“With our projects and a substantial injection of investment in network infrastructure we are laying the foundations to promote and support the energy transition underway with a fit-for-purpose electricity system: safe, efficient and that makes increasing use of renewables. Thanks to the unique skills of our people, constant dialogue with local communities and the adoption of innovative solutions, we contribute to the growth and development of sustainable projects for the benefit of Italy.”

€6.8bn

TOTAL CAPITAL EXPENDITURE - FIVE-YEAR PERIOD 2019-2023

EBITDA >4%

AVERAGE ANNUAL GROWTH DURING THE PLAN PERIOD

€1,989.6bn

REVENUE FROM REGULATED ACTIVITIES IN ITALY IN 2018

3

The Group's strategy and businesses

Strategic Plan 2019-2023

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: this is the mission set out in the new *Grids and Values* Strategic Plan for the period 2019-2023.

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 identified:

- **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 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[1]	> 4%	> 3%
EBITDA	> €400mln	~€350mln
Capex	> €300mn	~€300mn
EBITDA[2]	€150mn	~€150mn
Capex[3]	~€700mn	~€600mn
CAGR EBITDA	> 4%	> 3%
CAGR EPS	> 3%	~3%

Regulated Italy

Non-regulated

International

Digital transformation and innovation

Efficiency and value creation

1. Calendar RAB, including work in progress.
2. Includes financial income on Uruguay project.
3. Investment already included in Development Plan for Regulated Activities in Italy.

Outlook

As described above, the electricity industry is evolving rapidly as a result of the energy transition underway, which requires the achievement of challenging objectives relating 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.

Therefore, in 2019, the Group will be engaged in implementing the provisions of the 2019-2023 Strategic Plan. With specific reference to the total investment of €6.8 billion planned over the next five years, investment of approximately €1.2 billion is planned for 2019.

The principal electricity infrastructure under construction includes the interconnections with Montenegro and France, which are expected to come on stream in 2019 and 2020 respectively, as well as the start of work on the new SA.CO.I.3 project (strengthening of the link between Sardinia, Corsica and the Italian mainland). In addition, the main projects to increase the exchange capacity between the various areas of the Italian electricity market include the Colunga-Calenzano and Gissi-Foggia power lines, while rationalisation of electricity grids in metropolitan areas will concern the cities of Milan, Rome, Naples and Palermo, and primarily entail renewal of the current infrastructure with more technologically advanced connections in line with the best environmental sustainability standards.

In terms of our Non-regulated Activities, in line with previous years, the Group will focus on supporting the energy transition via innovative services. Specifically, Terna will consolidate its role as an Energy Solution Provider, developing services with high added value for businesses and grasping market opportunities for traditional and renewable customers, including in the telecommunications sector, where *connectivity* opportunities will be pursued based on extracting value from the Company's infrastructure and dark fibre.


Overseas, 2019 will see the Group focusing on completing projects in Brazil, and continuing projects in Uruguay and Peru.

To provide operational support for these initiatives, the Company plans to step up investment in innovation and digital solutions in order to manage the growing complexity of the system. Attention will also be paid to the development and insourcing of strategic competencies, to the strengthening of departments, and to the consolidation of project execution and project control capabilities.

The Plan should ensure sustainability and respect for ESGs, guaranteeing minimisation of environmental impact, involvement of local stakeholders and respect for the principles of integrity, responsibility and transparency on which Terna's business management has always been based.

The above objectives will be pursued whilst maintaining our commitment to maximising cash generation and ensuring a sound, balanced financial structure.

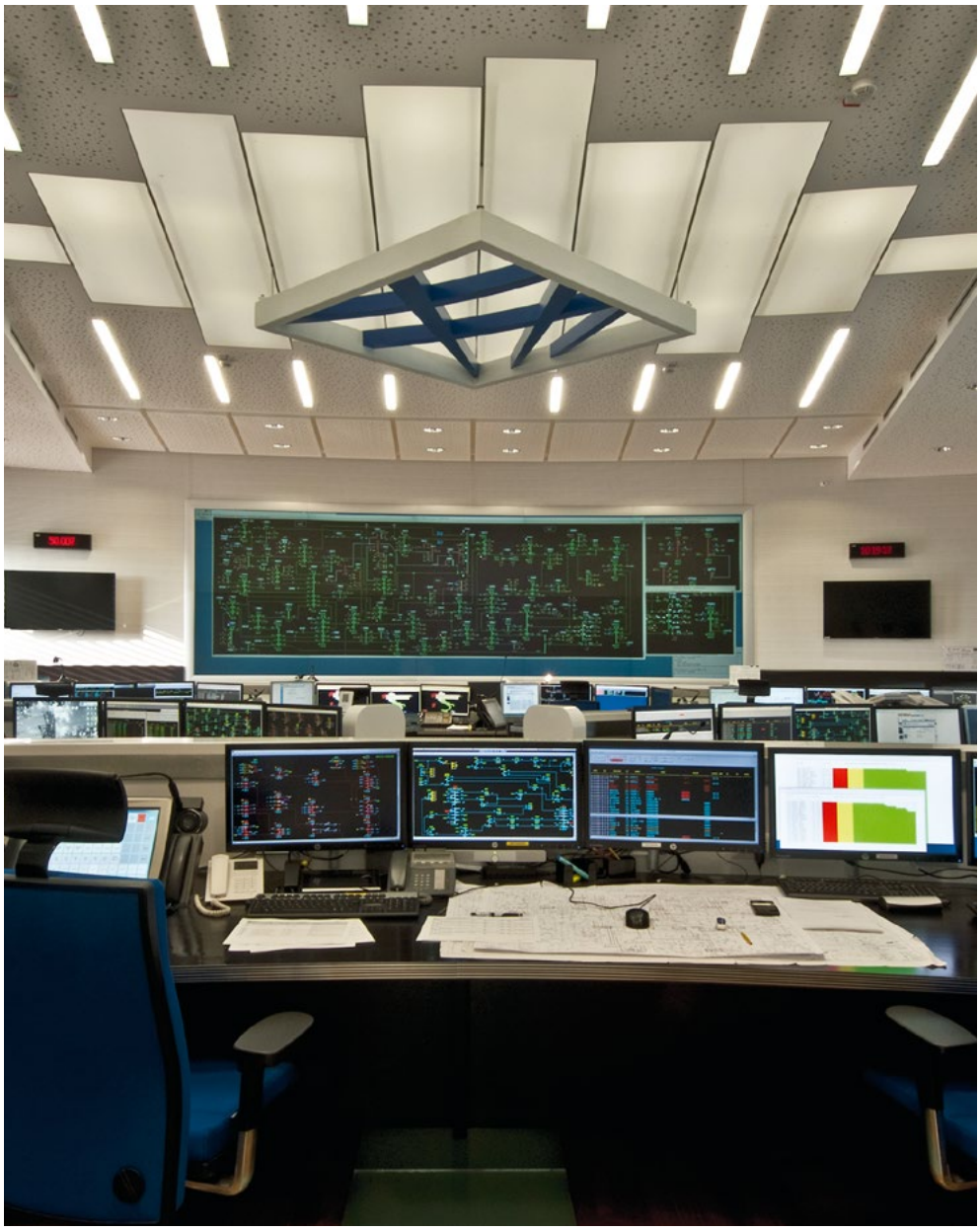
Regulated Activities in Italy

We are responsible for planning, development and maintenance of the grid, contributing our expertise, technology and innovation (as the Transmission Operator). We are responsible for the transmission and dispatching of electricity (as the System Operator), with the aim of ensuring access to electricity for everyone with the highest level of quality and at the lowest possible cost.

3.5%

The cost of the transmission service in electricity bills

(among the lowest with respect to the European average)



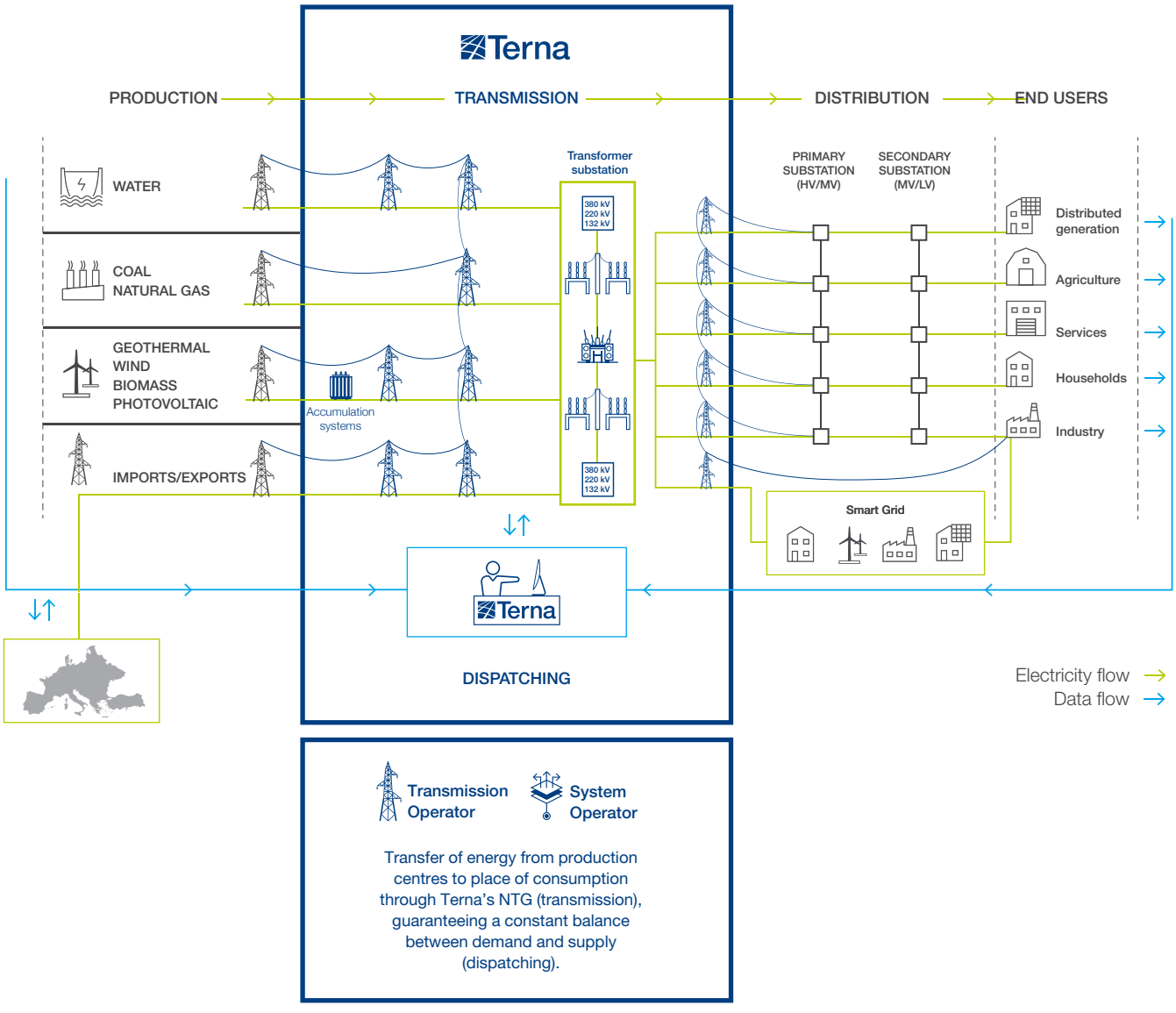
Terna's role in the Italian electricity supply chain

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

The Terna Group's main regulated activities are the transmission and dispatching of electricity in Italy.

Terna performs these activities in its role as the Italian TSO (Transmission System Operator) and ISO (Independent System Operator), under a monopoly arrangement and a government concession.

THE NATIONAL ELECTRICITY SYSTEM SUPPLY CHAIN







Electricity transmission

Planning for development of the National Transmission Grid, the performance of construction services and the maintenance of electricity infrastructure are the three areas of responsibility included in the regulated electricity transmission business.

The Group adopts a sustainable approach throughout every stage of the process. This takes the form of transparency in managing the Group's social capital through engagement with the stakeholders directly affected by the Group's development initiatives, with a view to building awareness of the importance of delivering the planned new electricity infrastructure.

