

In this “Annexes” section are exposed the **Green Bond Report 2018**, with the assurance report prepared by the independent auditor PricewaterhouseCoopers, and the **Key Indicator Tables**.





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Annexes

Green Bond Report 2018

On 16 July 2018, Terna successfully launched its first green bond issue, worth €750 million and having a 5-year term. The issue was carried out as part of the Company's €8 billion Medium Term Note (EMTN) programme.

The net proceeds from the issue are to be used to fund the Company's Eligible Green Projects, selected on the basis of the "Green Bond Principles 2018" published by the ICMA - International Capital Market Association.

In this regard, Terna has drawn up and published a "Green Bond Framework" in order to enhance the transparency and the quality of the green bonds issued. This Framework and the second party opinion provided by the independent advisor, Vigeo Eiris, are available to the public on the Company's website (www.terna.it). Vigeo Eiris has assessed the bond's contribution to sustainability, assigning it a "reasonable" level of assurance⁵¹.

Vigeo Eiris also expressed an opinion on the issuer's overall approach to managing ESG issues, judging Terna to be at an "advanced" level⁵². In addition, Vigeo Eiris considered the Eligible Green Projects to be in line with the UN SDGs:



Ensure universal access to affordable, reliable and modern energy services.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.



Take urgent action to combat climate change and its impacts.



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

⁵¹ Level of evaluation used by Vigeo Eiris - Level of Assurance: Reasonable, Moderate, Weak.

⁵² Level of evaluation used by Vigeo Eiris - Performance: Advanced, Robust, Moderate, Weak.

With this report, Terna is delivering on its commitment, made at the time of the bond issue, to report annually on its use of the proceeds and the environmental benefits resulting from the projects financed with those proceeds.

The indicators shown in the following tables have been determined in accordance with the “Green Bond Framework”, showing the relevant amounts, how the proceeds have been allocated and the main environmental benefits for each environmental category within which the projects must fall in order to qualify as “eligible”.

The various categories of environmental benefit indicated in the Green Bond Framework are shown below:

Description	Category of environmental benefit
<p>This category includes projects designed to boost renewable energy production:</p> <ul style="list-style-type: none"> • Connecting renewable energy plants (grid infrastructure designed to directly connect renewable energy plants to the transmission grid); • Integrating renewable energy production (grid infrastructure that enables a greater volume of renewable energy to be injected into the transmission grid, by, for example, relieving congestion in a certain part of the grid). 	Renewable energy
<p>Projects designed to reduce the CO₂ emissions produced by the electricity system by reducing grid losses:</p> <ul style="list-style-type: none"> • Grid infrastructure that enhances transmission efficiency (reducing the difference between power produced and energy consumed, all other conditions being equal). 	Energy efficiency
<p>Projects that aim to reduce soil use and the impact on terrestrial biodiversity:</p> <ul style="list-style-type: none"> • Improvements to the grid resulting from the replacement of existing overhead power lines with underground cable and/or the demolition of existing lines. These improvements reduce the permanent occupation of land by overhead lines and the need to cut back the surrounding vegetation. The greatest impact occurs when overhead lines cross areas of environmental interest, such as nature reserves, wetlands and other protected areas. These projects also eliminate the albeit low risk of birds colliding with power lines. 	Soil use & biodiversity

Allocation reporting

Information on how the proceeds from the bond issue of July 2018 have been used is provide below, showing aggregate amounts and data for each Eligible Green Project. The following information is also provided for the Bond as a whole: the percentage allocated to finance parts of projects still to be completed and to refinance projects (or parts thereof) already completed between 1 January 2014 and the date of issue of the Bond (% refinanced out of the total) and the balance of unallocated liquidity and/or liquidity still held by the issuer.

Information on how the proceeds from the bond issue of July 2018 have been used is provide below, showing aggregate amounts and data for each Eligible Green Project.

