCUPATIONAL HEALTH AND SAFETY		80-81, 61, 144, 160, 161	
403-1	Percentage of total workforce represented in health and safety committees	160	
403-2	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region	162, 163, 239	
403-4	Health and safety topics covered in formal agreements with trade unions	160	
TRAINING AND EDUCATION		144, 153	
404-1	Average hours of training per year per employee by gender and by employee category	155, 236	
DIVERSITY AND EQUAL OPPORTUNITIES		144, 164	
405-1	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	33, 145, 164, 227, 235, 241	
405-2	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	164, 241	
NON- DISCRIMINATION		74-75	
406-1	Total incidents of discrimination and actions taken	74, 231	*There were no violations of the Code of Ethics.*
FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING		74-75, 76-77, 80-81	
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk and actions taken	78	
HUMAN RIGHTS ASSESSMENT		74-75	
412-1	Operations that have been subject to human rights reviews or impact assessments	74	
412-3	Total number and percentage of significant investment agreements and contracts that include human rights clauses	74	*All suppliers are required to give a contractual undertaking to comply with Terna's Code of Ethics. See page 76.*
LOCAL COMMUNITIES		84-91	
413-1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	84	
413-2	Operations with significant actual and potential negative impacts on local communities	86, 169	
SUPPLIER SOCIAL ASSESSMENT		76-81	
414-1	New suppliers that were screened using social criteria	76	
414-2	Significant negative social impacts identified in the supply chain and actions taken	76	*The qualitative description is provided on page 76.*
POLITICAL DONATIONS		99	
415-1	Total financial donations and benefits to parties, politicians and institutions by country and recipient/beneficiary	99	
CUSTOMER PRIVACY		136-137	
418-1	Total number of complaints regarding breaches of customer privacy and losses of customer data	137	
SOCIOECONOMIC COMPLIANCE		70	
419-1	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	70	

List of material performance indicators required to meet sector disclosure requirements for the electric utilities sector (EUSS)

CODE	TOPIC / INDICATOR	PAGE	LIMITATION AND NOTES
ORGANISATIONAL PROFILE			
EU3	Number of residential, commercial and industrial customers	95, 230	
EU4	Length of above and underground transmission and distribution lines by voltage	233	
SYSTEM EFFICIENCY			
EU12	Transmission and distribution losses as a percentage of total energy	188	
BIODIVERSITY			
EU13	Biodiversity of offset habitats compared to the biodiversity of the affected areas	172, 177	
EMPLOYMENT			
EU15	Percentage of employees eligible to retire in the next 5 and 10 years broken down by job category and by region	146	
EU17	Days worked by contractor and subcontractor employees involved in construction, operation & maintenance activities	80, 238	
EU18	Percentage of contractor and subcontractor employees that have undergone relevant health and safety training	80	
LOCAL COMMUNITIES			
EU22	Number of people physically or economically displaced due to new or expanded generation plants or transmission lines and compensation	86	
CUSTOMER HEALTH AND SAFETY (COMMUNITIES)			
EU25	Number of injuries and fatalities to the public involving company assets, including legal judgments, settlements and pending legal cases of diseases	70	
ACCESS			
EU28	Power outage frequency	114, 234	
EU29	Average power outage duration	114, 234	

List of other GRI performance indicators published

In line with previous years, the Group has opted to publish certain indicators despite the fact that they are judged to fall below the materiality threshold (see the specific section on materiality on page 12).

CODE	INDICATOR	PAGE
202-2	Proportion of senior management hired from the local community	164
303-1	Total water withdrawal by source	174, 245
408-1	Operations and suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour	74, 78
409-1	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures to contribute to the elimination of all forms of forced or compulsory labour	78

Links

between the GRI indicators and the Global Compact principles

This table shows the links between the GRI-Standards performance indicators applicable to Terna and each of the ten Global Compact Principles, with the aim of helping interested stakeholders find the relevant information to enable them to assess Terna's implementation of the principles.

AREA	GLOBAL COMPACT PRINCIPLE	GRI TOPIC AND DISCLOSURES		PAGE OF THE REPORT
Human Rights	**Principle 1** Businesses should **support and respect the protection of internationally proclaimed human rights**	**Human rights**		
		"Investment" Aspect	412-3	74, 204
		"Assessment" Aspect	412-1	74, 204
		Society		
		"Local Communities" Aspect	413-1	84, 204
			413-2	86, 169, 204
	Principle 2 Businesses should **make sure that they are not complicit in human rights abuses**	**Human rights**		
		"Investment" Aspect:	412-3	74, 204
		"Supplier Human Rights Assessment" Aspect	414-1	76, 204
			414-2	76, 204
Labour	**Principle 3** Businesses should **uphold the freedom of association** and the effective recognition of the **right to collective bargaining**	**Human rights**		
		"Investment" Aspect	412-3	74, 204
		"Supplier Human Rights Assessment" Aspect	414-1	76, 204
			414-2	76, 204
			407-1	78, 204
		Labour		
		"Labour/Management Relations" Aspect	402-1	150, 204
	Principle 4 Businesses should **eliminate all forms of forced and compulsory labour**	**Human rights**		
		"Force or Compulsory Labour" Aspect	409-1	78, 205
	Principle 5 Businesses should **effectively abolish child labour**	**Human rights**		
		"Child Labour" Aspect	408-1	78, 204
	Principle 6 Businesses should **eliminate all forms of discrimination** in respect of employment and occupation	**Economy**		
		"Market Presence" Aspect	202-2	164, 205
		Correct labour practices		
		"Employment" Aspect	401-1	145, 146, 204, 235
		"Training" Aspect	404-1	153, 204, 236
		"Equal Opportunities" Aspect	405-1	33, 145, 164, 204, 227 235, 241
		"Equal Remuneration for Men and Women" Aspect	405-2	164, 204, 241
		Human rights		
		"Non-Discrimination" Aspect	406-1	74, 204, 231

AREA	GLOBAL COMPACT PRINCIPLE	GRI TOPIC AND DISCLOSURES		PAGE OF THE REPORT
Environment	**Principle 7** Businesses should **support a precautionary approach to environmental challenges**	**Environment**		
		"Materials" Aspect	301-1	174, 203, 245
		"Water" Aspect	303-1	205, 245
		"Emissions" Aspect	305-1	181, 183, 203, 243
			305-2	181, 203, 243
			305-3	188, 203, 244
	Principle 8 Businesses should **undertake initiatives to promote greater environmental responsibility**	**Environment**		
		"Materials" Aspect	301-1	174, 203, 245
		"Water" Aspect	303-1	174, 205, 245
		"Biodiversity" Aspect	304-1	177, 203, 243
			304-4	178, 203
		"Effluents and Waste" Aspect	306-2	175, 203, 242
			306-3	175, 203
		"Compliance" Aspect	307-1	70, 203
		"Supplier Environmental Assessment" Aspect	308-1	76, 203
			308-2	76, 203
	Principle 9 Businesses should **encourage the development and diffusion of environmentally friendly technologies**	**Environment**		
		"Energy" Aspect	302-3	185, 203
		"Emissions" Aspect	305-4	181, 203, 244
			305-5	183, 203
Combatting Corruption	**Principle 10** Businesses should **work against corruption in all its forms**, including extortion and bribery	**Society**		
		"Anticorruption" Aspect	205-2	73, 203, 236
			205-3	70, 203
		"Public Policy" Aspect	415-1	99, 203

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Independent auditor's report

Independent Auditor's report on the consolidated non-financial statement

pursuant to article 3, paragraph 10, of Legislative Decree 254/2016 and article 5 of CONSOB Regulation 20267 of January 2018

To the Board of Directors of Terna SpA

Pursuant to article 3, paragraph 10, of Legislative Decree 254 of 30 December 2016 (the "Decree") and article 5 of CONSOB Regulation 20267, we have performed a limited assurance engagement on the Sustainability Report and Consolidated Non-Financial Statement of Terna SpA and its subsidiaries (hereafter the "Group" or "Terna Group") for the year ended 31 December 2018, in accordance with article 4 of the Decree and approved by the Board of Directors convened on 20 March 2019 (hereafter the "NFS").

Responsibility of the Directors and the Board of Statutory Auditors for the NFS

The Directors are responsible for the preparation of the NFS in accordance with article 3 and 4 of the Decree and with the GRI - Sustainability Reporting Standards, defined in 2016 (hereafter "GRI Standards"), identified as the reporting standards.

The Directors are responsible, in the terms prescribed by law, for such internal control as management determines is necessary to enable the preparation of a NFS that is free from material misstatement, whether due to fraud or errors.

The Directors are responsible for identifying the content of the NFS, within the matters mentioned in article 3, paragraph 1, of the Decree, considering the activities and characteristics of the Group and to the extent necessary to ensure an understanding of the Group's activities, performance, results and related impacts.

The Directors are responsible for defining the business and organisational model of the Group and, with reference to the matters identified and reported in the NFS, for the policies adopted by the Group and for the identification and management of risks generated or faced by the Group.

The Board of Statutory Auditors are responsible for overseeing, in the terms prescribed by law, compliance with the Decree.

PricewaterhouseCoopers SpA

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Auditor's Independence and Quality Control

We are independent in accordance with the principles of ethics and independence set out in the Code of Ethics for Professional Accountants published by the International Ethics Standards Board for Accountants, which are based on the fundamental principles of integrity, objectivity, competence and professional diligence, confidentiality and professional behaviour. Our audit firm adopts International Standard on Quality Control 1 (ISQC Italy 1) and, accordingly, maintains an overall quality control system which includes processes and procedures for compliance with ethical and professional principles and with applicable laws and regulations.