Terna's infrastructure

881 ELECTRICITY SUBSTATIONS

74,442 KM OF CIRCUITS

67,671 KM OF LINES (95% overhead)

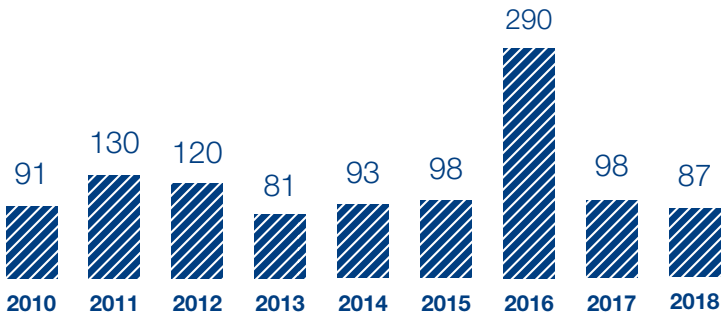
N° 4 CONTROL CENTRES

723 TRANSFORMERS

5 STORAGE SITES

6,310 BAYS

Risk management permeates each phase of the operational process for regulated transmission activities. Each risk identified by the Group's adopted ERM methodology is assigned a level of importance. For risks that are above the selected acceptance threshold (risk appetite), possible mitigation actions are identified and implementation times estimated.



1,089 km

OF POWER LINES REMOVED SINCE 2010

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 87 km, in line with previous years (approximately 100 km per year).

Integration within the environment

The main initiatives designed to mitigate Terna's environmental impact are described below.

- **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. The demolition of obsolete lines represents one of the most important positive contributions that Terna makes to improving the environment: 87 km of lines were demolished in 2018, bringing the total number of kilometres of line demolished since 2010 to 1,089. Demolition is defined as the physical removal of overhead lines (or their replacement with underground cable) and does not include declassified or upgraded lines.
- **Use of pylons with reduced visual impact:** Terna increasingly uses new single-pole pylons with a low environmental impact (occupying only 10 m^2 of ground, rather than the 150 m^2 occupied by the traditional pad/pyramid type pylons); 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.
- **Use of underground cables:** may eliminate or reduce the typical visual impact of overhead lines. Over 60% of the new power lines entering service during the timeframe of the new Plan will be "invisible", as they will be made of terrestrial or submarine cable.
- **Camouflaging electricity substations:** use of natural engineering techniques for habitat reconstruction and the stabilisation of slopes and embankments.

Electricity substations are significant from an environmental viewpoint partly as they are the principal source of the Group's direct greenhouse gas emissions. These consist of leakages of SF_6 (sulphur hexafluoride), a gas used as insulation in certain electrical equipment (circuit breakers, current transformers and armoured equipment). Leakages as a percentage of installed gas capacity in 2018 stood at 0.38%.

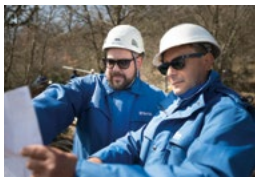
The Group's direct CO_2 equivalent emissions have thus fallen.

TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS - TONNES OF CO_2 EQUIVALENT[9]	2018	2017	2016
Direct emissions			
Total direct emissions	**62,999.2**	**75,792.9**	**61,991.7**
of which: Leakages of SF_6	54,846.1	67,371.4	54,101.9
Indirect emissions			
Electricity[10]	**64,050.5**	**72,489.3**	**74,715.5**

[9] The conversion of direct energy consumption and leakages of SF6 (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.

[10] 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.




CARBON INTENSITY - TONNES OF CO_2 EQUIVALENT / REVENUE (€M)	2018	2017	2016
Total emissions (direct and indirect)	127,049.7	148,282.2	136,707.1
Ratio of total emissions to revenue	57.8	66.0	65.9

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 87% 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.

OPERATIONS RISK MANAGEMENT

Terna has established a Risk Observatory with the objective of ensuring proper application of the Company's Corporate Governance policies and the management of information flows to the CRO, as well as monitoring environmental, social, political, authorisation and judicial issues that may impact on the Terna Group's plans for new projects and those currently in progress, while also promptly providing information to senior management. The Risk Observatory is a way of monitoring local issues in the areas in which projects are located, with the aim of taking preventive action or, where an event has occurred, identifying the most correct and appropriate response to mitigate the risk. The resulting actions are discussed by the **Local Communities and Consents Committee**, which meets at least once a month and comprises the heads of the first level departments involved in the entire life cycle of a project (from planning through to operation).

Environmental, social and political issues

The 2019 Development Plan

CAPITAL EXPENDITURE

- **To boost overall exchange capacity with other countries.**
- **To reduce congestion.**
- **To cut energy losses.**
- **To reduce CO_2** emissions as a result of the production mix and lower grid losses.

DRIVERS

DECARBONISATION

1. 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 over the long term, guaranteeing the system's security.

MARKET EFFICIENCY

2. 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. The adoption of new mechanisms at national level (in particular, the Capacity Market and the reform of the dispatching services market) will have a major impact on development of the electricity system.

SECURITY OF SUPPLY

3. The third driver for the Plan aims to ensure ensures the security of the national electricity system and, at the same time, creates an increasingly resilient system, capable of handling critical events external to the system itself.

SYSTEMIC SUSTAINABILITY

4. The fourth driver consists of the ability to conceive, design and implement following rigorous analysis capable of maximising the environmental and economic benefits.

PROJECT GUIDELINES

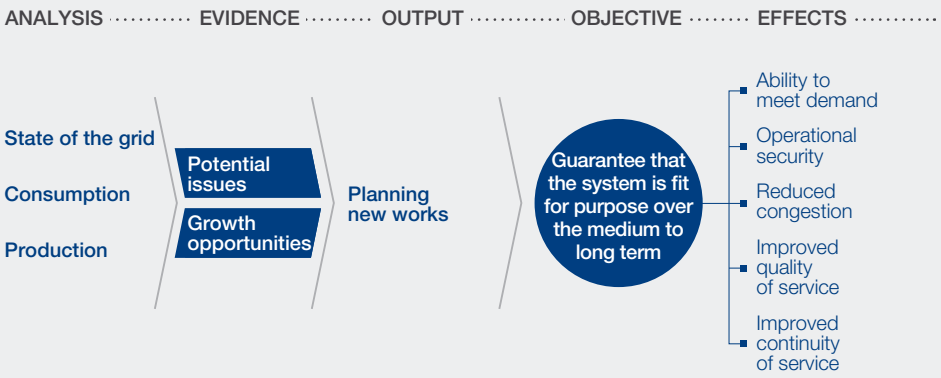
PAYING ATTENTION TO LOCAL NEEDS	GRID OPERATION	ENVIRONMENTAL SUSTAINABILITY
Focus on local development needs and support Italy's new challenges, such as the new electric mobility projects, paying attention to metropolitan areas and reviewing projects in order to make them environmentally-friendly.	Identify and develop initiatives aimed at improving grid operation, with a special focus on enhancing service quality of service and the resilience of the system.	Support and guide the energy transition by connecting and integrating new renewable energy plants.

With regard to decarbonisation, in line with Legislative Decree 93/11 and Resolution 627/16, as amended[11], Terna has included a specific section in the National Development Plan setting out the actions needed in order to make full use of the power produced by renewable plants. The network assessments conducted with a view to facilitating the use and development of renewable production have led to the identification of the work to be carried out on both the primary 380-220kV transmission grid and on the 150-132kV high-voltage grid.

[11] Resolution 627/2016/R/eel, as amended - Provisions for consultation on the ten-year National Transmission Grid Development Plan and approval of the minimum requirements for the Plan, in relation to the assessments for which the regulator is competent.

The national electricity grid planning process

Analysis of the state of the grid (electricity flows through the grid and electricity market trends), and the evolution and distribution of consumption and production, enables Terna to identify critical issues and development opportunities and, consequently, to plan the new works required to ensure that the system is adequate, including in the medium to long term with regard to meeting demand, operational safety, reducing congestion and improving service quality and continuity.



The new works to be carried out are included in the **National Transmission Grid Development Plan**, which is submitted annually to the Ministry of Economic Development for approval. The approval process also includes adoption by the Ministry of the Environment and Protection of Land and Sea (MATTM) in agreement with the Ministry of Cultural Heritage (MIBAC) of the opinion relating to the Strategic Environmental Assessment (SEA) pursuant to Legislative Decree 152/06.

The **NTG Development Plan** 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.

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 and the integration of production from renewable sources in keeping with the objectives identified in the recent **Proposal for an Integrated National Plan for Energy and Climate (PNIEC)**, provided for by Regulation 2016/0375 of the European Parliament and of the Council on the Governance of the Energy Union.

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, resulting from its implementation.

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

Principal projects for the National Transmission Grid

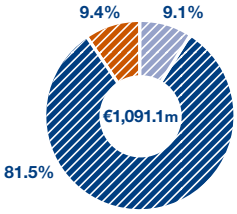
Investment in 2018 up

5.5%

versus 2017

Key to main projects included in the Development Plan

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



- Incentives for regulated assets*
- Other regulated assets
- Other non-regulated assets

GROUP CAPITAL EXPENDITURE

(€m)	2018	2017	Δ	Δ%
Development Plan	**471.7**	656.6	(184.9)	(28.2%)
Security Plan	**135.9**	65.3	70.6	108.1%
Projects to renovate electricity assets	**296.0**	205.7	90.3	43.9%
- of which electricity assets (before functional separations)	*227.6*	*158.4*	*69.2*	*43.7%*
- of which functional separations	*68.4*	47.3	21.1	*44.6%*
Other capital expenditure	**85.0**	35.6	49.4	138.8%
Total regulated assets	**988.6**	**963.2**	**25.4**	**2.6%**
Other non-regulated assets*	**102.5**	**70.7**	**31.8**	**45.0%**
TOTAL CAPITAL EXPENDITURE	**1,091.1**	**1,033.9**	**57.2**	**5.5%**

** Mapping of I-NPR1 and O-NPR1 baskets (Del. 579/17).*

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

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 of 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.*

Focus on the main works carried out and expected benefits

VENETIAN LAGOON CABLES

Status

Construction of the 132kV power lines between the "Sacca Serenella Primary Substation - Cavallino Primary Substation" and "Fusina 2 - Sacca Fisola" in cable, provided for in the Development Plan approved by the Ministry for Economic Development, have been completed.
This project **was needed to increase the security and reliability** of the grid that serves the Venice lagoon.

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 380/132kV 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 132kV lines.

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. 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
●		●		●			

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)..

→ **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
●		●		●			

QUARTU - QUARTUCCIU

Status

The **new 150kV power line linking the primary substations of Quarto and Quartuccio, in the Cagliari area**, entered service in 2018. The new cable link, which runs along the existing road network, is 5.9 km long and goes through the municipalities of Quartu, Maracalagonis and Quartucciu.

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 new grid development project took one year to complete, during which around 10 companies and 40 workers, many of them local, were involved.

→ **For local communities:** the project plan will enable the subsequent demolition of around 7.7 km of the old "Quartu-Quartucciu" overhead line and 26 pylons, which are located, among other things, in areas close to houses in the Pitz'e Serra neighbourhood, built after the construction of the power line, and in public green spaces such as the Parco Europa. The decommissioning will also be the final phase of grid rationalisation in the Cagliari area provided for in the Protocol with the Sardinia Region. The 150kV "Selargius - Molentargius" line and the power lines passing through the Molentargius - Saline environmental park had already been demolished in 2008 and 2009.

Targets

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





Infrastructure maintenance

APPROACH

Predictive maintenance of the electricity grid

Maintenance of electricity grid infrastructure is essential in order to guarantee quality of service, security of the assets managed and extension of their useful lives. These operations are carried out on the basis of a predictive and conditional approach. **The tools used to support maintenance activities are subject to continuous innovation**. In particular, the maintenance engineering "engine" is the expert decision support system (DSS) called **MBI (Monitoring and Business Intelligence)** whose engineering models are continuously updated. For scheduling and execution of operations **(WFM - Work Force Management)** software is used, and aerial inspection techniques for the electricity grid have now been consolidated. Terna has, for many years, participated in international benchmarking for the sector, with the aim of sharing best maintenance practices. It has consistently ranked as one of the best TSOs in terms of fault rates and the efficiency of its maintenance process.