DESCRIPTION OF INDICATOR	AMOUNT
Total amount for basket of projects included in the Green Bond at 16 July 2018	753,077,159 €
- % of basket refinanced	90%
Net Green Bond proceeds	745,552,500 €
Green Bond proceeds allocated at 31 December 2018	690,007,106 €
Funds/equivalent funds held by the issuer at 31 December 2018	55,545,394 €

CATEGORY OF ELIGIBLE GREEN PROJECT	ELIGIBLE GREEN PROJECT	AMOUNT INCLUDED IN GB (€)	PROCEEDS ALLOCATED AT 31 DECEMBER 2018 (€)
Renewable energy	150kV MACCHIALUPO SUBSTATION	14,508,653	14,592,467
Renewable energy	150kV TURSI SUBSTATION	5,641,361	5,802,983
Renewable energy	380/150kV GENZANO SUBSTATION	21,196,986	14,845,597
Renewable energy	150kV MAIN POWER LINE BENEVENTO II VOLTURARA CELLE SAN VITO	55,619,662	54,644,662
Renewable energy	150kV MAIN POWER LINE BENEVENTO II -MONTECORVINO	52,232,710	51,112,710
Renewable energy	ASCOLI SATTRIANO SUBSTATION	7,609,473	7,609,473
Renewable energy	RATIONALISATION 220/132 kV IN VALLE SABBIA	31,253,396	0
Renewable energy	UPGRADE OF POWER LINE CAPACITY IN NORTH WEST	60,926,784	50,420,056
TOTAL Renewable energy		248,989,025	199,027,948
Energy efficiency	RATIONALISATION IN CITY OF MILAN	7,831,115	8,183,491
Energy efficiency	380kV FOGGIA - VILLANOVA POWER LINE	13,591,442	14,570,493
Energy efficiency	REORGANISATION IN ROME METROPOLITAN AREA	48,682,974	40,161,722
Energy efficiency	REORGANISATION OF 220kV GRID IN CITY OF NAPLES	10,731,274	10,731,274
Energy efficiency	REORGANISATION OF PALERMO METROPOLITAN AREA	4,989,791	4,992,583
Energy efficiency	NEW 220kV ELECTRICITY SUBSTATION AT MUSOCCO	49,745,876	49,756,818
Energy efficiency	WORK ON RENEWABLE ENERGY COLLECTION IN FOGGIA-BARLETTA AREA	17,431,610	17,471,040
TOTALE Energy efficiency		153,004,082	145,867,420
Soil use & biodiversity	380kV SORGENTE - RIZZICONI POWER LINE	256,662,235	256,279,025
Soil use & biodiversity	380kV TRINO - LACCHIARELLA POWER LINE	75,758,734	75,856,428
Soil use & biodiversity	132kV STAZZONA-VERDERIO POWER LINE	18,663,082	12,976,284
TOTAL Soil use & biodiversity		351,084,051	345,111,737
GRAND TOTAL		753,077,159	690,007,106

Impact reporting

This section details the impact and the benefits aggregated for each category of Eligible Green Bond. The percentages indicate the proportion of the benefits that can be associated with the stage of completion of the projects (works that have entered service) at 31 December 2018.

CATEGORY OF ELIGIBLE GREEN PROJECT	OUTPUT & IMPACT INDICATORS									
	A		B		C		D		E	
	CONNECTIONS TO RENEWABLE ENERGY PLANTS (MW)	% AT 31 DECEMBER	INCREASED PRODUCTION FROM RENEWABLE SOURCES (MWH)	% AT 31 DECEMBER	REDUCTION IN GRID LOSSES (MWH)	% AT 31 DECEMBER	LAYING OF UNDERGROUND CABLES (KM)	% AT 31 DECEMBER	DEMOLITION OF LINES (KM)	% AT 31 DECEMBER
Renewable energy	1,802	100%	3,943,340	97%						
Energy efficiency					611,434	38%				
Soil use & biodiversity							59	100%	198	100%

For a better understanding of the data relating environmental impacts, the following should be taken into account:

- the impact of the projects in columns A, B and C in the above table that involve “Connections to renewable energy plants”, “Increased production from renewable sources” and a “Reduction in grid losses” are measured in MW and MWh. The benefit resulting from completion of these projects may also be measured in terms of greenhouse gas emission savings, amounting to over 2 million tonnes of CO₂ a year; the above data does not derive from ex-post measurement of the impact of the projects carried out, but – with the exception of connections to renewable energy plants – are the result of grid simulations, conducted using models that permit a comparison of the ex-ante operation of the electricity system and the related environmental impacts with and without the individual projects. The results of the grid simulations are then used in the cost-benefit analysis applied to the main projects included in the Grid Development Plan. Given that there may be several years between the planning of a project and the start-up of work, the cost-benefit analysis (CBA) for a project may be repeated to take into account new scenarios and the environmental impacts may change over time. If there are significant changes to the environmental benefits connected with the projects financed by the Green Bond, these will be noted in future Green Bond Reports;
- the environmental benefits underpinning the selection of eligible projects are calculated at the level of each project, which, however, generally consists of a series of works that may require many years to complete. The proceeds from the Green Bond may be used to finance or refinance a part of the previously planned works that have a part to play in completion of the project as a whole and, in this sense, in obtaining the environmental benefits. Considering, in relation to projects financed by the Green Bond, all the expenses – both those incurred at the time of the issue and those that are expected to be incurred in future years - the Green Bond finances over a quarter of the total expenditure. Focusing, instead, on works entering service over the life of the Green Bond (from 2014 to when all the proceeds have been allocated), the portion financed exceeds 40%.