Auditor's responsibilities

We are responsible for expressing a conclusion, on the basis of the work performed, regarding the compliance of the NFS with the Decree and with the GRI Standards. 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 (hereafter "ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and apply procedures in order to obtain limited assurance that the NFS is free of material misstatement. The procedures performed in a limited assurance engagement are less in scope than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures performed on the NFS were based on our professional judgement and consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the NFS, analyses of documents, recalculations and other procedures designed to obtain evidence considered useful.

In particular, we performed the following procedures:

1. analysis of the relevant matters reported in the NFS relating to the activities and characteristics of the Group, in order to assess the reasonableness of the selection process used, in accordance with article 3 of the Decree and with the reporting standard adopted;
2. analysis and assessment of the criteria used to identify the consolidation area, in order to assess their compliance with the Decree;
3. comparison of the financial information reported in the NFS with that reported in the Group's Consolidated Financial Statements;
4. understanding of the following matters:

   – business and organisational model of the Group, with reference to the management of the matters specified by article 3 of the Decree;
   – policies adopted by the Group with reference to the matters specified in article 3 of the Decree, actual results and related key performance indicators;
   – main risks, generated or faced by the Group, with reference to the matters specified in article 3 of the Decree.

   With reference to those matters, we compared the information obtained with the information presented in the NFS and carried out the procedures described under point 5 a) below.

5. understanding of the processes underlying the preparation, collection and management of the significant qualitative and quantitative information included in the NFS. In particular, we held meetings and interviews with the management of Terna SpA and the personnel of Terna Rete Italia SpA, and we performed limited analyses of documentary evidence, to gather information about the processes and procedures for the collection, consolidation, processing and submission of the non-financial information to the function responsible for the preparation of the NFS.

   Moreover, for material information, considering the activities and characteristics of the Group:

   – at parent company level,

     a) with reference to the qualitative information included in the NFS, and in particular to the business model, the policies adopted and the main risks, we carried out interviews and acquired supporting documentation to verify their consistency with available evidence;
     b) with reference to quantitative information, we performed analytical procedures as well as limited tests, in order to assess, on a sample basis, the accuracy of consolidation of the information;

   – at a site/plant level, Direzione territoriale Centro Sud – Area Operativa Trasmissione Roma (Terna Rete Italia SpA), which was selected on the basis of its activities, its contribution to the performance indicators at a consolidated level and its location, we carried out site visits and walk through procedures during which we met local management and gathered supporting documentation regarding the correct application of the procedures and calculation methods used for the key performance indicators.

Conclusions

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of Terna Group as of 31 December 2018 has not been prepared, in all material respects, in compliance with articles 3 and 4 of the Decree and with the GRI Standards.

Rome, 11 April 2019

PricewaterhouseCoopers SpA

Signed by

Luca Bonvino
(Partner)

Signed by

Paolo Bersani
(Authorised signatory)

This report has been translated from the original, which was issued in Italian, solely for the convenience of international readers. We have not performed any verification procedures on the English translation of the NFS of Terna Group as of 31 December 2018.

In this “Annexes” section are exposed the **Green Bond Report 2018**, with the assurance report prepared by the independent auditor PricewaterhouseCoopers, and the **Key Indicator Tables**.

10

Annexes

Green Bond Report 2018

On 16 July 2018, Terna successfully launched its first green bond issue, worth €750 million and having a 5-year term. The issue was carried out as part of the Company's €8 billion Medium Term Note (EMTN) programme.

The net proceeds from the issue are to be used to fund the Company's Eligible Green Projects, selected on the basis of the "Green Bond Principles 2018" published by the ICMA - International Capital Market Association.

In this regard, Terna has drawn up and published a "Green Bond Framework" in order to enhance the transparency and the quality of the green bonds issued. This Framework and the second party opinion provided by the independent advisor, Vigeo Eiris, are available to the public on the Company's website (www.terna.it). Vigeo Eiris has assessed the bond's contribution to sustainability, assigning it a "reasonable" level of assurance[51].

Vigeo Eiris also expressed an opinion on the issuer's overall approach to managing ESG issues, judging Terna to be at an "advanced" level[52]. In addition, Vigeo Eiris considered the Eligible Green Projects to be in line with the UN SDGs:

Ensure universal access to affordable, reliable and modern energy services.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Take urgent action to combat climate change and its impacts.

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

[51] Level of evaluation used by Vigeo Eiris - Level of Assurance: Reasonable, Moderate, Weak.
[52] Level of evaluation used by Vigeo Eiris - Performance: Advanced, Robust, Moderate, Weak.

With this report, Terna is delivering on its commitment, made at the time of the bond issue, to report annually on its use of the proceeds and the environmental benefits resulting from the projects financed with those proceeds.

The indicators shown in the following tables have been determined in accordance with the "Green Bond Framework", showing the relevant amounts, how the proceeds have been allocated and the main environmental benefits for each environmental category within which the projects must fall in order to qualify as "eligible".

The various categories of environmental benefit indicated in the Green Bond Framework are shown below:

Description	Category of environmental benefit
This category includes projects designed to boost renewable energy production: • Connecting renewable energy plants (grid infrastructure designed to directly connect renewable energy plants to the transmission grid); • Integrating renewable energy production (grid infrastructure that enables a greater volume of renewable energy to be injected into the transmission grid, by, for example, relieving congestion in a certain part of the grid).	Renewable energy
Projects designed to reduce the CO_2 emissions produced by the electricity system by reducing grid losses: • Grid infrastructure that enhances transmission efficiency (reducing the difference between power produced and energy consumed, all other conditions being equal).	Energy efficiency
Projects that aim to reduce soil use and the impact on terrestrial biodiversity: • Improvements to the grid resulting from the replacement of existing overhead power lines with underground cable and/or the demolition of existing lines. These improvements reduce the permanent occupation of land by overhead lines and the need to cut back the surrounding vegetation. The greatest impact occurs when overhead lines cross areas of environmental interest, such as nature reserves, wetlands and other protected areas. These projects also eliminate the albeit low risk of birds colliding with power lines.	Soil use & biodiversity

Allocation reporting

Information on how the proceeds from the bond issue of July 2018 have been used is provide below, showing aggregate amounts and data for each Eligible Green Project. The following information is also provided for the Bond as a whole: the percentage allocated to finance parts of projects still to be completed and to refinance projects (or parts thereof) already completed between 1 January 2014 and the date of issue of the Bond (% refinanced out of the total) and the balance of unallocated liquidity and/or liquidity still held by the issuer.

Information on how the proceeds from the bond issue of July 2018 have been used is provide below, showing aggregate amounts and data for each Eligible Green Project.

DESCRIPTION OF INDICATOR	AMOUNT
Total amount for basket of projects included in the Green Bond at 16 July 2018	753,077,159 €
- % of basket refinanced	90%
Net Green Bond proceeds	745,552,500 €
Green Bond proceeds allocated at 31 December 2018	690,007,106 €
Funds/equivalent funds held by the issuer at 31 December 2018	55,545,394 €

CATEGORY OF ELIGIBLE GREEN PROJECT	ELIGIBLE GREEN PROJECT	AMOUNT INCLUDED IN GB (€)	PROCEEDS ALLOCATED AT 31 DECEMBER 2018 (€)
Renewable energy	150kV MACCHIALUPO SUBSTATION	14,508,653	14,592,467
Renewable energy	150kV TURSI SUBSTATION	5,641,361	5,802,983
Renewable energy	380/150kV GENZANO SUBSTATION	21,196,986	14,845,597
Renewable energy	150kV MAIN POWER LINE BENEVENTO II VOLTURARA CELLE SAN VITO	55,619,662	54,644,662
Renewable energy	150kV MAIN POWER LINE BENEVENTO II -MONTECORVINO	52,232,710	51,112,710
Renewable energy	ASCOLI SATRIANO SUBSTATION	7,609,473	7,609,473
Renewable energy	RATIONALISATION 220/132 kV IN VALLE SABBIA	31,253,396	0
Renewable energy	UPGRADE OF POWER LINE CAPACITY IN NORTH WEST	60,926,784	50,420,056
TOTAL Renewable energy		***248,989,025***	***199,027,948***
Energy efficiency	RATIONALISATION IN CITY OF MILAN	7,831,115	8,183,491
Energy efficiency	380kV FOGGIA - VILLANOVA POWER LINE	13,591,442	14,570,493
Energy efficiency	REORGANISATION IN ROME METROPOLITAN AREA	48,682,974	40,161,722
Energy efficiency	REORGANISATION OF 220kV GRID IN CITY OF NAPLES	10,731,274	10,731,274
Energy efficiency	REORGANISATION OF PALERMO METROPOLITAN AREA	4,989,791	4,992,583
Energy efficiency	NEW 220kV ELECTRICITY SUBSTATION AT MUSOCCO	49,745,876	49,756,818
Energy efficiency	WORK ON RENEWABLE ENERGY COLLECTION IN FOGGIA-BARLETTA AREA	17,431,610	17,471,040
TOTALE Energy efficiency		***153,004,082***	***145,867,420***
Soil use & biodiversity	380kV SORGENTE - RIZZICONI POWER LINE	256,662,235	256,279,025
Soil use & biodiversity	380kV TRINO - LACCHIARELLA POWER LINE	75,758,734	75,856,428
Soil use & biodiversity	132kV STAZZONA-VERDERIO POWER LINE	18,663,082	12,976,284
TOTAL Soil use & biodiversity		***351,084,051***	***345,111,737***
GRAND TOTAL		**753,077,159**	**690,007,106**

Impact reporting

This section details the impact and the benefits aggregated for each category of Eligible Green Bond. The percentages indicate the proportion of the benefits that can be associated with the stage of completion of the projects (works that have entered service) at 31 December 2018.