2018 MAINTENANCE FIGURES

Infrastructure monitoring and control

28,100 checks on substations of various voltage levels; **visual inspections of 107,700 km of power line, of which 58,484 km using helicopters** (visual + infra-red) with an average total frequency of around 1.5 inspections a year for each transmission line; a further 46,432 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) since 2005. 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; 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.

Extraordinary maintenance

Renewal work (the replacement of components and entire systems) was carried out in 2018 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 165 HV bays were also replaced.

OPERATIONS RISK MANAGEMENT

Following an innovative approach to risk reduction policies, **Terna cooperates with institutional partners (national and international regulatory bodies and authorities) with which to share the risks resulting from its activities**. These include the Ministry of the Interior, the Italian tax police, the Fire Service, the National Association of Italian Municipalities, Prefectures and CNAIPIC (the National Centre for Combating Cyber Crime and for the Protection of Critical Infrastructure). In 2018, Terna and the **Civil Protection Department signed a Memorandum of Understanding** with a view to achieving maximum operating efficiency and effectiveness in relation to predicting, preventing and mitigating the related risks and managing and overcoming emergencies. In the agreement, attention is paid to the prevention and management of natural and man-made risks that may be detrimental to the continuity of the electricity service in Italy, and for which Company resources may need to be used. 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, and the creation of specific training programmes and exercises for staff engaged in managing emergencies.

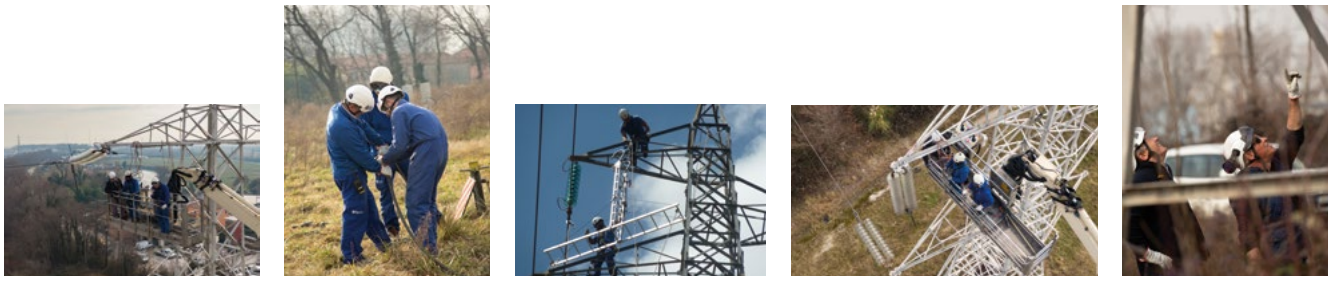
Relations with institutional partners

The physical security of substations is assured by using devices, systems and units operating 24 hours a day, seven days a week. **To safeguard the security of the Company's premises and plant, Terna has also developed a surveillance platform called the Integrated Physical Security System for Terna Substations**, which allows the dedicated surveillance centre - the Security Operations Centre or SOC - to continuously monitor (VideoBox) any intrusion alarms and video from 212 substations.
Terna has partnered with the Italy's **Carabinieri police force** to further strengthen its new communications and rapid intervention system, which enables the SOC to quickly alert the police in the event of attempts at forced entry to critical substations, all equipped with video surveillance equipment. The new system has been called "O.D.I.N.O." (Operational Device for Information, Networking and Observation) and is connected, via a secure link, to the centralised operating system used by Carabinieri operations rooms throughout Italy.
In 2018, a technical specification was signed with the State Police, which provided for linking up the video surveillance systems and the SOC to the Police local surveillance technological platform called Mercury NRG. This integration enables reports of geolocalised intrusion events (previously validated by the Terna SOC) to be rapidly and directly sent to the CEN (National Electronic Centre) of the State Police. The reports are then sorted at the Operations Centre of the competent local police headquarters, and passed on to the flying squad in the area.

Physical threats to plant

Terna uses a Supplier Qualification System, set up pursuant to the related EU directives (Legislative Decree 50 of 18 April 2016 "Public contracts code for the supply of works, services and goods"), for all the main core categories of goods, works and services that Terna intends to procure, established on the basis of strategic importance, degree of competitiveness and annual procurement volumes.

Supplier risk



Quality of service

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 monitors service continuity through various indicators defined by ARERA (Resolution 250/04) and in Terna's Grid Code.

These continuity indicators are significant for the system, as they monitor the frequency and impact of events that have occurred on the electricity grid as a result of faults or due to external factors, such as weather events. In all cases, the period of observation is four years, a period in which there have been no significant changes, testifying to the high quality of service achieved.

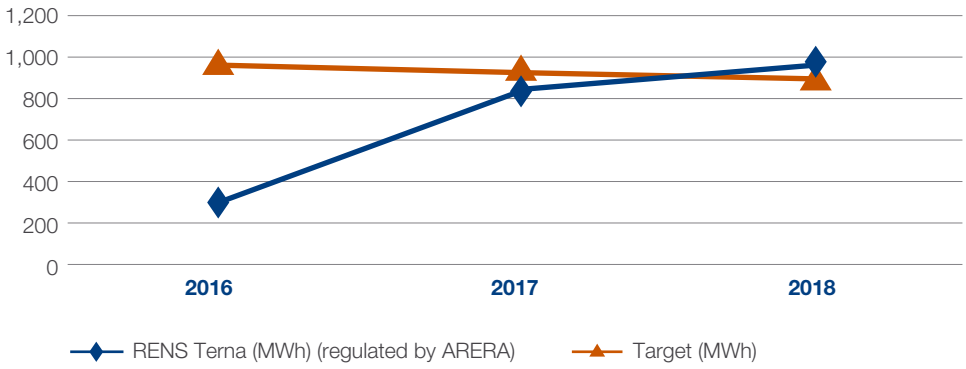
CONTINUITY INDICATORS USED

RENS*

What it measures
Energy not supplied following events affecting the relevant grid**

How it is calculated
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).

RENS[12] INDICATOR PERFORMANCE 2016-2018



[12] 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 targets for 2016-2023 have 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. Since 2016, Terna's bonus/penalty mechanism also includes the performance of the grid operated by Terna Rete Italia S.r.l., established in 2017. The 2018 and 2017 figures are provisional and the RENS indicated takes into account the major incident of 29 October, which affected northern Italy and led to the misalignment of numerous primary substations in the areas around Padua and Milan (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.

* *Regulated Energy Not Supplied.*

** *The "relevant grid" refers to all of the high-voltage and very high-voltage network.*

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. In particular, availability was 99.99981% in 2017, compared with 99.99974% in the previous year.

QUALITY OF SERVICE (€M)	2018	2017	Δ
RENS bonuses/(penalties)	7.4	7.4	0
Revenue	**7.4**	**7.4**	**0**
Mitigation and sharing mechanisms	7.5	10.6	(3.1)
Contributions to the Fund for Exceptional Events	2.0	2.4	(0.4)
Compensation mechanisms for HV users	0.4	0.6	(0.2)
Contingent assets	(4.8)	(3.1)	(1.7)
Costs	**5.1**	**10.5**	**(5.4)**
TOTAL	**2.3**	**(3.1)**	**5.4**

Existing regulations (set out in Resolution 653/2015/R/eel) envisage a series of mechanisms designed to regulate and encourage improvements in the quality of service provided by Terna. The overall economic effects of the bonus/penalty mechanisms related to quality of service for 2018, compared with 2017, are shown below.

CONTINUITY INDICATORS USED

ASA*

What it measures
Availability of the service provided by the NTG

How it is calculated
Based on the ratio of the sum of energy not supplied to users connected to the NTG (ENS) and energy fed into the grid.

** Average Service Availability.*

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.

Constant balance between energy demand and supply

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 transfers 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.
The following key events in relation to efficient management of the grid took place in 2018.

KEY EVENTS IN 2018

Review of market zones

On 1 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 atensuring 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 exchange 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.

Aggregate Virtual Mixed Units

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.

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.

STRATEGY & FINANCIAL RISK MANAGEMENT

The transition to a new model of distributed generation from renewable sources is rapidly changing the market, with the rise of the prosumer (producer and consumer) model, which is progressively replacing the traditional consumer. This has resulted in exponential growth of "active" resources connected to the grid.

The risk is linked to difficulties in maintaining observability of the grid in terms of injections and withdrawals of energy. This is having an impact on the ability to forecast residual demand (before self-consumption) and, as a result, on the correct management of generating resources that are able to provide flexible services.

Terna mitigates the risks associated with the management of renewable sources and the "real-time" observability of resources by **using advanced forecasting and planning tools, a supply of new flexibility resources, and innovative data management and analytics solutions.**

Dispatching

Electricity cost trends

Electricity prices

+14%

PUN 2018

The average hourly price on the Italian Power Exchange (IPEX[13]/SNP - Single National Price) for 2018 is €61 per MWh, up 14% compared with 2017. The increase reflects rises in demand for electricity (in the Day Ahead Market), and in commodity prices (CO_2 certificates).

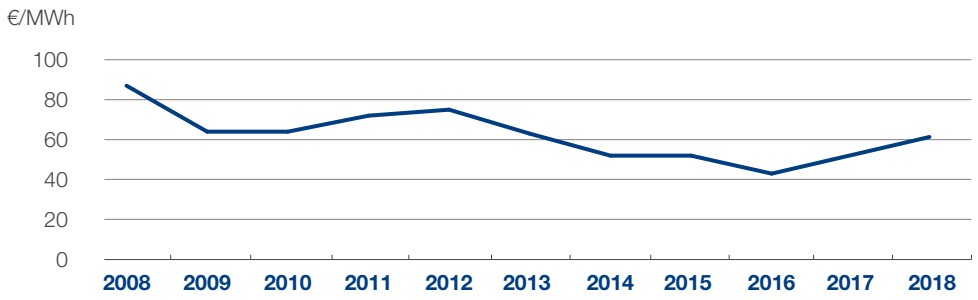
The Day Ahead Market, which sets the SNP, is based on supply and demand, although Italy must, by necessity, also take account of its particular geography, with the physical nature of the electricity grid, the widespread nature of its infrastructure and the location of consumption, and the resulting grid congestion. This means that there are a number of "bottlenecks" on the transmission grid, which have made it necessary to identify "market zones" and set transmission limits. Eliminating these bottlenecks is one of Terna's tasks, above all through development of the grid.

-30%

PUN 2008-2018

The following chart shows **the performance of the SNP from 2008 to 2018, revealing a substantial decline over the period (-30%).**

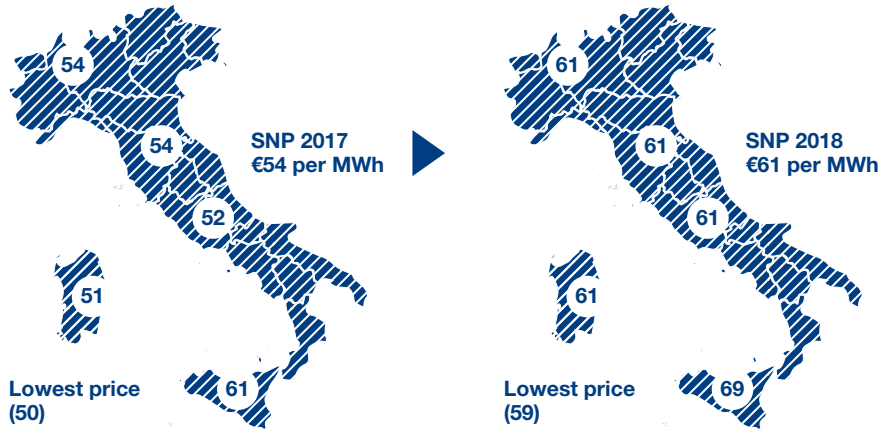
PERFORMANCE OF THE SINGLE NATIONAL PRICE (SNP) FROM 2008



Over the years, prices in the principal zones that make up the Italian electricity market and the Single National Price (SNP) have fallen into line.

[13] IPEX: the Italian Power Exchange.