None of the selected projects is the subject of significant proceedings (administrative or final court judgements) resulting in Terna being ordered to pay fines or to act or not act (e.g. prohibitions), or in its employees being found guilty of a criminal offence (full compliance in environmental and socio-economic matters). The selected projects were not involved in environmental disputes in 2018 with a negative outcome for Terna. There are currently no major disputes relating to the selected projects.

Examples of Eligible Green Projects

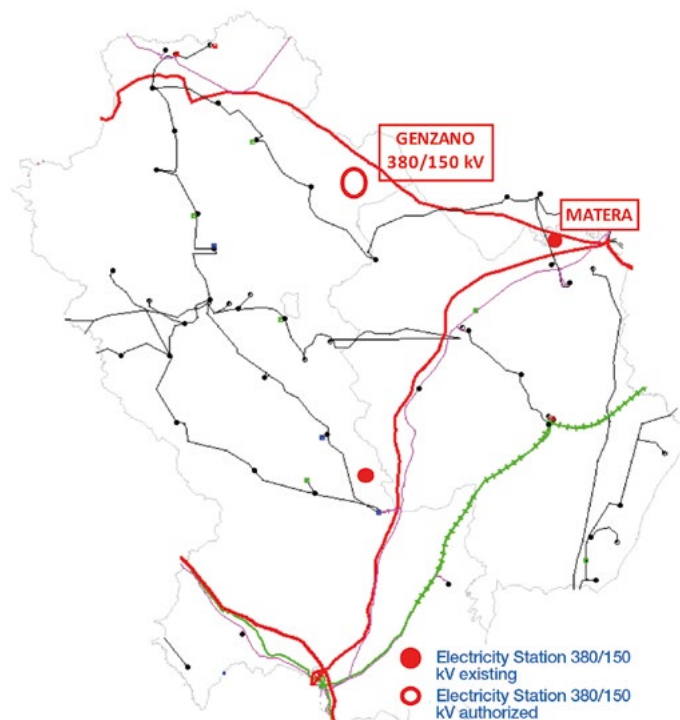
The following pages show key technical and financial data and details of the environmental benefits for three representative projects in the three categories of benefit taken into account.

Category: Renewable energy- New Genzano electricity substation

The new 380 kV Genzano substation has been built to connect renewable energy plants in the Basilicata region to the HV Matera-Santa Sofia line.

Applications for the connection of renewable energy plants to the NTG (the National Transmission Grid) have been received from 24 plants, making a total of 1GW. The expected increase in renewable energy integrated into the NTG is **2,290,000 MWh per year**.

DESCRIPTION OF INDICATOR	AMOUNT
Total value of the project included in the Bond at 16 July 2018 (planned amount)	21,196,986 €
Proceeds from the green bond allocated to the project at 31 December 2018 (final amount)	14,845,597 €
Connections of renewable energy plants	1,073 MW
Increase in renewable energy production	2,288,500 MWh



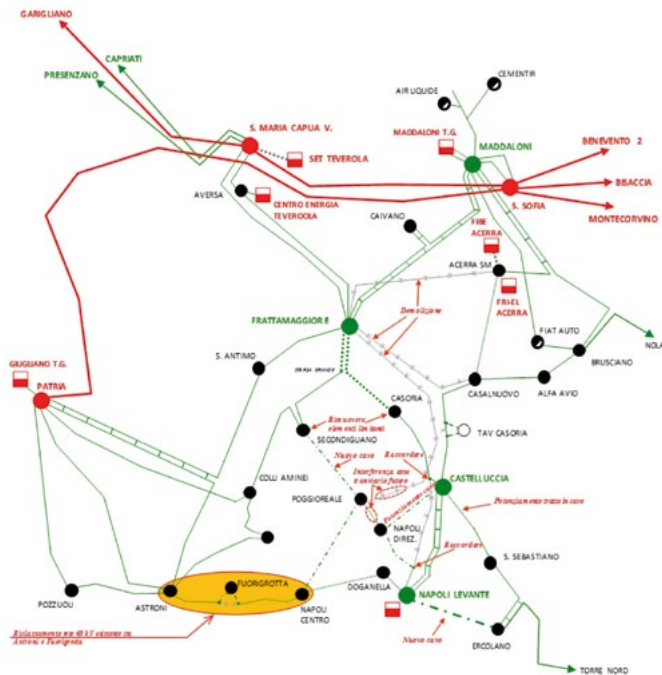
Category: Energy efficiency - Restructuring of the grid in the city of Naples