CATEGORY OF ELIGIBLE GREEN PROJECT	OUTPUT & IMPACT INDICATORS									
	A		B		C		D		E	
	CONNECTIONS TO RENEWABLE ENERGY PLANTS (MW)	% AT 31 DECEMBER	INCREASED PRODUCTION FROM RENEWABLE SOURCES (MWH)	% AT 31 DECEMBER	REDUCTION IN GRID LOSSES (MWH)	% AT 31 DECEMBER	LAYING OF UNDERGROUND CABLES (KM)	% AT 31 DECEMBER	DEMOLITION OF LINES (KM)	% AT 31 DECEMBER
Renewable energy	1,802	100%	3,943,340	97%						
Energy efficiency					611,434	38%				
Soil use & biodiversity							59	100%	198	100%

For a better understanding of the data relating environmental impacts, the following should be taken into account:

- the impact of the projects in columns A, B and C in the above table that involve "Connections to renewable energy plants", "Increased production from renewable sources" and a "Reduction in grid losses" are measured in MW and MWh. The benefit resulting from completion of these projects may also be measured in terms of greenhouse gas emission savings, amounting to over 2 million tonnes of CO_2 a year; the above data does not derive from ex-post measurement of the impact of the projects carried out, but – with the exception of connections to renewable energy plants – are the result of grid simulations, conducted using models that permit a comparison of the ex-ante operation of the electricity system and the related environmental impacts with and without the individual projects. The results of the grid simulations are then used in the cost-benefit analysis applied to the main projects included in the Grid Development Plan. Given that there may be several years between the planning of a project and the start-up of work, the cost-benefit analysis (CBA) for a project may be repeated to take into account new scenarios and the environmental impacts may change over time. If there are significant changes to the environmental benefits connected with the projects financed by the Green Bond, these will be noted in future Green Bond Reports;
- the environmental benefits underpinning the selection of eligible projects are calculated at the level of each project, which, however, generally consists of a series of works that may require many years to complete. The proceeds from the Green Bond may be used to finance or refinance a part of the previously planned works that have a part to play in completion of the project as a whole and, in this sense, in obtaining the environmental benefits. Considering, in relation to projects financed by the Green Bond, all the expenses – both those incurred at the time of the issue and those that are expected to be incurred in future years - the Green Bond finances over a quarter of the total expenditure. Focusing, instead, on works entering service over the life of the Green Bond (from 2014 to when all the proceeds have been allocated), the portion financed exceeds 40%.

None of the selected projects is the subject of significant proceedings (administrative or final court judgements) resulting in Terna being ordered to pay fines or to act or not act (e.g. prohibitions), or in its employees being found guilty of a criminal offence (full compliance in environmental and socio-economic matters). The selected projects were not involved in environmental disputes in 2018 with a negative outcome for Terna. There are currently no major disputes relating to the selected projects.

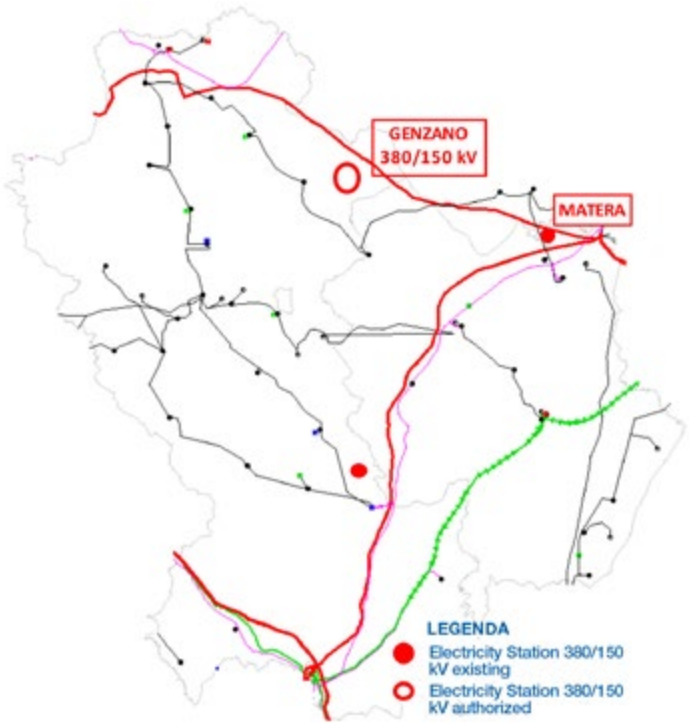
Examples of Eligible Green Projects

The following pages show key technical and financial data and details of the environmental benefits for three representative projects in the three categories of benefit taken into account.

Category: Renewable energy- New Genzano electricity substation

The new 380 kV Genzano substation has been built to connect renewable energy plants in the Basilicata region to the HV Matera-Santa Sofia line.
Applications for the connection of renewable energy plants to the NTG (the National Transmission Grid) have been received from 24 plants, making a total of 1GW. The expected increase in renewable energy integrated into the NTG is **2,290,000 MWh per year.**

DESCRIPTION OF INDICATOR	AMOUNT
Total value of the project included in the Bond at 16 July 2018 (planned amount)	21,196,986 €
Proceeds from the green bond allocated to the project at 31 December 2018 (final amount)	14,845,597 €
Connections of renewable energy plants	1,073 MW
Increase in renewable energy production	2,288,500 MWh



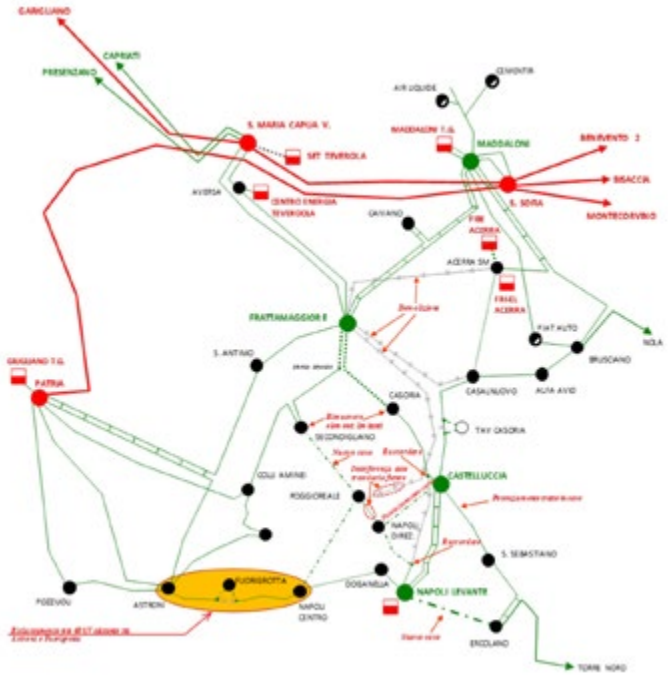
Category: Energy efficiency - Restructuring of the grid in the city of Naples

In order to improve the security of the grid in Naples and eliminate operational constraints, the Company has devised a development plan involving the construction of three new 220kV power lines, reconstruction of the "Main Naples - Caselluccia" line and the demolition of extensive sections of the "Casoria - Napoli Levante" line.

The "Central Naples" distribution substation is of strategic importance and will be involved in work designed to boost the reliability of the grid.

Thanks to the above works, we expect to be able to reduce grid losses by **17,700 MWh per year**.

DESCRIPTION OF INDICATOR	AMOUNT
Total value of the project included in the Bond at 16 July 2018 (planned amount)	10,731,274 €
Proceeds from the green bond allocated to the project at 31 December 2018 (final amount)	10,731,274 €
Reduction in grid losses	17,700 MWh



Category: Environmentally sustainable management of land use - Rationalisation of the 220/132 kV Piedmont - Lombardy grid

Following the entry into service of the HV 380 kV "Trino-Lacchiarella" line in January 2014, the Company has planned a series of measures designed to rationalise the grid in order to minimise the presence of infrastructure in the area.

Thanks to the "Trino-Lacchiarella" line, grid flexibility and security have been improved, reducing the risk of grid congestion.

In addition, the rationalisation has enabled us to **demolish 80 km of overhead lines**.

DESCRIPTION OF INDICATOR	AMOUNT
Total value of the project included in the Bond at 16 July 2018 (planned amount)	75,758,734 €
Proceeds from the green bond allocated to the project at 31 December 2018 (final amount)	75,856,428 €
Demolition of lines	80 km

Independent auditor's report on the Green Bond Report 2018

To the Board of Directors of Terna SpA

we have performed a limited assurance engagement on the Green Bond Report of Terna SpA for the year ended 31 December 2018 (hereafter the "Report"), approved by the Board of Directors convened on 20 March 2019 and prepared pursuant to the "Terna – Green Bond Framework" (hereafter the "Framework") issued by Terna SpA on 16 July 2018, respect to:

- the application of the eligibility criteria in the projects financed and refinanced by the Bond described in the Framework and the final list of projects financed and refinanced;
- the allocation of the proceeds obtained through the Bond to the projects financed by it and that the capital invested in the projects financed or refinanced is attributable to the Bond;
- the verification that sustainability indicators are prepared in accordance with the methodology defined in the Framework.