PERFORMANCE OF ITALY'S SNP AND ZONAL PRICES



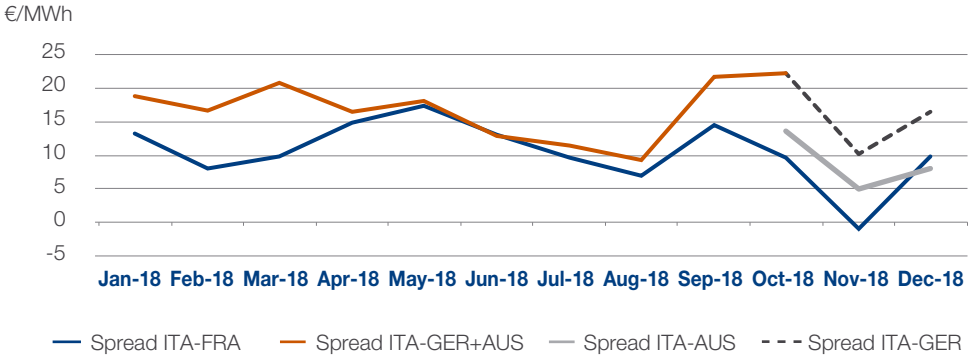
Trade with other countries

Trade with other countries in 2018 resulted in an increase in net imports, which are up 6 TWh on the previous year (up 17% on the previous year).
As usual, during the winter there was a reduction in the quantity of electricity imported, compared with the available transmission capacity in the Northern interconnection. This was primarily due to electrically powered heating systems in northern Europe, and new maintenance work on French nuclear plants.

+6TWh
net imports

Prices on the French (PNX) and Austrian/German (EEX/PHELIX) exchanges, rose in line with the increase in commodity prices (especially CO_2 certificates).

MONTHLY SPREAD FOR ENERGY PRICES COMPARED WITH FRANCE (PNX) AND GERMANY/AUSTRIA (EEX/PHELIX)

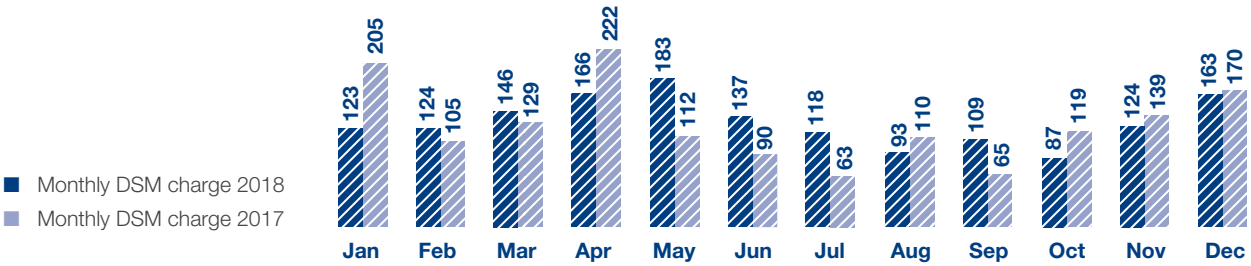


FROM OCTOBER 2018, THE GERMAN AND AUSTRIAN MARKETS WERE DECOUPLED

In particular:

- The Powernext (French price) registered a divergent trend in the cold months of the year during which, traditionally, energy demand in France rises sharply. The average annual price was €50/MWh (up €5/MWh or 12% compared with the previous year).
- Regarding the Phelix (German/Austrian price), it should be noted that, from October 2018, the German/Austrian electricity market has decoupled, and therefore this area no longer has a single price. Consequently, the reference price for trading with Austria is the Austrian one. The average annual price - calculated from January to September as the single price for the Germany/Austria area and from October as the Austrian price - was €46/MWh (up €12 per MWh or 35% compared with the previous year).

ANNUAL AND MONTHLY DSM COSTS (€M)



Net DSM charge slightly up in 2018

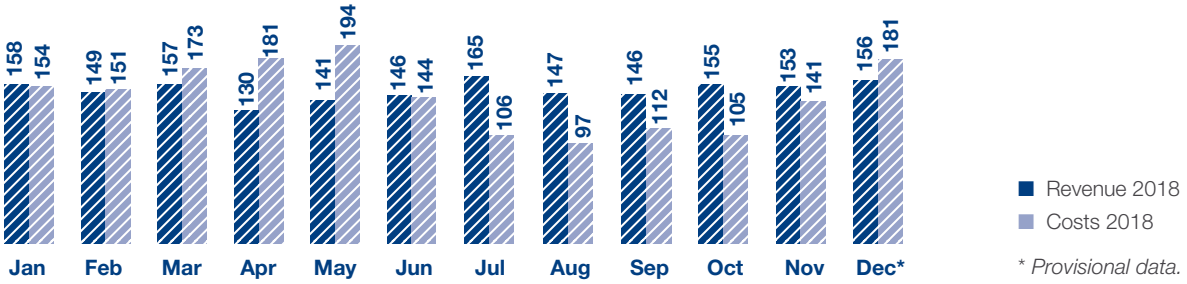
Dispatching Services Market

In 2018, the net charge for using the DSM was €1,573 million, slightly up on the same period of the previous year (€1,528 million). The increase is due above all to:

- an increase in the cost of selection, resulting from the need to meet technical constraints due to a reduction in the number of plants in service as a result of Electricity Market trends;
- a reduction in the cost of managing essential providers of reserve capacity in January compared with the same period in the previous year (in which an increase in selection was registered due to the cold snap in Europe) and in the last three months of the year.

Terna procures dispatching resources on the Dispatching Service Market (MSD) to ensure the security and adequacy of the electricity system.

2018 REVENUE AND UPLIFT COSTS (€M)



** Provisional data.*

Cost of procuring resources on the Dispatching Services Market (uplift)

In 2018, the total uplift was €1,741[14] million, down 14% on the same period of the previous year. This was primarily due to a sharp reductions in imbalance costs - in 2018, demand-side and supply-side imbalances generated revenue, compared with an overall cost in 2017 - linked to the impact of new regulations that came into force from September 2017.

-14%
the UPLIFT
in 2018

Uplift payments are the tool used by the system to recover the net costs deriving from energy-related items from the end user, including the supply of services and energy to cover system imbalances in the DSM, imbalance costs, congestion revenue and the related coverage (CCT, CCC, CCP and DCT[15]) and the cost of the virtual interconnection (the Interconnector).

ARERA Resolution 111/06 (TITLE 4) regulates charges for dispatching services and the connected guarantees. Dispatching charges include the cost of procuring resources on the Dispatching Services Market (known as the uplift), pursuant to article 44, as amended.

The charge is invoiced pro-rata to dispatching users based on energy withdrawn, to cover the expected accrued monthly cost and any prior differences.

[14] The uplift includes the virtual interconnection, amounting to approximately €292 million in 2018 (compared with approximately €256 million in 2017).

[15] These abbreviations, which refer to the Italian terms, have the following meanings:

CCT - Fees for Assignment of Rights of Use of Transmission Capacity

CCC - Contract Covering the Risk of Volatility of the Fee for Assignment of Rights of Use of Transmission Capacity (between zones)

CCP - Contract Covering the Risk of Volatility of the Fee for Assignment of Rights of Use of Transmission Capacity (between industrial centres)

DCT - Contract Covering the Fee for Assignment of Rights of Use of Transmission Capacity on Foreign Interconnections

Operating results of Regulated Activities in Italy

The following table shows a breakdown of the results from the Terna Group's Regulated Activities in 2018 and 2017[16].

(€m)

	2018	2017	Δ
Total regulated revenue in Italy	**1,989.6**	**1,967.2**	**22.4**
Tariff revenue	1,932.2	1,915.5	16.7
- Transmission revenue	*1,789.1*	*1,803.6*	*(14.5)*
- Dispatching, metering and other revenue	*143.1*	*111.9*	*31.2*
Other Regulated revenue	31.9	30.6	1.3
Revenue from construction services performed under concession in Italy	25.5	21.1	4.4
Total cost of Regulated Activities in Italy	**403.1**	**425.5**	**(22.4)**
Personnel expenses	203.4	217.8	(14.4)
External resources	155.5	154.7	0.8
Other	18.7	31.9	(13.2)
Cost of construction services performed under concession in Italy	25.5	21.1	4.4
EBITDA from Regulated Activities in Italy	**1,586.5**	**1,541.7**	**44.8**

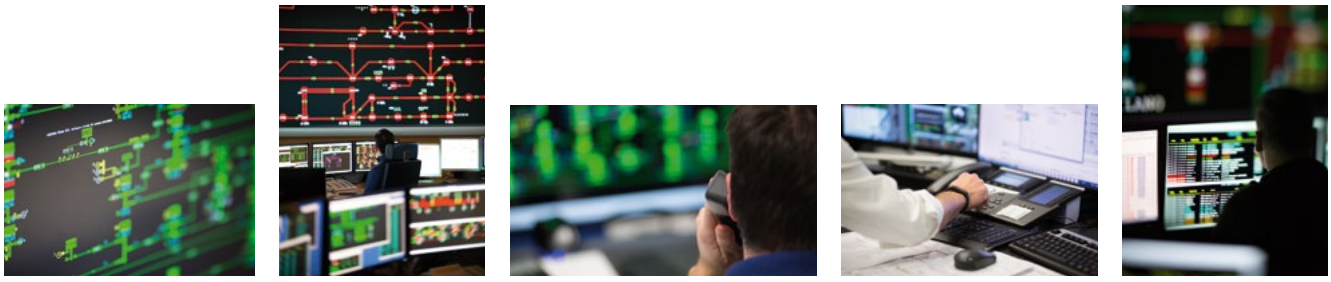
EBITDA from Regulated Activities in Italy amounts to €1,586.5 million, an increase of €44.8 million compared with the figure for the previous year. This primarily reflects an increase in tariff revenue relating to dispatching, a reduction in personnel costs resulting from the generational changeover in progress and other charges.

Regulated revenue in Italy is up €22.4 million, reflecting the following:

- an increase in **dispatching, metering and other revenue** (up €31.2 million), above all due to the recognition of certain expenses[17] not covered by the dispatching charge;
- a decrease in transmission revenue (down €14.5 million), following a revision of the related tariff to reflect completion, in 2017, of revenue from work in progress and a reduction in the volume of energy transported, offset by an increase in the portion of the NTG owned by Terna. The balance also includes the estimated impact of the revised contribution from international interconnections;
- an increase in **other revenue** (up €1.3 million): above all this reflects higher insurance proceeds (up €5.4 million) after taking into account lower connection service revenue (down €4.2 million).

[16] The Terna Group's operating segments are consistent with the internal control system adopted by the Parent Company, in line with the Strategic Plan for the period 2018-2022.

[17] The regulator, ARERA has decided to allow the recovery of expenses through the uplift mechanism provided for in art.44 of Resolution 111/2006. These expenses regard receivables that are no longer recoverable and relating to the period 2006-2015 (ref. Resolution 218/2018) and increased payments made to fund the regulator for the years 2013-2017.



The **cost of Regulated Activities in Italy** is down €22.4 million, primarily due to a reduction in **personnel expenses** (down €14.4 million), reflecting the higher amount of provisions made in 2017 for early retirement schemes, after taking into account the increase in the average workforce relating to the launch of new initiatives envisaged in the 2018-2022 Strategic Plan, which is mainly focused on investment in the Regulated sector.

Other expenses are down €13.2 million, mainly due to the lower cost of the quality of service (down €5.4 million) and to the favourable outcome of certain disputes that arose in the previous year.

€22.4m
the increase in revenue from Regulated Activities

Non-regulated Activities

Using our distinctive competences, we develop value added services as an Energy Solutions Provider for businesses. Our Non-regulated Activities in Italy are designed to support the energy transition, in keeping with our core business.

The main areas in which these activities are developed are:

- **CONNECTIVITY**
- **ENERGY SOLUTIONS**
- **PRIVATE INTERCONNECTORS PURSUANT TO LAW 99/2009**
- **TRANSFORMERS - TAMINI GROUP**

Extraordinary transactions

On 15 February 2018, the acquisition of 70% of **Avvenia The Energy Innovator S.r.l.** was completed, as part of the project to identify and implement new business opportunities for energy efficiency services and initiatives. **Avvenia**, a strategic consulting company classified as an Energy Service Company (Eco) 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.

As part of a project to reorganise the Terna Group's non-regulated business, **Terna Energy Solutions S.r.l. (T.E.S.)** was established via the partial demerger of Terna Plus S.r.l. (Terna Plus) which is wholly owned by Terna S.p.A.. The demerger, which was approved by the General Meeting of Terna Plus on 22 May 2018, was completed on 2 August 2018.
As a result of the demerger, T.E.S. was assigned the business unit that is organised and operated to carry out non-regulated business and energy solutions activities in various geographical areas in Italy, or in areas other than South America.