In order to improve the security of the grid in Naples and eliminate operational constraints, the Company has devised a development plan involving the construction of three new 220kV power lines, reconstruction of the “Main Naples - Caselluccia” line and the demolition of extensive sections of the “Casoria - Napoli Levante” line.

The “Central Naples” distribution substation is of strategic importance and will be involved in work designed to boost the reliability of the grid.

Thanks to the above works, we expect to be able to reduce grid losses by **17,700 MWh per year**.

DESCRIPTION OF INDICATOR	AMOUNT
Total value of the project included in the Bond at 16 July 2018 (planned amount)	10,731,274 €
Proceeds from the green bond allocated to the project at 31 December 2018 (final amount)	10,731,274 €
Reduction in grid losses	17,700 MWh



Category: Environmentally sustainable management of land use - Rationalisation of the 220/132 kV Piedmont - Lombardy grid

Following the entry into service of the HV 380 kV “Trino-Lacchiarella” line in January 2014, the Company has planned a series of measures designed to rationalise the grid in order to minimise the presence of infrastructure in the area.

Thanks to the “Trino-Lacchiarella” line, grid flexibility and security have been improved, reducing the risk of grid congestion.

In addition, the rationalisation has enabled us to **demolish 80 km of overhead lines**.

DESCRIPTION OF INDICATOR	AMOUNT
Total value of the project included in the Bond at 16 July 2018 (planned amount)	75,758,734 €
Proceeds from the green bond allocated to the project at 31 December 2018 (final amount)	75,856,428 €
Demolition of lines	80 km





Independent auditor's report on the Green Bond Report 2018

To the Board of Directors of Terna SpA

we have performed a limited assurance engagement on the Green Bond Report of Terna SpA for the year ended 31 December 2018 (hereafter the "Report"), approved by the Board of Directors convened on 20 March 2019 and prepared pursuant to the "Terna – Green Bond Framework" (hereafter the "Framework") issued by Terna SpA on 16 July 2018, respect to:

- the application of the eligibility criteria in the projects financed and refinanced by the Bond described in the Framework and the final list of projects financed and refinanced;
- the allocation of the proceeds obtained through the Bond to the projects financed by it and that the capital invested in the projects financed or refinanced is attributable to the Bond;
- the verification that sustainability indicators are prepared in accordance with the methodology defined in the Framework.

The Report, as required by the Framework, is an annex of the "Sustainability Report – Consolidated Non Financial Statement 2018" of Terna Group.

Responsibility of the Directors

The Directors are responsible for the preparation, the contents and for issuing the "Green Bond Report", pursuant the Framework that describes the criteria for eligibility, allocation of the proceeds and sustainability indicators.

The Directors are responsible for such internal control as management determines is necessary to enable the preparation of a Report that is free from material misstatement, whether due to fraud or unintentional errors.

The Directors, furthermore, are responsible for defining, implementing and maintaining systems through which the information necessary for the preparation of the Report are obtained.

Auditor's Independence and Quality Control

We are independent in accordance with the principles of ethics and independence set out in the Code of Ethics for Professional Accountants published by the International Ethics Standards Board for Accountants, which are based on the fundamental principles of integrity, objectivity, competence and professional diligence, confidentiality and professional behaviour. Our audit firm adopts International Standard on Quality Control 1 (ISQC Italy 1) and, accordingly, maintains an overall quality control system which includes processes and procedures for compliance with ethical and professional principles and with applicable laws and regulations.

PricewaterhouseCoopers SpA

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Auditor's responsibilities

We are responsible for expressing a conclusion, on the basis of the work performed, regarding the compliance of the Report with the Framework. We conducted our engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information (hereafter “ISAE 3000 Revised”), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and apply procedures in order to obtain limited assurance that the Report is free of material misstatement. The procedures performed in a limited assurance engagement are less in scope than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised and, therefore, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures performed on the Report were based on our professional judgement and consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the Report, analyses of documents, recalculations and other procedures designed to obtain evidence considered useful.