The Report, as required by the Framework, is an annex of the "Sustainability Report – Consolidated Non Financial Statement 2018" of Terna Group.

Responsibility of the Directors

The Directors are responsible for the preparation, the contents and for issuing the "Green Bond Report", pursuant the Framework that describes the criteria for eligibility, allocation of the proceeds and sustainability indicators.

The Directors are responsible for such internal control as management determines is necessary to enable the preparation of a Report that is free from material misstatement, whether due to fraud or unintentional errors.

The Directors, furthermore, are responsible for defining, implementing and maintaining systems through which the information necessary for the preparation of the Report are obtained.

Auditor's Independence and Quality Control

We are independent in accordance with the principles of ethics and independence set out in the Code of Ethics for Professional Accountants published by the International Ethics Standards Board for Accountants, which are based on the fundamental principles of integrity, objectivity, competence and professional diligence, confidentiality and professional behaviour. Our audit firm adopts International Standard on Quality Control 1 (ISQC Italy 1) and, accordingly, maintains an overall quality control system which includes processes and procedures for compliance with ethical and professional principles and with applicable laws and regulations.

Auditor's responsibilities

We are responsible for expressing a conclusion, on the basis of the work performed, regarding the compliance of the Report with the Framework. 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 (hereafter "ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and apply procedures in order to obtain limited assurance that the Report is free of material misstatement. The procedures performed in a limited assurance engagement are less in scope than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised and, therefore, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures performed on the Report were based on our professional judgement and consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the Report, analyses of documents, recalculations and other procedures designed to obtain evidence considered useful.

In particular, we performed the following procedures:

1. meetings with the personnel of Terna's functions that were involved in preparing the Report, in order to understand the characteristics of the financed and refinanced projects by the Bond and to evaluate the reasonableness of the process and of the internal data management procedures and information;
2. the verification of the application of the eligibility criteria to the financed and refinanced projects by the Bond as described in the Framework;
3. the verification of the traceability in the allocation of the proceeds obtained through the Bond to the projects financed or refinanced by them and the attribution to the Bond of the capital in the projects themselves;
4. the verification of collection, aggregation, processing and transmission process of data relating to the sustainability indicators included in the Report and their verification through sample tests.

Conclusions

Based on the work performed, nothing has come to our attention that causes us to believe that the Green Bond Report of Terna SpA as of 31 December 2018 has not been prepared, in all material respects, in compliance with the Framework, with reference to:

- the application of the eligibility criteria in the projects financed and refinanced by the Bond described in the Framework and the final list of projects financed and refinanced;
- the allocation of the proceeds obtained through the Bond to the projects financed by it and that the capital invested in the projects financed or refinanced is attributable to the Bond;
- the verification that sustainability indicators are prepared in accordance with the methodology defined in the Framework.

Drafting criteria, use and distribution

Without changing our conclusions, we draw attention to the Terna – Green Bond Framework where the criteria of project eligibility, allocation of proceeds and sustainability indicators are described. The Report has been prepared for the purposes illustrated in the first paragraph. As a result, the Report may not be suitable for other purposes. Our report has been prepared exclusively for the purposes indicated in the first paragraph and, therefore, we assume no responsibility towards third parties other than Terna SpA.

Rome, 11 April 2019

PricewaterhouseCoopers SpA

Signed by

Luca Bonvino
(Partner)

This report has been translated from the original, which was issued in Italian, solely for the convenience of international readers. We have not performed any verification procedures on the English translation of the Green Bond Report of Terna SpA as of 31 December 2018.

Key indicator tables

The following tables present the indicators provided for in the Global Reporting Initiative standards, together with other indicators that Terna believes it is important to publish to illustrate its performance. Certain data already included in the body of the Report are shown for the sake of completeness.

For each indicator, the tables show:
- the unit of measurement;
- the data for 2018, 2017 and 2016;
- if material, the absolute change between 2018 and 2017;
- if material, the percentage change between 2018 and 2017. This change may not match the change calculated on the basis of the figures in the table which, in general, have been rounded to one decimal place.

In general, the figures have been calculated at 31 December and refer to the full year in the case of flow indicators.
To facilitate the reader, definitions of the units of measurement used to report the indicators are defined below. Reference should also be made to the table of acronyms provided after the indicators.

KEY TO UNITS OF MEASUREMENT

#	Category
%	Percentage
€	Euro
€000	Thousands of euros
€m	Millions of euros
GJ	Gigajoule
GWh/year	Gigawatt hours per year
GWh	Gigawatt hour
hrs	Hours
kg	Kilogrammes
km	Kilometres
min.	Minutes
MW	Megawatt
no.	Number
tonnes	Tonnes
CO_2 in tonnes	Carbon dioxide in tonnes
yrs	Years

Profile

Corporate governance[53]

< 405-1

COMPOSITION OF THE BOARD OF DIRECTORS

	Unit	2018*	2017	2016	Change 18-17	% change 18-17
Men	%	55.6	55.6	77.8	-	-
Women	%	44.4	44.4	22.2	-	-
Under the age of 30	%	-	-	-	-	-
Between the ages of 30 and 50	%	22.2	22.2	44.4	-	-
Over the age of 50	%	77.8	77.8	55.6	-	-

(*) The figures refer to the composition of the Board at 9 August 2018. The following day, the Director, Stefano Saglia, resigned. On 15 Febuary 2019, Paolo Calcagnini was co-opted as his replacement. The figures for 20 March 2019 are the same as those shown in the table for 2018.

Shareholders

COMPOSITION OF THE SHAREHOLDER BASE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
CDP Reti S.p.A. (*)	%	29,85	29,85	29,85	-	-
Other institutional + retail investors	%	70,15	70,15	70,15	-	-
of which significant institutional investors (**)	%	5,12	5,12	5,12	-	-

(*) A subsidiary of Cassa Depositi e Prestiti S.p.A..

(**) Shareholders who, based on the available information and notifications received from the CONSOB, own interests in Terna S.p.A. that are above the notifiable threshold established by CONSOB Resolution 11971/99.

SOCIALLY RESPONSIBLE INVESTMENTS (*)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
% of share capital held by identifiable institutional investors owned by SRIs	%	13	11	10	1,6	14

(*) In addition to more traditional criteria, these investments are also based on an approach that takes into account ESG (Environmental, Social, Governance) aspects. Further details of SRIs are provided on page 30 in the section of this Report entitled "Profile".

[53] Further details of Terna S.p.A.'s corporate governance are provided in the "Report on Corporate Governance and Ownership Structures", published on the website (www.terna.it).

SHARE PERFORMANCE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Share price performance	%	2.3	11.3	-8.5	-9.1	-80.1
Terna in stock market indexes						
FTSE MIB	%	2.4	1.9	2.1	0.5	24.7

SHAREHOLDER RETURN

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total Shareholder Return (TSR)						
- since the IPO	%	558.8	513.9	429.5	44.9	8.7
- since the beginning of the year	%	7.3	15.9	-4.3	-8.6	-54.1

INVESTOR RELATIONS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Meetings/conference calls with investors ("buy-side")	no.	309	301	345	8	2.7
Meetings/conference calls with financial analysts ("sell-side")	no.	279	218	195	61	28.0
Meetings with specific investors and/or with space given to CSR issues	no.	23	20	16	3	15.0
Information requests from retail investors[1]	no.	14	12	12	2	16.7

[1] The figure includes requests received via e-mail.

Economic performance

GROUP FINANCIAL HIGHLIGHTS [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Revenue [2]	€m	2,197.0	2,162.8 [2])	2,103.2	34.2	1.6
EBITDA	€m	1,650.6	1,603.9	1,544.7	46.7	2.9
EBIT	€m	1,096.5	1,077.4	1,036.0	19.1	1.8
EBT	€m	1,007.7	988.6	933.2	19.1	1.9
Net profit	€m	706.6	688.3	595.5	18.3	2.7

[1] *The above amounts have been taken from the Group's reclassified income statement for 2018.*
[2] *In line with the basis of presentation used for 2018, and without modifying the results, revenue from International Activities in 2017 directly includes the margin earned on overseas concessions.*

Value added [1]

MEASUREMENT AND REDISTRIBUTION OF VALUE ADDED [2]

< 201-1

	Unit	2018	2017	2016	Change 18-17	% change 18-17
A – Remuneration of employees	€	313,038,619	322,058,429	327,152,165	-9,019,810	-3
B – Payments to the government	€	302,842,820	301,533,096	320,643,092	1,309,724	0
C – Payments to credit providers	€	104,044,756	97,746,883	105,508,004	6,297,873	6
D – Payments to providers of risk capital [3]	€	468,730,134	442,198,240	414,058,352	26,531,894	6
E – Retained by the Company	€	242,888,183	252,011,601	213,870,808	-9,123,418	-4
TOTAL NET VALUE ADDED	€	1,431,544,513	1,415,548,249	1,381,232,421	15,996,264	1

[1] *Value added measure the value created by an enterprise, but also by an entire economy, over a certain period, usually a year. In corporate accounting terms, value added is calculated by subtracting the costs of purchasing the intermediate goods and services used in operations from the value of production (revenue attributable to the goods and services produced during the year). These costs do not include personnel expenses, which instead form part of the value added by the enterprise to the intermediate goods and services as a result of its operations. The difference between revenue generated by the sale of the final product and the cost of the raw materials (and the related support services) is the value added, which, in addition to personnel expenses, also includes any profit and the share of income used to pay the interest on debt and income tax.*
[2] *Amounts relating to the creation and distribution of value added have been taken from the consolidated financial statements prepared in accordance with IFRS/IAS. In particular, the Terna Group has used IFRS/IAS since 2005.*
[3] *Payments to capital providers in 2018 regard the interim dividend paid in November 2018 (€158.2 million) and the final dividend that the Board of Directors decided on 21 March 2019 to propose to shareholders at the Annual General Meeting (€310.5 million).*