HAEFELY
HAEFELY

CONNECTIVITY

FIBRE

Project description >

The **project for Open Fiber** involves Terna's concession of an IRU (Indefeasible Right of Use) and the provision of ancillary services. The backbones connecting the 13 planned national POPs have been delivered, whilst the 41 regional rings that will connect the regional POPs (Clusters A and B) have been partially delivered.
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 Fastweb).

Benefit for the customer >

The customer will acquire new infrastructure, which performs better than standard underground cables in terms of both reliability (much lower no. of faults per km per year) and quality (low attenuation), with significant savings in terms of length compared with terrestrial connections (> 20% over long distances).

Benefit for the Group >

Extraction of value from Terna's fibre assets via the concession of IRU and the provision of ancillary services.

Project description >

Fibre IRU project for Fastweb: dark fibre infrastructure was designed and made available to Fastweb along 760 km of Terna's overhead lines.

Benefit for the customer >

Acquisition of newly built infrastructure which performs better than standard underground cables in terms of both reliability (much lower no. of faults per km per year) and quality (low attenuation), with significant savings in terms of length compared with terrestrial connections (> 20% over long distances).

Benefit for the Group >

Extraction of value from Terna's fibre assets via the concession of IRU and the provision of ancillary services, namely Housing and Maintenance.

Project description >

Fibre IRU project for RETELIT: dark fibre infrastructure was designed and made available to Retelit along 1,150 km of Terna's overhead lines.

Benefit for the customer >

The customer will acquire a new infrastructure, which performs better than standard underground cables in terms of both reliability (much lower no. of faults per km per year) and quality (low attenuation), with significant savings in terms of length compared with terrestrial connections (> 20% over long distances).

Benefit for the Group >

Extraction of value from Terna's fibre assets via the concession of IRU and the provision of ancillary services, namely Housing and Maintenance.

CONNECTIVITY - *continued*

SMART TOWERS

Smart Tower innovation project: The Smart Tower project aims to extract value from the NTG by expanding its use from an infrastructure exclusively designed for transmitting HV power to an Integrated Monitoring and Environmental Protection System.
The aim of the project is to offer value-added applications and services, exploiting the potential of the IoT (Internet of Things) in various areas of interest, with particular reference to: "environmental protection services", "NTG services" and "connectivity infrastructure".
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.

< Project description

Start-up scouting activities in progress, with potential customers in the involvement phase (including the public sector).

< Benefit for the customer

Extracting value from the NTG by expanding its uses, moving from being infrastructure aimed exclusively at the transmission of HV power to being an Integrated Monitoring and Environmental Protection System. Assessment of potential benefits for TO and SO requirements.

< Benefit for the Group

5G PYLONS

Extracting value from pylons by installing antennae in 2018. As part of its Non-regulated business, Terna is developing a commercial strategy aimed at extracting value from its assets, if available, for the provision of services to telecommunications operators. As Terna is not a telecommunications operator, the Company offers its services on the market in a neutral way, merely providing passive infrastructure (rental of space on pylons or in substations, dark fibre).
In particular, negotiations were concluded regarding the installation of antennae on Terna's pylons to cover remote areas (a contract with Open Fiber for FASTWEB 500 pylons in the three-year period 2019-2021). Negotiations with TIM and Fastweb regarding mobile radio solutions have also begun (trialling of 5G solutions). The related contracts are being finalised, in preparation for the conclusion of broader framework agreements.

< Project description

By relying on Terna infrastructure (NTG pylons) and taking advantage of its nationwide reach, Open Fiber is able to build Fixed Wireless Access coverage in the rural areas that come within Clusters C and D of the Infratel tenders.

< Benefit for the customer

Extraction of value from the NTG by defining framework agreements regarding the provision of hosting services to support mobile network operators.

< Benefit for the Group

ENERGY SOLUTIONS

ENERGY EFFICIENCY

Project description > Design and construction of a **heat recovery plant belonging to Laterlite**, a leading company in the production of light, premixed and insulating expanded clay for the construction industry, in collaboration with Avvenia at the Rubbiano di Solignano plant (Parma).

Benefit for the customer > 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.

Benefit for the Group > A replicable, highly innovative project model that has generated an increase in technical and technological knowledge, as well as a contribution to Group revenue of approximately €0.5 million per annum over five years.

Project description > Construction of a **cogeneration plant** for ITS-SISA Detergenti S.r.l., in collaboration with Compendia S.r.l..

Benefit for the customer > Taking advantage of Terna's Energy Solutions know-how to create value for customers in terms of energy and environmental benefits, with savings in consumption and better sustainability performance.

Benefit for the Group > Increasing the Group's presence in the energy efficiency sector.

Project description > Construction by Avvenia and Acciai Speciali Terni of a **heat generator for thermal recovery of fumes** from the walking beam furnace.

Benefit for the customer > Heat recovery to produce superheated steam and preheat demineralised water sent to plant utilities, via a heat recovery steam generator.

Benefit for the Group > Increasing the Group's presence in the energy efficiency sector.

Project description > Design and construction of a **trigeneration system fuelled by natural gas** with a total capacity of approximately 1,560 kWe at the plant belonging to Tratos HV (October 2018).

Benefit for the customer > Taking advantage of Terna's Energy Solutions know-how regarding the transformation of the electricity market towards the use of environmentally-friendly sources of energy.

Benefit for the Group > Increasing the Group's presence in the energy efficiency sector.

Project description > Activation of **an energy assessment drone** promoted and managed within the Innovation Plan.

Benefit for the customer > Carrying out complete assessments in a short space of time to identify complex energy efficiency interventions. The drone will also be able to inspect areas or portions of the plant that are difficult to reach or inspect (e.g. roofs for installation of refrigeration units and photovoltaic panels, piping, etc.).

Benefit for the Group > Saving time in carrying out energy audits, especially in the post-processing phase, by automating the process of reporting and identifying faults and possible related interventions. The opportunity to identify "hidden" interventions that are difficult to detect with normal inspection methods and consequently increase project pipelines. Finally, the possibility of using the diagnostic tool in synergy with other business areas (e.g. for photovoltaic systems and grid infrastructure).

PLANT MAINTENANCE FOR THIRD PARTIES

Renegotiation (in October 2018) of **plant maintenance contracts** with RTR.

< Project description

Taking advantage of Terna's positioning and know-how regarding O&M activities, ensuring that the services are provided by an authoritative and reliable stakeholder.

< Benefit for the customer

Confirmation of Terna's strong position among the leading O&M players regarding photovoltaic systems, thanks to the use of economic and technical drivers, important optimisation of outsourcing procedures, and the Company's substantial review of the model and contract specifications.

< Benefit for the Group

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.

< Project description

In addition to meeting contractual obligations, the system will enable optimisation of maintenance processes and performance.

< Benefit for the customer

Constant remote monitoring of the status of plants with diagnostics and synthetic KPIs. Possibility to carry out optimised planning of maintenance interventions and implement purpose-built algorithms for predictive maintenance of assets, including an advanced reporting system.

< Benefit for the Group

EPC- ENGINEERING, PROCUREMENT AND CONSTRUCTION

Design and construction for the customer, Macchiareddu, 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).

< Project description

Taking advantage of Terna's positioning and know-how for the construction of the HV/MV substation and the connection line to the future substation and the National Transmission Grid.

< Benefit for the customer

Development of advanced services for renewables.

< Benefit for the Group

Energisation of an HV/MV substation for connection to the National Transmission Grid of a 27 MW wind power plant for the customer, **AM Energie Rinnovabili**.

< Project description

Taking advantage of Terna's positioning and know-how regarding integration of renewables.

< Benefit for the customer

Development of advanced services for renewables.

< Benefit for the Group

Energisation of an HV/MV substation for connection to the National Transmission Grid of a 42 MW wind farm for the customer, **Eolica Cancellara S.r.l.**.

< Project description

Taking advantage of Terna's positioning and know-how regarding integration of renewables.

< Benefit for the customer

Development of advanced services for renewables.

< Benefit for the Group

ENERGY SOLUTIONS - *continued*

EPC- ENGINEERING, PROCUREMENT AND CONSTRUCTION (continued)

Project description >

Framework agreement with RFI (December 2018) regarding the "Design, supply, installation, certification and entry into service of metering devices".

Benefit for the customer >

Taking advantage of Terna's positioning and know-how regarding the installation of metering equipment in order to ensure that withdrawals by the FS Group's energy service system are accurately measured (timely certification of consumption) in accordance with current legislation.

Benefit for the Group >

Using the Group's distinctive expertise for the benefit of a strategic partner.

SMART ISLAND

Project description >

The **Giannutri Project Smart Island** built and tested during 2018 is the first real project in Italy that aims to bring about the energy transition from a diesel production system to completely renewable power generation.

The project received awards for "Sustainable Development 2018" and as "Good Practice of the Year 2018 - Environmental Protection".

After the signing of an agreement in 2016 with the **Municipality of Pantelleria** between S.Med.E. Pantelleria (the company that produces and distributes electricity on the island) and Terna Plus, in 2018 preliminary design activities continued regarding the development of renewable power generation on the island and the drawing up of "smart" initiatives to integrate it within the grid.

The activities specifically regarded a photovoltaic plant in an industrial area of approximately 4 MW, including its accumulation system, and an Energy Management System to manage the island's energy resources.

An innovative citizen engagement model was also defined regarding the development of widespread photovoltaic systems on buildings in Pantelleria town.

In accordance with the guidelines set out in the memorandum of understanding signed in 2015 by Terna Plus with the **Municipality of the Island of Giglio**, the Tuscan Archipelago National Park Authority and SIE, the concessionaire for the production and distribution of electricity on the island, all the necessary preparatory activities for the development of renewable power generation were carried out, in accordance with the Ministerial Decree of 14 February 2017, "Meeting the requirements of small islands not interconnected via renewable sources of energy".

Activities were then started to acquire available land for the construction of a 500 kWp plant and a related 2 MW / 1 MWh storage system in Allume. Work is also continuing on the development of an innovative photovoltaic plant at the island's landfill site, which is necessary to achieve the challenging objectives set by the Ministerial Decree of 14 February 2017.

Overall, these initiatives, as well as minimising the impact of traditional power generation on the local population, will enable the island of Giglio to reap all the benefits arising from a transition towards more sustainable forms of energy, while at the same time improving the quality of the electricity service.

Benefit for the customer >

Implementation of sustainable infrastructure projects with very low environmental impact in the interests of the energy transition of small, non-interconnected islands.

Benefit for the Group >

Increased know-how regarding the implementation and operation of hybrid off-grid systems, management of energy flows and development and testing of innovative grid services. Mitigation of technological risks relating to key technologies in the Energy Solutions sector with regard to future projects, and enabling them to have a better technical and economic fit.

In particular, the Giannutri project strengthens Terna's credibility in the field of Energy Solutions vis-à-vis its key stakeholders.

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 five 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).

5
cross-border interconnectors built by private investors

Italy-France Interconnector Project

The new "Italy-France" direct current interconnector increases cross-border interconnection capacity by 1200 MW from approximately 3 GW currently to more than 4 GW.
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 12.8 km of cable laid. In addition, as regards the Middle section, by December 2018, approximately 14 km of cable had been laid and around 21 km of civil works had been completed.
The production of transformers and the converter for the Piossasco Converter, as well as erection of the main buildings, have been completed.

Italy-Montenegro Interconnector Project

The project involves construction of a 500 kV 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. Entry into service of the first module of the interconnection will result in interconnection capacity of 600 MW by the end of 2019. Of the 600 MW associated with the first module, a portion will be available under exemption to private lenders.

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. 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.





PRIVATE INTERCONNECTORS PURSUANT TO LAW 99/2009 - *continued*

Italy-Austria Interconnector Project

The Italy-Austria interconnector (the Reschenpass project), which is currently awaiting the necessary consents, involves construction of a new 220-kV 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.
The project will increase cross-border interconnection capacity between Italy and Austria by around 300 MW, which will almost double the currently available capacity.

The related consents process on the Italian side is expected to be completed by the end of the first quarter of 2019.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.

Italy-Switzerland Interconnector Project

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.

Italy-Slovenia Interconnector Project

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.

TRANSFORMERS - TAMINI GROUP

Tamini 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 production.