In particular, we performed the following procedures:

1. meetings with the personnel of Terna's functions that were involved in preparing the Report, in order to understand the characteristics of the financed and refinanced projects by the Bond and to evaluate the reasonableness of the process and of the internal data management procedures and information;
2. the verification of the application of the eligibility criteria to the financed and refinanced projects by the Bond as described in the Framework;
3. the verification of the traceability in the allocation of the proceeds obtained through the Bond to the projects financed or refinanced by them and the attribution to the Bond of the capital in the projects themselves;
4. the verification of collection, aggregation, processing and transmission process of data relating to the sustainability indicators included in the Report and their verification through sample tests.

Conclusions

Based on the work performed, nothing has come to our attention that causes us to believe that the Green Bond Report of Terna SpA as of 31 December 2018 has not been prepared, in all material respects, in compliance with the Framework, with reference to:

- the application of the eligibility criteria in the projects financed and refinanced by the Bond described in the Framework and the final list of projects financed and refinanced;
- the allocation of the proceeds obtained through the Bond to the projects financed by it and that the capital invested in the projects financed or refinanced is attributable to the Bond;
- the verification that sustainability indicators are prepared in accordance with the methodology defined in the Framework.



Drafting criteria, use and distribution

Without changing our conclusions, we draw attention to the Terna – Green Bond Framework where the criteria of project eligibility, allocation of proceeds and sustainability indicators are described. The Report has been prepared for the purposes illustrated in the first paragraph. As a result, the Report may not be suitable for other purposes. Our report has been prepared exclusively for the purposes indicated in the first paragraph and, therefore, we assume no responsibility towards third parties other than Terna SpA.

Rome, 11 April 2019

PricewaterhouseCoopers SpA

Signed by

Luca Bonvino
(Partner)

This report has been translated from the original, which was issued in Italian, solely for the convenience of international readers. We have not performed any verification procedures on the English translation of the Green Bond Report of Terna SpA as of 31 December 2018.

Key indicator tables

The following tables present the indicators provided for in the Global Reporting Initiative standards, together with other indicators that Terna believes it is important to publish to illustrate its performance. Certain data already included in the body of the Report are shown for the sake of completeness.

For each indicator, the tables show:

- the unit of measurement;
- the data for 2018, 2017 and 2016;
- if material, the absolute change between 2018 and 2017;
- if material, the percentage change between 2018 and 2017. This change may not match the change calculated on the basis of the figures in the table which, in general, have been rounded to one decimal place.

In general, the figures have been calculated at 31 December and refer to the full year in the case of flow indicators.

To facilitate the reader, definitions of the units of measurement used to report the indicators are defined below. Reference should also be made to the table of acronyms provided after the indicators.

KEY TO UNITS OF MEASUREMENT

#	Category
%	Percentage
€	Euro
€000	Thousands of euros
€m	Millions of euros
GJ	Gigajoule
GWh/year	Gigawatt hours per year
GWh	Gigawatt hour
hrs	Hours
kg	Kilogrammes
km	Kilometres
min.	Minutes
MW	Megawatt
no.	Number
tonnes	Tonnes
CO ₂ in tonnes	Carbon dioxide in tonnes
yrs	Years

Profile

Corporate governance⁵³

COMPOSITION OF THE BOARD OF DIRECTORS

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	Unit	2018*	2017	2016	Change 18-17	% change 18-17
Men	%	55.6	55.6	77.8	-	-
Women	%	44.4	44.4	22.2	-	-
Under the age of 30	%	-	-	-	-	-
Between the ages of 30 and 50	%	22.2	22.2	44.4	-	-
Over the age of 50	%	77.8	77.8	55.6	-	-

(*) The figures refer to the composition of the Board at 9 August 2018. The following day, the Director, Stefano Saglia, resigned. On 15 February 2019, Paolo Calcagnini was co-opted as his replacement. The figures for 20 March 2019 are the same as those shown in the table for 2018.

Shareholders

COMPOSITION OF THE SHAREHOLDER BASE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
CDP Reti S.p.A. (*)	%	29,85	29,85	29,85	-	-
Other institutional + retail investors	%	70,15	70,15	70,15	-	-
of which significant institutional investors (**)	%	5,12	5,12	5,12	-	-

(*) A subsidiary of Cassa Depositi e Prestiti S.p.A..