Responsible business management

Electric utilities

> EU3

CUSTOMER ACCOUNTS REGULATED MARKET

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Interruptible users	no.	243	288	286	-45	-15.6
Distributors directly connected with the NTG	no.	51 [1]	27	25	24	88.9
Supply-side dispatching service users (producers and traders)	no.	135	140	135	-5	-3.6
Demand-side dispatching service users (traders and end users. including the Single Buyer)	no.	187	186	182	1	0.5

[1] *In addition to licensed distributors, the figure also includes the Operators of Closed Distribution Systems for Internal User Networks directly connected with the NTG.*

Suppliers

> 204-1

NUMBER AND QUALIFICATION OF SUPPLIERS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Number of suppliers						
Number of contracted suppliers	n°	2,148	1,978	1,818	170	9
Procurement of materials and services						
Goods	€m	656	292	277	364	125
Works	€m	340	228	106	112	49
Services	€m	188	136	147	52	38
Supplier origin (% of total)						
Italian suppliers	%	92.8	96.3	95.4	4	-4
Overseas suppliers	%	7.2	3.7	4.6	4	95
Award procedures [1]						
European tenders	%	74.9	65.5	60.9	9	14
Non-European tenders	%	10.9	15.6	21.7	-5	-30
Fixed	%	12.0	12.1	14.2	-0	0
One-off contracts [2]	%	2.2	6.9	3.2	-5	-68
Qualification						
Companies on list of approved suppliers	n°	414	404	392	10	3
Qualified categories	n°	45	45	44	-	-
Number of audits	n°	1,214	604	743	610	101

[1] *Based on the percentage of the value of contract awards.*

[2] *The "One-off contracts" category primarily includes: sponsorship and donations. fees paid to public entities and trade bodies and contracts awarded to previously qualified suppliers by Terna Plus.*

Credit providers

DEBT

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Financial debt (1)	€m	7.899	7.796	7.976 [1]	103	1
Equity [2]	€m	4.054	3.829	3.555	225	6
Debt to Equity	%	194,8	203,6	224,4	-	-

[1] *For comparative purposes, certain amounts in the financial statements for the year ended 31 December 2016 have been restated without, however, adjusting the value of equity at 31 December 2016.*

[2] *The figures for equity at 31 December 2018, 2017 and 2016 include non-controlling interests in the Tamini Group and the subsidiaries, Terna Interconnectore and Avvenia (acquired on 15 February 2018).*

LOANS FROM THE EUROPEAN INVESTMENT BANK (EIB)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Outstanding debt on EIB loans	€m	1,725	1,727	1.612	-3	0

Reports and complaints

IMPLEMENTATION OF THE CODE OF ETHICS

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total reports received [1]	no.	2	1	2	-	-
Areas of operation for which reports received [2]						
- Treatment of employees	no.	2	-	1	-	-
- Supplier management	no.	-	1	1	-	-
- Environment and Safety	no.	-	-	-	-	-
- Corruption/ Corporate loyalty	no.	-	-		-	-
- Terna's Compliance /Other	no.	-	-	1	-	-
Outcome of reports						
- Without grounds	no.	2	1	2	-	-
- Action taken [3]	no.	-	-	-	-	-
- Under investigation	no.	-	-	-	-	-

[1] *The reports received in 2017 were sent to the Audit department. The report received in 2017 was sent to the Ethics Committee. Of the 2 reports in 2016, 1 was received by the Audit department and 1 by the Ethics Committee.*

[2] *Each report or infringement may relate to any number of areas of operation.*

[3] *Action may take the form of a sanction and/or another form - such as, for example, the revision of procedures, internal controls, etc. - with the aim of avoiding a repetition of the event giving rise to the report.*

ENVIRONMENTAL COMPLAINTS

	Unit	2018		2017		2016		Change 18-17	% change 18-17
		RECEIVED	DEALT WITH	RECEIVED	DEALT WITH	RECEIVED	DEALT WITH	RECEIVED	DEALT WITH
Total complaints received	no.	26	24	25	20	34	29	2	8
Environmental aspect of complaints received									
- Waste	no.	-	-	1	1	1	1	-	-
- Noise	no.	12	11	13	9	14	11	1	9
- Biodiversity	no.	-	-	-	-	-	-	-	-
- Landscape	no.	-	-	-	-	2	1	-	-
- Electrical and magnetic fields	no.	8	8	4	3	8	7	-	-
- Lighting	no.	-	-	-	-	-	-	-	-
- Vegetation management	no.	4	3	3	3	6	6	1	33
- Other	no.	2	2	4	4	3	3	-	-

Litigation

ENVIRONMENTAL LITIGATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Pending	no.	85	96	96	-11	-11.5
In progress	no.	7	8	6	-1	-12.5
Settled	no.	18	8	17	10	125.0

SUPPLIER LITIGATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Pending	no.	29	23	22	6	26.1
In progress	no.	6	4	0	2	50.0
Settled	no.	0	3	2	-3	-100.0

CUSTOMER LITIGATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Pending	no.	15	15	17	0	0
In progress	no.	0	1	1	-1	-100.0
Settled	no.	0	3	0	-3	-100.0

LITIGATION WITH EMPLOYEES

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Pending	no.	11	10	12	1	10.0
In progress	no.	3	5	11	-2	-40.0
Settled	no.	2	7	2	-5	-71.4

Electricity service

Grid

ELECTRICITY SUBSTATIONS

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
380 kV						
Substations	no.	164	164	161	-	-
Power transformed	MVA	115,258	114,008	110,708	1,250	1.1
220 kV						
Substations	no.	150	150	150	-	-
Power transformed	MVA	31,417	31,317	30,837	100	0.3
Lower voltages (≤ 150 kV)						
Substations	no.	567	557	544	10	1.8
Power transformed	MVA	3,914	3,890	3,911	24	0.6
TOTAL						
Substations	no.	881	871	855	10	1.1
Power transformed	MVA	150,589	149,215	145,456	1,374	0.9

POWER LINES (*)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
380 kV						
Length of circuits	km	12,496	12,487	12,314	9	0.1
Length of lines	km	11,315	11,305	11,238	10	0.1
220 kV						
Length of circuits	km	11,915	11,915	11,698	0	0
Length of lines	km	9,549	9,549	9,363	0	0
Lower voltages (≤ 150 kV)						
Length of circuits	km	50,031	50,123	48,832	-92	-0.2
Length of lines	km	46,806	46,852	45,765	-46	-0.1
TOTAL						
Length of circuits	**km**	**74,442**	**74,525**	**72,844**	**-83**	**-0.1**
underground cables	km	1,945	1,880	1,804	65	3.5
submarine cables	km	1,454	1,463	1,422	-9	-0.6
200, 400 and 500 kV direct current	km	2,077	2,077	2,066	0	0
Length of lines	**km**	**67,671**	**67,706**	**66,366**	**-35**	**-0.1**
underground cables	km	1,945	1,880	1,804	65	3.5
submarine cables	km	1,454	1,463	1,422	-9	-0.6
200, 400 and 500 kV direct current	km	1,757	1,757	1,746	0	-

(*) The figures for 2017 are different from those previously published following the emergence of more up-to-date figures.

Quality of service

GRID EFFICIENCY

	Unit	2018	2017 [1]	2016	Change 18-17	% change 18-17
Power supplied	GWh/yr	321,910	320,458	314,261	1,452	0.5

[1] *The figure for 2017 has been recalculated with the final data for that year and is, therefore, different from the figure shown in the 2017 Sustainability Report. The figure for power supplied in 2018 is provisional.*

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TECHNICAL QUALITY

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Service continuity indicators						
ASA (Average Service Availability) [1]	%	n/a	99.99974	99.99973	n/a	n/a
SAIFI + MAIFI (System Average Interruption Frequency Index) Terna [2]	no.	n/a	0,26	0,22	n/a	n/a
SAIFI + MAIFI (System Average Interruption Frequency Index) Terna Rete Italia [2]	no.	n/a	n.d	n.d.	n/a	n/a
AIT (Average Interruption Time) Terna [3]	min.	n/a	1.36	1.41	n/a	n/a
AIT (Average Interruption Time) Terna Rete Italia [3]	min.	n/a	n.d	n/a	n/a	n/a
RENS (Regulated Energy Not Supplied) Terna [4]	MWh	n/a	855	399	n/a	n/a
RENS (Regulated Energy Not Supplied) Terna Rete Italia [4]	MWh	n/a	n.d	n/a	n/a	n/a

[1] *ASA measures the availability of the NTG. It is calculated as the ratio of the sum of energy not supplied to users connected to the NTG (ENS) and the energy fed into the grid. At the date of preparation of this document, the figures for 2018 are not yet final and have not been approved by the regulator (ARERA).*

[2] *The number of short and long outages. It is calculated as the ratio of the number of users connected directly to the NTG involved in the outages and the number of users of the NTG. At the date of preparation of this Report, the figures for 2018 are not yet available.*

[3] *The average duration of electricity system (NTG) outages in a year. It is calculated as the ratio of the energy not supplied in a certain period (ENS) and the average power absorbed by the electricity system in the period in question. The figures for 2018 are not yet available at the time of publication of this Report.*