With a hundred years of experience, Tamini has a well-established name in Italy and overseas, thanks to its technological and engineering capabilities, combined with the degree of customisation and production flexibility it can offer.

Tamini has six production plants in northern Italy - in Melegnano, Legnano, Ospitaletto, Valdagno, Novara and Rodengo - and two trading companies in the United States and India. 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.

+9%
ORDERS FOR TRANSFORMERS

THE TAMINI GROUP IN 2018

Order book

Tamini received orders for transformers worth approximately €120 million in 2018, a 9% increase on 2017 and in line with expectations.
Service orders amounted to approximately €11 million in 2018, in line with expectations.
Factory order books are up approximately 14% compared with the end of 2017.

2018 results

In 2018, the volume and value of new transformers designed, built and tested rose by around 21%, in line with expectations.
Thanks to the increase in volumes, the gross margin registered a positive figure, and grew strongly compared to 2017.

Vegetable oil transformer

Two 250 MVA transformers using vegetable oil built at the Legnano plant were installed during the year. Tamini also won a contract to produce a 400 MVA vegetable oil transformer.

Operating results of Non-regulated Activities

A breakdown of the Terna Group's results from its Non-regulated Activities for 2018 and 2017 is shown below[18].

(€m)

	2018	2017	Δ
Revenue from Non-regulated Activities	**194.9**	**189.1**	**5.8**
Tamini	103.4	92.6	10.8
Telecommunications	41.7	43.0	(1.3)
Energy Solutions	38.5	29.5	9.0
- EPC	*14.9*	*10.4*	*4.5*
- Energy efficiency	*7.2*	*0.1*	*7.1*
- O&M	*16.4*	*19.0*	*(2.6)*
Italy-France interconnector	9.0	16.0	(7.0)
Other	2.3	8.0	(5.7)
Cost of Non-regulated Activities	**134.4**	**126.7**	**7.7**
EBITDA from Non-regulated Activities	**60.5**	**62.4**	**(1.9)**

EBITDA from Non-regulated Activities amounts to €60.5 million in 2018, registering a slight decrease of €1.9 million, primarily due to accumulated revenue from the private Italy-France interconnector registered in 2017, offset by the higher contribution from the Tamini Group.

Revenue from Non-regulated Activities is up €5.8 million, primarily due to the following factors:

- an increase in revenue at the **Tamini Group** (up €10.8 million), primarily due to increased sales of transformers during the year;
- higher revenue in the **Energy Solutions** segment (up €9 million), mainly due to the contribution of energy efficiency activities (up €7.1 million due to the contribution from Avvenia), and new orders (up €4.5 million), offset by a reduction in O&M revenue (down €2.6 million), especially in the photovoltaic sector following the renegotiation of contracts with an operator;
- a reduction in revenue relating to the **private Italy-France interconnector** (down €7 million), due to the higher revenues recognised in 2017, and also to the recovery of the portion of the payment due in relation to the period prior to obtaining the exemption;
- the adjustment in 2017 of the exposure to contractual obligations following the sale of a **photovoltaic project** (down €6.2 million);

€5.8m
the increase in Non-regulated Activities

The cost of Non-regulated Activities is up €7.7 million, reflecting the above increase in contract work at the Tamini Group (amounting to €103.8 million in 2018, up €4.8 on the previous year), and the contribution of Avvenia (up €4.4 million, mainly due to costs associated with a new energy efficiency contract acquired in 2018), offset by the lower cost of external resources relating to the subsidiaries, Terna Plus S.r.l. and Terna Energy Solutions S.r.l., resulting from a reduction in contract work in progress (down €1.1 million).

[18] The Terna Group's operating segments are consistent with the internal control system adopted by the Parent Company, in line with the Strategic Plan for the period 2019-2023.

International Activities

International markets offer opportunities to leverage the expertise developed in Italy as a TSO, including in the integration of renewables and the development of power lines. We are aware that the radical transformation the world is experiencing is a shared responsibility.

Overseas investment focuses on countries with stable political and regulatory regimes and a need to develop their electricity infrastructure, with a view to diversification with respect to its Italian businesses. This is done partly in collaboration with other energy companies with a consolidated presence in foreign markets.

International markets offer opportunities in terms of the development of transmission plant, driven by growing demand for electricity and the opening up of markets to foreign operators.

Terna's strategic priorities with regard to its overseas operations include:

- **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, by leveraging the new restructuring;
- **Other geographical areas:** to develop advanced services in order to leverage Terna's technical expertise acquired in Italy. These initiatives are low risk and absorb a limited amount of capital.

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.

INITIATIVES IN PROGRESS IN SOUTH AMERICA

Chile

The project 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 500kV 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.
Over 50% of the works have been carried out, with completion expected by the end of 2019.
In October 2018, the status of *Projecto de Inversion* (Investment Project) was obtained, in order to qualify for the related tax benefits.

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.

Regarding the SMTE concession, construction of the lines and substations has been completed and energisation tests have been successfully carried out.

On 3 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.

77% of the line was built using single-pole cable-stayed pylons with a low environmental impact.

Regarding the SMTE concession, 99% of the works have been carried out, with completion expected during the first half of 2019. 75% of the line was built using single-pole cable-stayed pylons with a low environmental impact.

Final checks and the process of obtaining the necessary consents for the project to enter into commercial operation are in progress. The operation and maintenance contract has also been signed.

Peru

Work began in 2017 on construction of 132 km of new 138kV lines between Aguaytìa and Pucallpa
The structural engineering works begun at the end of 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.
Procurement of transmission line materials has also begun.
The project is expected to be completed by the end of 2020.

Operating results of International Activities

A breakdown of the Terna Group's results from International Activities for 2018 and 2017 is shown below[19].

It should be noted that "Revenue from International Activities" directly includes the margin earned on overseas concessions.

(€m)

	2018	2017	Δ
Revenue from International Activities	12.5	6.5	6.0
Cost of International Activities	8.9	6.7	2.2
EBITDA from International Activities	**3.6**	**(0.2)**	**3.8**

EBITDA from International Activities amounts to €3.6 million for 2018, up €3.8 on the previous year, primarily reflecting:

- the effects of activities carried out in **Brazil** (up €12.4 million), offset by the loss recognised on the contract regarding construction of the line in **Uruguay** (down €5.4 million)
- a €2.2 million increase in the **cost of International Activities**, due to higher charges relating to contract work in progress and overseas initiatives.

[19] The Terna Group's operating segments are consistent with the internal control system adopted by the Parent Company, in line with the Strategic Plan for the period 2019-2023.

Focus on Brazil

SANTA MARIA - SANTO ÂNGELO 230KV POWER LINE

160 km of line built
>500 km of cable laid

> 300 pylons mounted
> 300 foundations built

~1,800 tonnes of structure
2 rivers crossed

2 substations built/operated

~500 personnel employed on construction

- 80% of the line was built using single-pole cable-stayed pylons with a low environmental impact.
- Priority lines for the state of Rio Grande do Sul enable integration of energy generated by wind power plants located in southern Brazil into the grid.
- A specific social and productive responsibility and inclusion programme involving 20 indigenous rural households from the Guarani ethnic group has been promoted.

The 230kV line entered service on 3 October 2018, two months ahead of the date agreed with ANEEL.

BRAZIL: CUIABÀ - JAURÙ C2 500KV POWER LINE

355 km of line built
>3,000 km of cable laid

> 700 pylons mounted
> 700 foundations built

~6,000 tonnes of structure
2 rivers crossed

2 substations built/operated

~1,400 personnel employed on construction

- 75% of the line was built using single-pole cable-stayed pylons with a low environmental impact.
- Priority line for the transmission system of the state of Mato Grosso, which serves dispatching of the electricity produced by the large hydroelectric plants in the states of Acre and Rondônia.
- Implementation of the project with respect for the local area (birdlife - tuiuiù specimens identified, natural sites such as the Saranhão cave and the Milton archaeological site).

The 500kV line is expected to enter service during the first half of 2019.

Our people

People are Terna's most important asset, and one of the enabling factors in the Strategic Plan. Each of us brings skills and experience that can help to increase the value of the Company. Trust, passion and responsibility are our values.

No change may take place unless it is understood, promoted and put into practice by people. Our skills and experience help to increase the value of the Company along its growth and development path.

Terna's values system

TRUST

PASSION

RESPONSIBILITY

People at the heart of our business

Investment in training and development, to ensure personal and professional growth

Ongoing initiatives to create a safety and accident prevention culture

Listening to employees by using ways to gauge their opinions

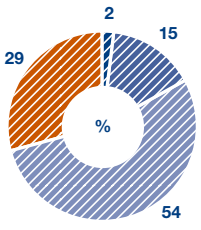
Internal communication aimed at creating a corporate culture in terms of both values and operations

A complex system of **industrial relations based on engagement with the trade unions**

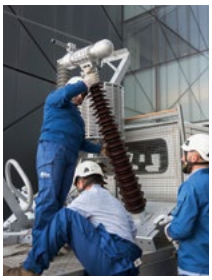
Creation of management and development systems designed to **improve performance and develop individual skills**

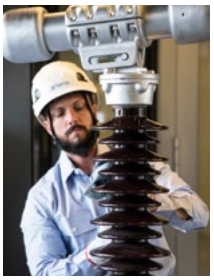
Remuneration and welfare policies that aim to align individual performance with business objectives and generate overall satisfaction and well-being for people.

% COMPOSITION OF THE WORKFORCE



WORKFORCE	AT 31 DECEMBER 2018	AT 31 DECEMBER 2017	CHANGE
Senior managers	67	71	(4)
Middle managers	638	569	69
Office staff	2,290	2,021	269
Blue-collar workers	1,257	1,236	21
TOTAL	4,252	3,897	355




The increase in the Terna Group's workforce at 31 December 2018 reflects 468 new hires and 113 people leaving the Group. In addition to the plan for generational turnover launched in 2017, the increase reflects the acquisition of Avvenia S.r.l. and the start-up of new initiatives in accordance with the Strategic Plan, primarily focused on the Investment Plan, development of non-regulated business in Italy and overseas and strengthening of the Group's distinctive expertise.

468
new recruits

At 31 December 2018, the number of agency workers employed by the Terna Group totalled 15 (54 in 2017).

The turnover rate[20] of 2.42% was down compared with 2017, as special attention was paid to strengthening distinctive expertise in 2018.

The incidence of voluntary resignations is very low (0.97%).

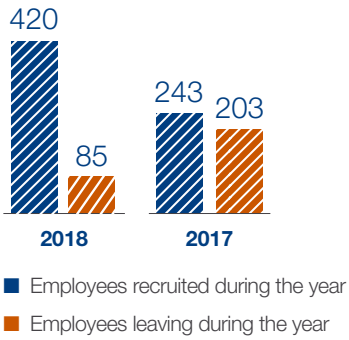
COMPOSITION OF THE WORKFORCE	2018	2017	Δ
Permanent employees	100%	100%	-
Average age (in years)	42	42	-
University and high-school graduates	94.3%	93.5%	+0.8%
Women as a % of the total	13.5%	12.3%	+1.2%
Women in senior and middle management roles out of total senior and middle managers	19.7%	17.5%	+2.2%

The average age of the workforce stood at 42, in line with 2017. University and high-school graduates make up 94.3% of the total workforce, up 0.8% compared with 2017.

In terms of gender, there has been a **significant increase in women employed (up 1.2%)**, although the majority of the Group's workforce consists of men (accounting for 86.5% in 2018). **The presence of women in the workforce has grown steadily over the years**, rising from 9% in 2005 to 13.5% in 2018. In addition, in 2018, 27% of new recruits, excluding operating personnel, were women, in line with the figures for 2017.

In terms of type of contract, all employees are on permanent contracts.

WORKFORCE TRENDS

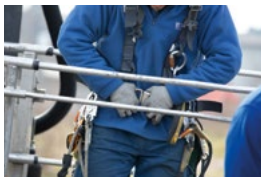


42
average age

100%
permanent contracts

[20] The following comments refer to employees of the Terna Group, excluding employees of the Tamini Group (355 HC), Avvenia (16 HC) and Terna Crna Gora d.o.o. (9 HC), as well as the other overseas companies (local staff in Brazil, Uruguay and Peru, respectively 17 HC, 7 HC and 5 HC).