[4] *The indicator also includes energy not supplied to directly connected users due to events on other grids not forming part of the NTG and a share of the energy not supplied due to events of force majeure or major incidents (a "major incident" is any outage where the energy not supplied exceeds 250 MWh). The share included in the RENS indicator is a percentage that declines as the amount of energy not supplied in the individual major increases. The lower the indicator, the better the service performance. The final figure for RENS for 2018, to be provided by the regulator (ARERA), is not yet available at the time of publication. The RENS indicator for 2017 is provisional whilst awaiting confirmation of the related amount by ARERA.*

People

Size and composition of the workforce

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WORKFORCE TRENDS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total employees	**no.**	**3,843**	**3,508**	**3,468**	**335**	**9.5**
Employees recruited during the year	no.	420	243	186	177	72.8
Employees leaving during the year	no.	85	203	51	-118	-58.1
- men	no.	76	187	45	-111	-59.4
- women	no.	9	16	6	-7	-43.8
- below the age of 30	no.	16	6	11	10	166.7
- between the ages of 30 and 50	no.	16	14	11	2	14.3
- over the age of 50	no.	53	183	29	-130	-71.0
Turnover rate [1]						
TOTAL	**%**	**2.4**	**5.9**	**1.5**	**-3**	**-58.6**
- men	%	2.2	5.4	1.4	-3	-59.8
- women	%	0.3	0.5	0.2	0	-44.4
- below the age of 30	%	0.5	0.2	0.3	0	163.6
- between the ages of 30 and 50	%	0.5	0.4	0.3	0	13.0
- over the age of 50	%	1.5	5.3	0.9	-4	-71.4

[1] *The turnover rate shows the ratio of employees leaving the Company to the number of employees at 31 December of the previous year.*

COMPOSITION OF THE WORKFORCE

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total employees	**no.**	**3,843**	**3,508**	**3,468**	**335**	**9.5**
By type of contract						
- permanent	no.	3,842	3,508	3,466	334	9.5
- fixed-term	no.	1	0	2	1	-
By type of employment						
- full-time	no.	3,822	3,478	3,440	344	9.9
- part-time	no.	21	30	28	-9	-30.0
By gender						
- men	no.	3,326	3,076	3,062	250	8.1
- women	no.	517	432	406	85	19.7
By age						
- below the age of 30	no.	885	706	622	179	25.4
- between the ages of 30 and 50	no.	1,681	1553	1,539	128	8.2
- over the age of 50	no.	1,277	1249	1,307	28	2.2
Average age of employees and years of service						
Average age	yrs	41.79	42.58	43.5	-	-
Average years of service [1]	yrs	15.3	16.4	17.5	-	-

[1] *In the case of employees joining Terna as a result of the acquisition of a business unit, the average for years of service takes into account previous employment.*

COMPOSITION OF THE WORKFORCE BY CATEGORY

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total	**no.**	**3,843**	**3,508**	**3,468**	**335**	**9.5**
Senior managers	no.	57	61	64	-4	-6.6
Middle managers	no.	614	550	549	64	11.6
Office staff	no.	2,124	1,873	1,830	251	13.4
Blue-collar workers	no.	1,048	1,024	1,025	24	2.3

COMPOSITION OF THE WORKFORCE BY TYPE OF QUALIFICATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
University degree	%	32.5	28.6	26.1	4	13.7
High-school diploma	%	51.2	53.1	52.3	-2	-3.6
Vocational qualification	%	10.9	11.9	13.4	-1	-8.5
Elementary/Middle school	%	5.5	6.5	8.2	-1	-15.5

Personnel development

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TRAINING

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Average hours of training						
- per employee [1]	**hrs**	**55**	**50**	**61**	**5**	**10**
By category [2]						
- senior managers	hrs	29	17	31	12	71
- middle managers	hrs	32	36	49	-5	-11
- office staff	hrs	59	43	48	16	37
- blue-collar workers	hrs	64	73	90	-9	-12
By gender [3]						
- men	hrs	53	50	61	3	6
- women	hrs	47	32	31	15	47
Proportion of employees involved [4]	%	100	100	99	0	
Hours provided						
Total	**hrs**	**203,556**	**178,856**	**203,066**	**24,700**	**14**
- hours led by internal trainers	hrs	*140,509*	*106,900*	*132,126*	*33,609*	*31*
Hours of training by type of course						
- education	hrs	15,199	9,273	5,214	5,926	64
- context and Business Model	hrs	58,782	41,588	42,150	17,194	41
- training	hrs	129,575	127,995	155,703	1,580	1
Participants in courses on 231 Model	no,	*1,795*	*2,102*	*423*	*-307*	*-15*

[1] *Ratio of total hours of training to the average number of employees.*

[2] *Ratio of total hours of training by category to the average number of employees by category.*

[3] *Ratio of total hours of training by gender to the total number of employees during the year (including those working for the Company for less than a year) by gender.*

[4] *Percentage of employees who have attended at least one training course during the year.*

REMUNERATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Average cost per employee [1]	€	80,475	79,733	78,271	741	1
Senior managers included in Long-Term Incentive (LTI) plan [2]	no.	72	65	50	7	11
Variable pay as a percentage of fixed pay [3]	%	11	11	12	0	-1
MBO	no.	315	212	210	103	49

[1] *The term "employee" refers to each employee of the Company including senior managers.*

[2] *The figures for 2018 and 2017 include both senior managers and middle managers involved in the programme.*

[3] *The amounts regard the incentives paid to all employees, including senior managers, and exclude fringe benefits.*

ORGANISATIONAL CLIMATE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total summary dismissals	no.	34	17	20	17	100
Absences per employee [1]	hrs	53	47,5	52,1	5	12
Absentee rate [2]		6,937.4	6,239.9	6,831.4	698	11

[1] *This refers to non-contractual forms of absence (illness, injury, leave, strikes, unpaid leave) during the year.*

[2] *This refers to the number of days of absence due to illness, strikes, injury and leave out of the number of days worked during the same period, multiplied by 200,000. To aid comparison with other sources, this indicator has also been calculated as a percentage of days worked. Under this method of calculation, the absentee rate is 3.5 in 2018, 3.1 in 2017 and 3.4 in 2016. The causes of absence taken into account do not include maternity leave, marriage leave, study leave, trade union activities, other forms of paid leave and suspensions.*

AVERAGE YEARS OF SERVICE OF EMPLOYEES LEAVING THE COMPANY [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total leavers	**yrs**	**23.3**	**32.5**	**23.1**	**-9.3**	**-0.3**
Men	yrs	24.8	34.1	24.5	-7.5	-0.4
Women	yrs	13.7	21.1	12.3	0.1	0.2
Below the age of 30	yrs	0.6	0.5	0.9	1.2	0.2
Between the ages of 30 and 50	yrs	6.9	5.8	4.7	-0.6	0.0
Over the age of 50	yrs	35.7	36.2	38.4	-9.3	-0.3

[1] *In the case of employees joining Terna as a result of the acquisition of a business unit, the average for years of service takes into account previous employment.*

Employee engagement

UNIONISATION OF EMPLOYEES

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Unionisation rate	%	46.1	49.9	50.2	-3.8	-8

UNION AGREEMENTS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Union agreements signed during the year	no.	9	14	27	-5.0	-36

FLEXIBLE EMPLOYMENT CONTRACTS AND TERMS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Interns and apprentices working at Terna	no.	29	33	33	-4.0	-12
Incidence of part-time contracts	%	0.5	0.9	0.8	-0.3	-36
Incidence of overtime	%	9.6	8.8	8.1	0.8	9

> EU17

EMPLOYEES OF CONTRACTORS AND SUBSCONTRACTORS [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Days worked	no.	559,247	561,348	516,348	-2,101	-0.4
Full-time equivalents (FTEs)	no.	2,542	2,552	2,347	-10,0	-0.4

[1] *The figures take into account the duration of contracts and the variable nature of the related workforce, and relate to the different types of contract awarded by Terna, ranging from major works to those for the cutting back of vegetation located under power lines. The number of days worked and FTEs are estimated on the basis of the average daily attendances at the largest sites and the value of the works contracted out at smaller sites. Further information about the types of contract used by contractors is not available. The figures for 2017 and 2016 differ from the published in previous reports as the method of estimation has changed.*

Health and safety

< 403-2

OCCUPATION INJURIES SUFFERED BY EMPLOYEES - GRI-ILO DEFINITIONS (*)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Injury rate		1.28	0.81	1.00	0.5	59
Lost day rate (1)		34.40	27.62	31.28	6.8	25
Occupational disease rate (2)		0	0	0	-	-
Number of injuries	no.	40	24	28	16	67
- of which serious, where the initial prognosis is more than 40 days	no.	0	1	0	-1	-100
- of which fatal	no.	0	0	0	-	-

(*) ***Injury rate.*** *The number of injuries registered and reported to the competent social security office, divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To aid comparison with other sources, the injury rate is also calculated in accordance the UNI 7249:2007 Standard. This indicator has been calculated using a multiplication factor of 1,000,000 instead of 200,000 (thereby resulting in an injury rate 5 times the ILO injury rate). Based on this method of calculation, the injury rate is* ***6.4 in 2018, 4.0 in 2017 and 5.0 in 2016****.*

Lost day rate. *The ratio of days lost due to injury to the number of hours worked during the year, multiplied by 200,000. The days lost are calendar days and are counted from the day on which the injury occurs. To aid comparison with other sources, the lost day rate is also calculated in accordance the UNI 7249:2007 Standard. This indicator has been calculated using a multiplication factor of 1,000. Based on this method of calculation, the lost day rate is 0.17 in 2018,* ***0.14 in 2017 and 0.16 in 2016****.*

Occupational diseases rate. *The total number of cases of occupational disease divided by the number of hours worked during the year, multiplied by 200,000.*

(1) *Calculation of the lost day rate took into account days of absence due to injuries occurring in 2017 and any cases of absence due to injuries occurring in previous years, accounting for days of absence on an accruals basis.*

(2) *As in previous years, there were no cases of occupational disease among Terna's employees in 2018. Terna's operations do not entail the types of work, as defined by law, associated with the potential occurrence of occupational diseases. Terna's occupational disease rate therefore remains at zero.*

OCCUPATION INJURIES SUFFERED BY EMPLOYEES - BY GENDER

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Number of injuries	no.	40	24	28	16.0	67
- of whom men	no.	39	23	27	16.0	70
- of whom women	no.	1	1	1	0.0	
Injury rate - male employees		1.42	0.87	1.07	0.55	63
Injury rate - female employees		0.28	0.32	0.35	-0.04	-13
Lost day rate - male employees		38.87	26.05	31.15	12.82	49
Lost day rate - female employees		0.28	40.99	32.81	-40.71	-99

AUDITS AND INSPECTIONS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Periodic health inspections	no.	2,959	2,968	2,882	-9	
Medical examinations by appointed doctor	no.	233	255	248	-22	-9
Inspections and audits [1]	no.	72	66	72	6	9

[1] *Audits conducted by personnel responsible for Prevention and Protection and by managers responsible for Transmission Operations.*

HOURS OF OCCUPATIONAL HEALTH AND SAFETY TRAINING

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total	**hrs**	**44,105**	**43,658**	**48,692**	**447**	**1.0**
Senior managers	hrs	106	-	70	106	-
Middle managers	hrs	2,466	2,156	2,046	310	15
Office staff	hrs	16,331	14,737	15,251	1,594	11
Blue-collar workers	hrs	25,202	26,765	31,325	-1,563	- 6

OCCUPATION INJURIES SUFFERED BY EMPLOYEES OF CONTRACTORS AND SUBCONTRACTORS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Occupational injuries suffered by contractors' employees	no.	21	9	8	12	133
- of which serious	no.	2	1	0	1	100
- of which fatal	no.	1	0	0	1	-
Injury rate [1]		0.99	0.42	0.41	-	-

[1] *The number of injuries resulting in the loss of at least one day divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To aid comparison with other sources, this indicator has also been calculated using a multiplication factor of 1,000,000 instead of 200,000 (thereby resulting in an injury rate 5 times the ILO injury rate). Based on this method of calculation, the injury rate is* ***4.9 in 2018, 2.1 in 2017 and 2.0 in 2016****. The figures for 2017 and 2016 differ from those published in previous reports as the method of estimation has changed. In addition to the information provided in the table, for the sake of completeness it should be noted that, in 2017, a contractor's employee was taken ill. The resulting fatality, even though occurring during working hours, was due to natural rather than occupational safety causes.*

Equal opportunities

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EQUAL OPPORTUNITIES FOR MEN AND WOMEN

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Women out of total employees						
- women out of total	%	13.45	12.3	11.7	1.1	9
- women out of total, net of operating personnel	%	18.5	17.4	16.6	1.1	6
- women in senior management roles out of total senior managers	%	14.04	16.4	15.6	-2.4	-14
- women in senior and middle management roles out of total senior and middle managers	%	19.7	17.5	17.3	2.2	12
% growth in employment						
- annual change: women	%	19.68	6.2	3.6	13.5	220
- annual change: men	%	8.13	0.5	4.1	7.6	1.559
Leavers [1]						
- women leaving the Company	%	2.08	3.9	1.5	-1.9	-47
- men leaving the Company	%	2.47	6.1	1.5	-3.6	-60
Hires [1]						
- women joining the Company	%	21.76	10.1	5.1	11.7	116
- men joining the Company	%	10.6	6.6	5.6	4.0	61
Management positions						
- senior female managers out of total women	%	1.55	2.3	2.5	-0.8	-33
- senior male managers out of total men (excluding blue-collar workers)	%	2.15	2.5	2.7	-0.3	-14
Promotions [2]						
- promotions to middle management as % of previous category - women	%	5.85	0.0	0.7	5.9	-
- promotions to middle management as % of previous category - men	%	12.46	1.2	3.2	11.3	959
Pay gap between women and men [3]						
- senior managers	%	78.9	79.4	70.6	-	-
- middle managers	%	93.9	96.6	96.4	-2.73	-3
- office staff	%	97.7	97.3	97.7	0.41	-
% pay gap between women and men [4]						
- senior managers	%	74.3	72.1	67.3	2.21	3
- middle managers	%	95.0	99.0	98.3	-4.07	-4
- office staff	%	93.6	94.0	94	-0.47	-1

[1] *The percentage of leavers (hires) for women and men shows the ratio of employees by gender leaving (hired by) the Company during the period to the total number of employees by gender at 31 December of the previous year.*

[2] *The figure is based on the ratio of promotions to middle manager during the year to the number of personnel categorised as office staff in the previous year, calculated by category (men/women). Promotions of blue-collar workers to an administrative position or of middle managers to senior management are not taken into account as the numbers are immaterial on an annual basis.*

[3] *The figure is based on the annual basic pay of women in the different categories as a percentage of the annual basic pay of men in the same categories. The figure has not been calculated for blue-collar workers as there are no women in this category.*

[4] *The figure is based on the total annual pay of women in the different categories as a percentage of the total annual pay of men in the same categories. In addition to basic pay, total pay also includes productivity bonuses, various forms of incentive and the value of benefits received during the year.*

Environment

> 306-2

Waste

WASTE MANAGEMENT [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
WASTE PRODUCED	**tonnes**	**6,774.2**	**4,801.5**	**4,941.6**	**1,972.8**	**41**
WASTE RECOVERED	**%**	***86***	***87***	***93***	***-2***	***-2***
Non-hazardous special waste						
Machinery, equipment, pylons, conductors and cables						
- quantity produced	tonnes	2,073.0	1,818.6	2,526.8	254.4	14
- quantity sent for recovery	tonnes	2,136.0	1,764.9	2,509.6	371.2	21
Packaging						
- quantity produced	tonnes	365.2	356.4	317.7	8.7	3
- quantity sent for recovery	tonnes	365.4	354.3	321.2	11.2	3
Other						
- quantity produced	tonnes	847.9	375.8	254.6	472.1	126
- quantity sent for recovery	tonnes	357.6	236.9	190.0	120.7	51
TOTAL NON-HAZARDOUS SPECIAL WASTE						
- quantity produced	**tonnes**	**3,290.0**	**2,550.8**	**3,099.1**	**739.2**	**29**
- quantity sent for recovery	***tonnes***	***2,863.1***	***2,356.0***	***3,020.8***	***507.0***	***22***
Hazardous special waste						
Machinery, equipment, pylons, conductors and cables						
- quantity produced	tonnes	2,014.9	1,608.6	1,044.4	406.4	25
- quantity sent for recovery	tonnes	2,024.1	1,351.2	1,028.4	672.9	50
Oils						
- quantity produced	tonnes	1,347.0	534.4	558.3	812.6	152.1
- quantity sent for recovery	tonnes	803.0	396.3	474.5	406.6	103
Lead batteries						
- quantity produced	tonnes	37.2	36.8	28.6	0.4	1
- quantity sent for recovery	tonnes	36.5	36.8	28.6	-0.3	-0.8
Waste consisting of materials containing asbestos						
- quantity produced	tonnes	0.0	0.0	0.0	0.0	-
Other						
- quantity produced	tonnes	85.1	70.9	211.2	14.2	20
- quantity sent for recovery	tonnes	72.5	47.8	29.1	24.7	52
TOTAL HAZARDOUS SPECIAL WASTE						
- quantity produced	**tonnes**	**3,484.2**	**2,250.6**	**1,842.5**	**1,233.6**	**55**
- quantity sent for recovery	***tonnes***	***2,936.1***	***1,832.1***	***1,560.7***	***1,104.0***	***60***

[1] *Only special waste produced during production processes is included, not waste produced by services (urban waste). Effluents and waste from septic tanks, produced by substations not connected to the sewer network, are not included; the quantity for effluents and waste from septic tanks was 388 tonnes in 2018, 617 tonnes in 2017, 789 tonnes in 2016. Waste sent for disposal may differ from the mere disparity between waste generated and recovered due to temporary waste storage.*

Biodiversity

BIRD DETERRENTS ON THE NTG

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Lines involved	km	237.6	221.8 [1]	212	15.8	7
Total deterrents installed	**no.**	**15,503**	**14,728**	**14,472**	**775**	**5.3**

[1] *The figure for the length of lines concerned in 2017 was recalculated after additional evidence emerged after publication.*

OVERHEAD POWER LINES IN PROTECTED AREAS [1]

< 304-1

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Lines impacting on protected areas	km	6,138	6,024	5,512	114	2
Lines with an impact as a percentage of total lines operated by Terna	%	10	10	10	-	-

[1] *To calculate the percentage of lines impacting on protected areas, the Company has used "ATLARETE" data, which may contain differences compared with the data presented in the tables showing indicators of the number of lines.*

Quantities and emissions

TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS [1]