TERNA'S APPROACH

Occupational safety

Safety and accident prevention to guarantee the physical integrity of employees are among the Company's main priorities, The figures for 2018 report no fatal workplace accidents among Group employees.

During September 2018, Terna finalised the analyses required to build a strengthened and more deep-rooted safety culture. This will result in **the launch of the "Zero Accidents" project**, a structured and integrated process which, via a series of wide-ranging initiatives, 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. Through the definition of improvement and prevention plans, including awareness raising and training initiatives, the two-year project aims to ensure that safety becomes nothing less than a way of life.

The objective is to obtain a significant reduction in accident indicators over the years, in order to achieve and then maintain the target of zero accidents.

In 2018, as in previous years, no fatal workplace accidents were registered among Group employees. A total number of 40 accidents was registered, none of which had an initial prognosis of more than 40 days of estimated recovery time, while 11 accidents had a subsequent ongoing prognosis of more than 40 days, which therefore had not been deemed serious[21] on initial prognosis. Six accidents were also registered with an initial prognosis of less than 3 days of estimated recovery time[22].

OCCUPATION INJURIES SUFFERED BY TERNA EMPLOYEES - GRI-ILO DEFINITIONS	2018	2017
Injury rate	1.28	0.81
Lost day rate	34.40	27.62
Absentee rate	6,937.4	6,239.9
Number of injuries	40	24
- of which serious (initial prognosis > 40 days)	-	1
- of which serious (subsequent ongoing prognosis > 40 days)	11	-
- of which fatal	-	-

The injury rate and the lost day rate are slightly up compared with the previous two-year period. For further details on this matter, reference should be made to the "Sustainability Report".

[21] Since 2018, the criterion for classifying an injury as serious has become more detailed. A serious injury is now defined as resulting in a total absence from work of 40 (forty) days or more, excluding the day of the event, as an initial prognosis or as a subsequent ongoing prognosis accompanied by medical certificates. Previously, only injuries with an initial prognosis of 40 (forty) days or more were registered as being serious, excluding the day of the event.

[22] 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. Absences of less than 3 days were only registered internally.

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 Campus is where all the different kinds of training are provided. Its mission is to transfer the specialist know-how of the most experienced staff (faculty) and of external contributors (universities and business schools).

Employees received 55 hours of training per capita. This is in line with the figure for the period 2016-17 (an average of 55.5 over the two years), influenced by the strong commitment to supporting generational turnover and the resulting recruitment of large numbers of technical personnel.

The figure is extremely positive when set against the average for the 40 companies listed in the FTSE-MIB, which in 2016 (the latest figure available) was 25.8 hours per capita.

55 hours
of training per capita
(compared with an average of 25.8 for FTSE-MIB companies)

Approximately **203,000 hours of training had been provided at 31 December 2018, primarily focused on professional and technical and operational skills** and ensuring compliance with HSE, GDPR and statutory 231 requirements, in addition to the integration of newly hired personnel, and the development of new professional skills and new technical roles such as multiskilled ones.

In addition to training initiatives aimed at managerial and personnel development, the Company implemented a training programme to develop and consolidate project management skills and PMP and SME certification for a selection of staff who operate in the international and engineering fields.

"Terna 4.0 Go Digital", a programme of initiatives, online tips and workshops aimed at strengthening digital aptitudes and an innovation-oriented mindset, was launched.

Development of human capital

In support of human resources development policies, **Terna uses the Professional System as a basic architecture to manage 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.

Further details of remuneration and incentive schemes are provided in Terna S.p.A.'s annual Remuneration Report, which is published on the Company's website (www.terna.it).

TERNA'S APPROACH *(continued)*

Recruitment and selection

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. The preferred channel for collecting candidates' applications is the "Work with us" section of the Company's website.

In April 2018, with the aim of spreading greater cultural awareness among the younger generation and trying out original recruitment and selection methods, Terna organised an innovative recruitment day at the Teatro Eliseo Theatre in Rome, which provided **a growth and learning opportunity to 100 engineering and economics graduates**. As an outcome of this recruitment day, Terna was able to identify a pool of valuable resources and to hire **18 new staff**.

2018 also saw an increase in the recruitment of specialist and middle manager profiles, needed to acquire new expertise and professional skills.

Terna also manages relations with schools, universities and job centres in order to support the process of recruiting new staff and to sustain a virtuous circle of sharing between the Company and the outside world. In this connection, during 2018, 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 of the *Trasmettere il Sapere* project**, 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.

Thirteen recruiting events **were also held at high schools** to present the Company and start the selection process with graduates. In 2018, Terna **entered into 17 sponsorships and partnerships with prestigious** universities (Stanford, Luiss, Polytechnic University of Milan, Polytechnic University of Turin, Rome's La Sapienza University, etc.) and accredited master's degree programmes, as well as signing more than 40 agreements. The Company also activated 29 apprenticeships and internships and took part in 17 career days.

In order to **attract, select and enhance** Terna's talented people, **two structured recruitment processes, called onboarding, have been designed**. The first is aimed at approximately 1,000 colleagues hired in the last 36 months (university and high school graduates), while the second is aimed at future new recruits.

Training for these colleagues began in November 2018 (the first 9 courses have been completed).

The onboarding course provides for job shadowing experiences, training for university and high school graduates in mixed classrooms, and counselling activities using the buddy system.

Company welfare

Following the signing of specific agreements with the labour unions in 2018, the **Terna Welfare initiative, which allows Group employees to allocate part of their performance bonus for the purchase of welfare goods and services and supplementary pension schemes, was launched**. The amount chosen is tax-free and increased by 12%, thanks to an additional supplement paid for by the Company. In defining the management service for the welfare plan, special attention was paid to the "Family" category. Indeed, employees allocated a significant portion of their bonuses to reimbursement of this type of expenditure, especially school expenses relating to tuition fees, study holidays, books and taxes.

In addition, in order to facilitate work-life balance, on 1 July 2018 a **smart working** trial was launched lasting throughout the second half of 2018, involving approximately 100 employees from organisational departments at offices in Rome. A specific labour union agreement - signed in June 2018 - regulated the initiative during the trial period. In view of the outcomes of the trial, smart working will be gradually extended in 2019, also involving employees based in other large cities.

The Group's new organisational structure

The Group's new organisational structure, in place from 1 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

With regard to the above purposes, the following two organisational units now report directly to the Chief Executive Officer:

- **"Strategy, Development and Dispatching"**, which includes system strategy, grid planning, dispatching, regulatory affairs and energy & research insights;
- **"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 and digital 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 revisited in view of the Group's growing role at international and European level in the development of energy strategies.

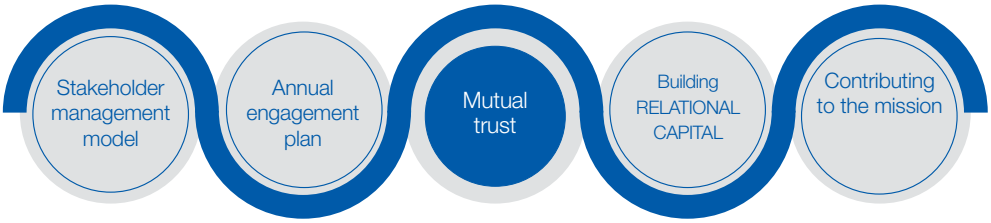
At a local level, moreover, the new Genoa Infrastructure Unit was opened on 9 April 2018. This innovative, environmentally sustainable building, which uses cutting-edge energy efficiency technology and has been built to the very highest environmental standards, is designed to meet the Company's requirements in terms of the quality of the working environment. The investment of around €2 million has involved:

- the modernisation and improvement of approximately 13,500 square metres of office space, services and other premises;
- construction of an 11-kW photovoltaic plant has also been built to power the building's internal and external LED lighting, thereby maximising energy savings;
- the installation of an underground retarding basin with capacity of 500 cubic metres, which releases rainwater at a constant, linear rate, limiting the risk of water courses overflowing, in accordance with the Municipality of Genoa's new Urban Plan.

Local stakeholders

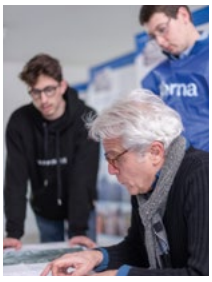
Engagement with local communities is a key part of our Grid Development Plan. This allows us to create the conditions in which together we can build an increasingly sustainable national grid.

A favourable social environment, coinciding with the availability of sufficient relational capital, is essential to Terna's ability to carry out the investments envisaged in the Grid Development Plan within the established time-scale and to exploit available opportunities for its Non-regulated business, in Italy and overseas.



To build and maintain good stakeholder relations, Terna has developed a number of tools and procedures within its "Stakeholder Engagement Model" designed to engage with and monitor public opinion, with the aim of avoiding the risk of failing to identify any problems in good time.

A specific engagement programme is conducted each year to identify the actions to be taken in order to bring the Group's relations into line with best practices and to ensure that stakeholders are listened to on a regular basis.



17
'Terna Incontra' meetings held in 2018 in 8 regions

SUSTAINABILITY INITIATIVES

Stakeholder

Terna has, since 2002, adopted a voluntary approach designed to foster the prior involvement of local government (regional and local authorities, park authorities, etc.). Since 2015, this has been extended to include people from the communities directly affected by Terna's plans through public meetings called "**Terna incontra**". These events focus on listening to local concerns, sharing design ideas and on dialogue, with the aim of ensuring a secure, efficient and sustainable grid.

Local communities: more engagement and consultation

17 such meetings were held during the year in eight Italian regions: at Avigliana (TO) in Piedmont; at a Vellezzo Bellini (PV) in Lombardy; at Auronzo di Cadore (BL) in Veneto; at Piombino (LI), San Vincenzo (LI) and Suvereto (LI) in Tuscany; at Codrongianos (SS) and Santa Teresa di Gallura (OT - 2 meetings) in Sardinia; at Bisaccia (AV), Lacedonia (AV), Naples and Sorrento (NA) in Campania; at Alberona (FG), Deliceto (FG) and Troia (FG) in Puglia; and at Cortale (CZ) in Calabria.

The main effects of these initiatives have resulted in:

- **the memorandum signed with Veneto Regional Authority** designed to bring development and innovation to the area at no cost to local people (the most important commitment regards the plan to rationalise the grid between Venice and Padua).
- the plan to modernise **the grid in Naples** and improve the level of security;
- the **"Green Corridors"** project, the first large-scale plan in Italy and Europe to reduce the risks linked to tall trees growing close to power lines.

Terna's commitment to the environment and biodiversity led, in 2009, to the conclusion of partnership agreements with critical stakeholders, such as leading environmental organisations, with the aim of arriving at shared solutions designed to boost the environmental sustainability of the National Transmission Grid (NTG). Growing concerns over the impact of climate change, and the accompanying focus on energy transition initiatives, has led to further cooperation between Terna and these organisations. In particular, in 2016, Terna renewed and expanded its partnerships with Legambiente, the WWF and Greenpeace.

Environmental organisations: strengthening partnerships

Approaches to climate change and the energy transition, within the context of this specific sector, have **widened calls from numerous institutional investors** for major companies to conduct an informed and full assessment of the business risks linked to ESG (environmental, social and governance) issues. Moreover, with the adoption, by European countries, of Directive 2014/95/EU on non-financial disclosures (in Italy with Legislative Decree 254/2016), large companies are now required to publish an annual non-financial statement. Of particular importance, in terms of transparency and reporting, are the recommendations from the Task Force on Climate-related Financial Disclosures (the so-called Bloomberg Task Force) regarding the publication of information on the implications of climate change for business strategies, in terms of risks and opportunities. This is considered of central importance, with regard to both the best possible allocation of investment and efforts to combat climate change. Terna has for some time now implemented these recommendations (an examination of the emerging risks has also been included this year in the section "Dispatching of electricity").

Investors: a growing request for transparency regarding environmental, social and governance aspects

Terna and innovation

Innovation and digital transformation are essential in an increasingly complex energy sector. Decisions regarding future development focus on the technology trends most relevant to our business.

The current **energy transition** process requires a new systemic and organic approach to innovation, based around a strategic 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 require the extensive digitalisation of processes and assets. It 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.

The steps taken in this regard include implementation of an **Open Innovation process** 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 development of the projects emerging from the R&D process.

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**: Industrial IoT, distributed 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**, each responsible for carrying out their assigned innovation projects.