< 305-1

< 305-2

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Leakages of SF_6	CO_2 in tonnes	54,846.1	67,371.4	54,101.9	-12,525.3	-18.6
Leakages of refrigerant gases (R22. R407C. R410A)	CO_2 in tonnes	427.9	489.4	478.5	-61.5	-12.6
Petrol for motor vehicles	CO_2 in tonnes	36.8	39.9	37.7	-3.1	-7.8
Diesel for motor vehicles	CO_2 in tonnes	6,295.0	6,269.0	5,730.6	26.0	0.4
Jet fuel for helicopters	CO_2 in tonnes	605.6	582.2	499.5	23.4	4.0
Natural gas for heating	CO_2 in tonnes	316.0	419.9	458.8	-103.9	-24.7
Fuel oil for heating and generators	CO_2 in tonnes	471.8	621.3	684.6	-149.5	-24.1
TOTAL DIRECT EMISSIONS	**CO_2 in tonnes**	**62,999.2**	**75,792.9**	**61,991.7**	**-12,793.7**	**-16.9**
Indirect CO_2 emissions in tonnes						
Electricity	CO_2 in tonnes	64,050.5	72,489.3	74,715.5	-8,438.8	-11.6

[1] *The conversion of direct energy consumption and leakages of SF_6 (sulphur hexafluoride) and refrigerant gases into CO_2 equivalent emissions has been carried out using the parameters indicated in the IPCC Fifth Assessment Report (AR5) and the Greenhouse Gas Protocol (GHG) Initiative. The conversion of indirect electricity consumption is carried out taking into account the share of total Italian electricity production represented by thermoelectric production in 2018. Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.*

QUANTITIES AND EMISSIONS OF SF_6

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Quantity of SF_6	kg	619,167.2	610,939.6	588,113.3	8,227.6	1
- in operating equipment	kg	575,912.7	565,664.1	543,780.8	10,248.6	2
- in cylinders	kg	43,254.5	45,275.5	44,332.5	-2,021.0	-5
SF_6 leakage rate	%	0.38	0.47	0.39	-0.09	-20
SF_6 greenhouse gas emissions	kg	2,333.9	2,866.9	2,302.2	-533.0	-19

> 305-4

CARBON INTENSITY - TONNES OF EQUIVALENT CO_2 / REVENUE (€M)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Ratio of total emissions (direct and indirect) to revenue	CO_2 in tonnes / (€m)	57.8	66.0	65.0	-	-

> 305-6

REFRIGERANT GASES - QUANTITIES AND EMISSIONS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Quantity of R22	kg	39	59	73	-20	-34
Leakages of R22	kg	0	0	0	0	-
Quantity of R407C	kg	2,821.9	2,770.3	2,846.4	52	2
Leakages of R407C	kg	173	174	205	-1	-1
Quantity of R410A	kg	9,526.6	8,612.8	7,869.7	914	11
Leakages of R410A	kg	76	107	76	-31	-29
Quantity of other refrigerant gases	kg	1,354.6	1,715.1	1,687.7	-360	-21

> 305-3

INDIRECT CO_2 EMISSIONS FOR AIR TRAVEL BY EMPLOYEES [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total emissions	**CO_2 in tonnes**	**1,560**	**2,699**	**1,379**	**-1,139**	**-42**

[1] *The conversion factors indicated in the Greenhouse Gas Protocol Initiative were used to quantify the CO_2 resulting from air travel by employees. The reduction in 2018 is partly linked to implementation of the Group's policies encouraging use of the train for business trips.*

QUANTITIES AND EMISSIONS FOR MOTOR VEHICLES [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total motor vehicles	no.	1,436	1,344	1,323	92	6.85
Nitrogen oxide (NOx) emissions [2]	kg	7,594	7,631	8,260	-37	-0.49

[1] *The table shows the vehicles in Terna's fleet that, in the period in question, were refuelled on at least one occasion, based on claims for fuel expenses. Consumption data for fleet vehicles is shown in the following tables.*

[2] *The figure is calculated on the basis of the data provided by motor manufacturers and included in registration certificates, as well as on estimates of the mileage covered by the vehicles. The figure shown in the table for 2018 refers to **83.0% of the Company's operating vehicles** (85.3% in 2017 and 85.4% in 2016).*

Consumption

> 302-1

DIRECT AND INDIRECT ENERGY CONSUMPTION BY PRIMARY SOURCE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Petrol for motor vehicles [1]	tonnes	11.9	12.9	12.2	-1.0	-8
Diesel for motor vehicles [1]	tonnes	1,963.0	1,954.9	1,787.0	8.1	0.4
Jet fuel for helicopters	tonnes	190.0	183.8	157.7	6.2	3
Natural gas for heating	000's of m^3	144.5	187.3	204.6	-42.7	-23
Fuel oil for generators and heating	tonnes	147.1	193.7	213.5	-46.6	-24
Electricity	GWh	190.2	195.5	195.1	-5.3	-3

[1] *Only the consumption of operating vehicles is taken into account.*

DIRECT AND INDIRECT ENERGY CONSUMPTION BY PRIMARY SOURCE - GIGAJOULES

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Petrol for motor vehicles [1]	GJ	532	577	545	-45	-8
Diesel for motor vehicles [1]	GJ	85,057	84,705	77,431	352	0
Jet fuel for helicopters	GJ	8,470	8,194	7,031	277	3
Natural gas for heating	GJ	5,636	7,490	8,184	-1,854	-25
Fuel oil for generators and heating	GJ	6,375	8,394	9,250	-2,019	-24
TOTAL DIRECT CONSUMPTION	**GJ**	**106,070**	**109,359**	**102,440**	**-3,289**	**-3**
Electricity to substations and offices [2]	GJ	684,672	703,738	702,287	-19,065	-3

[1] *Only the consumption of operating vehicles is taken into account.*

[2] *Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.*

WATER CONSUMPTION

< 303-1

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Water withdrawn by source	m^3	179,722	171,074	162,272	8,647	5

PAPER CONSUMPTION

< 301-1

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Certified paper (100% recycled)	tonnes	61	50	60	10	21

CONCENTRATION OF PCBs

	Unit	2018	2017	2016	Change 18-17	% change 18-17
PCB > 500 ppm	tonnes	0	0	0	-	-
50 ppm < PCB < 500 ppm	tonnes	0.05	0.05	0.18	-	-

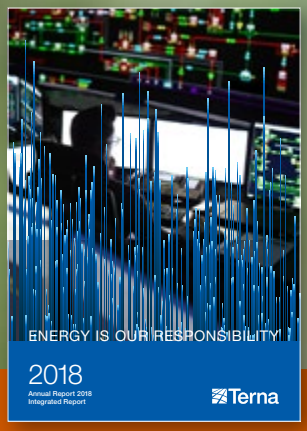
Environmental costs

ENVIRONMENTAL COSTS - CAPITAL INVESTIMENT AND OPERATING COSTS [1]

	Unit	2018	2017	2016	Change 18-17	% change 18-17
CAPITAL EXPENDITURE						
Environmental offsets	€m	7.1	7.9	14.7	-0.8	-10
Environmental impact studies	€m	3.5	4.2	2.4	-0.7	-17
Environmental activities - new plant	€m	3.9	4.8	4.3	-0.9	-19
Environmental activities - existing plant	€m	2.9	3.6	7.5	-0.7	-19
Demolitions	€m	2.2	0.8	0.9	1.4	175
Total capital expenditure	**€m**	**19.6**	**21.2**	**29.8**	**-1.6**	**-8**
COSTS						
Cost of environmental activities	€m	23.8	24.1	19.1	-0.3	-1
Total operating costs	**€m**	**23.8**	**24.1**	**19.1**	**-0.3**	**-1**

[1] *Details of the accounting method used are provided on page 190.*

Annual Report
Integrated Report

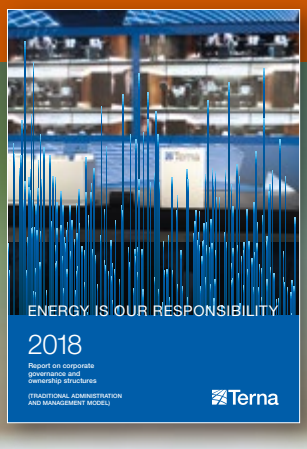


Sustainability Report
Non-Financial Statement

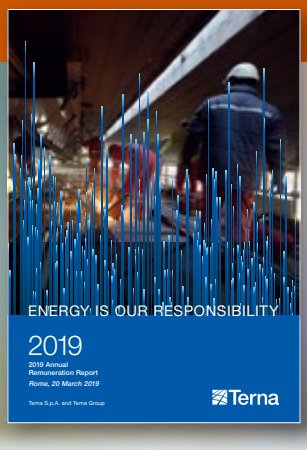
REPORTING PROCESS 2018

The purpose of the reports is to provide Terna's internal and external stakeholders with an understanding and overview of the Company and its businesses and operations.

They are the end result of a series of deliberate choices in terms of transparency, communication, accuracy, completeness and the linking of disclosures, and mark the culmination of a sequence of complex processes involving a large number of people from across the Company.



Report on Corporate Governance and Ownership Structures



Annual Remuneration Report


Production of first mock-up
Annual Report Integrated Report:
25 January 2019
Sustainability Report
Non-Financial Statement:
1 February 2019
Output for Directors pre-Board meeting
14 March 2019
Printed versions for Board of Directors
20 March 2019
Publication on Borsa Italiana's website
10 and 12 April 2019
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23 April 2019
Annual General Meeting
8 May 2019

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