The TO Innovation Factory includes projects relating to **Transmission Technologies** and is specifically linked to Asset Management, Engineering and Infrastructure Development processes, supporting technology scouting initiatives, the identification and implementation of technologies, innovative processes and solutions for use in operating the Transmission Grid, with the aim of making continuous improvements to it.

The SO Innovation Factory, on the other hand, covers two areas: the **Dispatching and Control Systems** process, which includes engineering, supervision, control, scheduling and monitoring of the national electricity system in order to ensure that the transmission service is fit for purpose and its security, cost-effectiveness, continuity, quality and efficiency in accordance with pre-determined, measurable standards; and **System Engineering**, which deals with the upgrade and management of the National Electricity System, the preparation of defence and restart plans, and activates the procedures involved in the start-up of plants for dispatching purposes. The latter is also responsible for the process of analysing and calculating the grid, for calibration and protection systems, for the assessment and statistical analysis of disruptions, functional requirements and systems innovation.

Specifically, R&D and Innovation activities regarding TO activities are guided by the Development Plan. In this regard, priorities are focused on HVDC issues, new cable laying technologies, the optimisation of overhead lines and asset management technologies.

The 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 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

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 in the Company is supported and promoted via multiple tools:

- **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 small and medium enterprises.
- **Access to incentive and soft financing mechanisms:** this promotes access to incentives (e.g. tax relief for companies investing in research and development activities, and patent box provisions) and specific funding programmes for both international and national R&D projects.

OPERATIONS RISK MANAGEMENT

Information and Cyber Risk

For some time, Terna has had an Information Security Governance Model, which enables it to identify the most significant cyber risks. It is based on policies and procedures, combined with a coordinated Information Risk Management ("IRM") operating programme, led and coordinated by the Group's CISO (Chief Information Security Officer. During 2018, the framework for the security measures used to mitigate this risk was updated to Revision 5 of the NIST 800.53 standard, this ensuring alignment with best international practices.
A pilot project involving Cyber Risk Quantitative Analysis was also completed. This was used to survey the market prices quoted by insurance brokers for Cyber Risk
Assurance policies for certain forms of cyber risk.
In addition, Terna's Computer Emergency Readiness Team (CERT) was sued to implement a structured process for identifying and rapidly containing security breaches, minimising any data loss and working to restore the affected services.

OPEN INNOVATION IN THE DEVELOPMENT PLAN

Sector	Description
Peers energy sector and infrastructures	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, SMEs and venture capital	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*

MAIN RESEARCH AND DEVELOPMENT INITIATIVES

Description	Projects and programmes
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.	NEXT ENERGY programme and the start-up ecosystem
Terna has entered into partnership with the start-up accelerator, Digital Magics, an incubation program founded in 2004 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.	Monitower Call
In connection with its research and innovation activities, in 2017, Terna 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.	Academy

Financial resources

Our management approach aims to maximise efficiency and achieve and maintain a solid financial structure, taking a highly prudent stance towards mitigation of the potential risks.

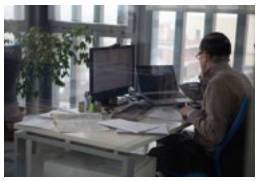
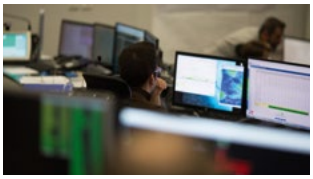
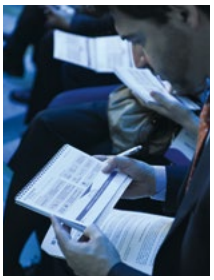
The key aspects of the resulting financial strategy are:

- **diversification** of the sources of financing, raising funds on both the capital markets and in the form of borrowings from major banks and supranational financial institutions;
- a **balance** between short and medium-term instruments, in keeping with the composition of assets;
- the **proactive management** of debt in order to take advantage of the opportunities offered by the capital markets;
- a commitment to maintaining **high credit ratings**, based on a strong financial position;
- **active management of the financial risks** to which the Company is exposed, as set out in more detail in the section, "Risk management".

Fully in line with Terna's strategy, which aims to combine investment and sustainability to drive growth and value creation, it is **Terna's ambition to play a leading role in the sustainable finance market**.

This strategy was implemented during 2018 through the €750 million *green bond issue* launched in July (the issue was subsequently increased to €1 billion in January 2019), and again confirmed with the signature, in September 2018, of a €900 million ***Revolving Credit Facility*** **linked to sustainability indicators** (increased to up to €1.15 billion in November 2018).

As further confirmation of our commitment to playing an active role in the development of sustainable finance, **on 15 January 2019, Terna joined the Corporate Forum for Sustainable Finance**, a network of 16 major European companies committed to developing sustainable finance as a way of combatting climate change and promoting a more sustainable and responsible society.


Fully in line with Terna's strategy, which aims to combine investment and sustainability to drive growth and value creation, it is Terna's ambition to play a leading role in the sustainable finance market. This strategy was implemented during 2018 **through the €750 million green bond issue launched in July**, with the proceeds to be used to finance or refinance "Eligible Green Projects". These are projects producing environmental benefits that meet certain criteria (the use of the issue proceeds, the process of selecting and assessing projects, management of the issue proceeds and reporting) listed in the "Green Bond Framework", published by Terna in compliance with the "Green Bond Principles 2018" drawn up by the ICMA (International Capital Market Association). Specifically, the net proceeds from the issues will be sued to finance:

- projects that aim to increase renewable energy production - for example, infrastructure enabling renewable energy plants to be connected to the national grid or that allow for a larger volume of renewable energy to be injected into the grid;
- projects designed to cut carbon emissions by reducing grid losses - for example, infrastructure designed to boost the efficiency of the electricity transmission gird;
- projects that aim to reduce soil use and protect biodiversity.

In September, moreover, the Company **signed its first revolving credit facility**, amounting to €900 million, that uses a mechanism based on a series of bonuses and penalties linked to the achievement of specific environmental, social and governance ("ESG") objectives. The facility was then increased to €1.15 billion in November.

In 2019, Terna has confirmed its commitment to the development of sustainable finance with the issue, in January, of a new **Green Bond** in the form of a private placement, reopening the earlier issue in July 2018.

In April 2019, moreover, was launched a **Green Bond** amounting to €500m, intended to institutional investors. In line with the previous green emissions, the net proceeds from the issuance will be used to finance the company's eligible green projects of the Company.

A few days later, the Company joined the "Forum on Sustainable Finance", together with other major European companies committed to developing sustainable finance as a way of combatting climate change and promoting a more sustainable and responsible society.

Focus on sustainable finance

The conditions obtained make Terna's bonds the highest yielding corporate issue in 2018 at national level

Debt is described in detail in the section, "Financial review".

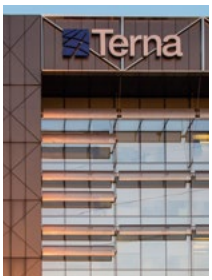
Market, liquidity and credit risk

STRATEGY AND FINANCIAL RISK MANAGEMENT

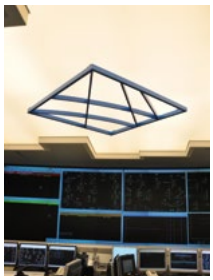
Terna adopts a dynamic approach to managing the various forms of financial risk, including market risk (interest rate, exchange rate and inflation risk), liquidity risk and credit risk. This approach includes constant monitoring of the financial markets, in order to carry out planned hedging operations under favourable market conditions, but also to take advantage of opportunities to improve existing hedges, when changes in market conditions or the hedged items make previous hedges unsuitable or excessively costly.
Further details are provided in the notes to the consolidated financial statements and to the Parent Company's separate financial statements.

Key events relating to finance during the year and in early 2019 are described below:

- On **3 April 2019** TERNA S.p.A. launched a green bond addressed to institutional investors. The issuance is made under Terna's Euro 8,000,000,000 Medium Term Notes Programme (EMTN), which has been rated "BBB+" by Standard & Poor's, "(P)Baa2" by Moody's and "BBB+" by Fitch for an aggregate amount of 500 million Euro. The green bond has been issued with a tenor of 7 years and a maturity date falling on 10 April 2026, will pay a coupon of 1.000%, with an issue price equal to 99.886%, a spread of 78 basis points over the midswap and an indicative spread of approximately 100 basis points lower than the Italian BTP having same maturity. The actual cost for Terna, in respect of such issuance, is therefore equal to 1.02% as opposed to the aggregate average cost of the consolidated debt equal to 1.6% over the new Strategic Plan period. The net proceeds from the issuance will be used to finance the company's eligible green projects of the Company.
- On **10 January 2019**, Terna launched a fixed-rate green bond issue in the form of a private placement, amounting to €250 million, reopening the bond issue of 23 July 2018. The bonds form part of the Company's €8 billion Euro Medium Term Notes programme. The securities, maturing on 23 July 2023, will pay a coupon of 1.000% and will be issued at a price equal to 99.787%, with a spread of 90 basis points with respect to the midswap rate and a yield of 1.05%, slightly below that of the July 2018 issue. The proceeds will be used to finance the Company's eligible green projects.
- On **16 November 2018**, Terna S.p.A. signed an agreement amending the ESG-linked back-up Revolving Credit Facility obtained on 24 September 2018 from a pool of banks made up of Banca IMI, Banco BPM, BNP Paribas and UniCredit as Joint Mandated Lead Arrangers, with the aim of increasing the total amount of the facility from €900 million to €1,150 million, following the inclusion of Mediobanca - Banca di Credito Finanziario in the transaction as a new lender. All the other terms and conditions in the agreement signed on 24 September 2018 continue to apply.








- Shortly after achieving the highest ranking among the world's electric utilities in the Dow Jones Sustainability Index 2018, on **24 September 2018**, Terna entered into a committed ESG-linked back-up Revolving Credit Facility, with a value of €900 million, with a pool of banks made up of Banca IMI, Banco BPM, BNP Paribas and UniCredit as Joint Mandated Lead Arrangers. BNP Paribas worked in partnership with Terna in the role of Sustainability Coordinator. At the same time, the Company cancelled a €750 million line of credit expiring on 11 December 2019. The new revolving credit facility introduces elements relating to sustainability through a series of bonuses and penalties linked to the achievement of specific environmental, social and governance ("ESG") objectives. The facility is for a period of 5 years and will be used to fund the Company's day-to-day operations. The interest rate is linked to EURIBOR plus an initial spread of 0.65% (variable between a minimum of 0.6% and a maximum of 1.45% depending on Terna's rating). The transaction means that Terna can count on adequate liquidity in respect of its current rating, and confirms the Group's strong commitment to introducing a model aimed at reinforcing the role of sustainability as a strategic lever in the creation of value for all its stakeholders.
- On **16 July 2018**, Terna successfully launched a fixed-rate green bond issue amounting to €750 million under its €8 billion Euro Medium Term Notes (EMTN) Programme. The bonds have a term to maturity of 5 years and pay coupon interest of 1%, with a yield of 1.08% (mid-swap + 80bps). The cost of the borrowing is below the overall average cost envisaged in the Strategic Plan, given that the transaction marked the reopening of the corporate bond market after a number of months of inactivity caused by rising yields. This is undoubtedly a positive development, not only for Terna but for the sector as a whole. The issue was six times oversubscribed, leading to the issue being increased from €500 million to €750 million when the bonds started trading.
- On **15 March 2018**, the Project Finance agreement worth US$81 million, signed on 14 July 2017 and to be used to fund construction of a 500-kV transmission line in Uruguay, was awarded the prize for "Latin America Transmission/Distribution deal of the year", organised by IJ Global's Project Finance and Infrastructure Journal (one of the leading infrastructure publications in the world, focusing on the energy market). The journal is owned by Euromoney, recognised as one of the world's most authoritative sources of financial market information.

RATINGS

	SHORT-TERM	MEDIUM/ LONG-TERM	OUTLOOK	LATEST REVIEW
Terna S.p.A.				
Standard & Poor's	A-2	BBB+	Negative	29 October 2018
Moody's	Prime-2	Baa2	Stable	23 October 2018
Fitch	F2	BBB+	Stable	9 November 2018
Italian state				
Standard & Poor's	A-2	BBB	Negative	26 October 2018
Moody's	Prime-3	Baa3	Stable	19 October 2018
Fitch	F2	BBB	Negative	22 February 2019