(**) Shareholders who, based on the available information and notifications received from the CONSOB, own interests in Terna S.p.A. that are above the notifiable threshold established by CONSOB Resolution 11971/99.

SOCIALLY RESPONSIBLE INVESTMENTS (*)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
% of share capital held by identifiable institutional investors owned by SRIs	%	13	11	10	1,6	14

(*) In addition to more traditional criteria, these investments are also based on an approach that takes into account ESG (Environmental, Social, Governance) aspects. Further details of SRIs are provided on page 30 in the section of this Report entitled "Profile".

⁵³ Further details of Terna S.p.A.'s corporate governance are provided in the "Report on Corporate Governance and Ownership Structures", published on the website (www.terna.it).

SHARE PERFORMANCE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Share price performance	%	2.3	11.3	-8.5	-9.1	-80.1
<i>Terna in stock market indexes</i>						
FTSE MIB	%	2.4	1.9	2.1	0.5	24.7

SHAREHOLDER RETURN

	Unit	2018	2017	2016	Change 18-17	% change 18-17
<i>Total Shareholder Return (TSR)</i>						
- since the IPO	%	558.8	513.9	429.5	44.9	8.7
- since the beginning of the year	%	7.3	15.9	-4.3	-8.6	-54.1

INVESTOR RELATIONS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Meetings/conference calls with investors ("buy-side")	no.	309	301	345	8	2.7
Meetings/conference calls with financial analysts ("sell-side")	no.	279	218	195	61	28.0
Meetings with specific investors and/or with space given to CSR issues	no.	23	20	16	3	15.0
Information requests from retail investors ⁽¹⁾	no.	14	12	12	2	16.7

⁽¹⁾ The figure includes requests received via e-mail.

Economic performance

GROUP FINANCIAL HIGHLIGHTS ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Revenue ⁽²⁾	€m	2,197.0	2,162.8 ⁽²⁾	2,103.2	34.2	1.6
EBITDA	€m	1,650.6	1,603.9	1,544.7	46.7	2.9
EBIT	€m	1,096.5	1,077.4	1,036.0	19.1	1.8
EBT	€m	1,007.7	988.6	933.2	19.1	1.9
Net profit	€m	706.6	688.3	595.5	18.3	2.7

⁽¹⁾ The above amounts have been taken from the Group's reclassified income statement for 2018.

⁽²⁾ In line with the basis of presentation used for 2018, and without modifying the results, revenue from International Activities in 2017 directly includes the margin earned on overseas concessions.

Value added ⁽¹⁾

MEASUREMENT AND REDISTRIBUTION OF VALUE ADDED ⁽²⁾

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

⁽¹⁾ Value added measure the value created by an enterprise, but also by an entire economy, over a certain period, usually a year. In corporate accounting terms, value added is calculated by subtracting the costs of purchasing the intermediate goods and services used in operations from the value of production (revenue attributable to the goods and services produced during the year). These costs do not include personnel expenses, which instead form part of the value added by the enterprise to the intermediate goods and services as a result of its operations. The difference between revenue generated by the sale of the final product and the cost of the raw materials (and the related support services) is the value added, which, in addition to personnel expenses, also includes any profit and the share of income used to pay the interest on debt and income tax.

⁽²⁾ Amounts relating to the creation and distribution of value added have been taken from the consolidated financial statements prepared in accordance with IFRS/IAS. In particular, the Terna Group has used IFRS/IAS since 2005.

⁽³⁾ Payments to capital providers in 2018 regard the interim dividend paid in November 2018 (€158.2 million) and the final dividend that the Board of Directors decided on 21 March 2019 to propose to shareholders at the Annual General Meeting (€310.5 million).

Responsible business management

Electricity sector operators

EU3 >

CUSTOMER ACCOUNTS REGULATED MARKET

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Interruptible users	no.	243	288	286	-45	-15.6
Distributors directly connected with the NTG	no.	51 ⁽¹⁾	27	25	24	88.9
Supply-side dispatching service users (producers and traders)	no.	135	140	135	-5	-3.6
Demand-side dispatching service users (traders and end users, including the Single Buyer)	no.	187	186	182	1	0.5

⁽¹⁾ In addition to licensed distributors, the figure also includes the Operators of Closed Distribution Systems for Internal User Networks directly connected with the NTG.

Suppliers

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NUMBER AND QUALIFICATION OF SUPPLIERS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Number of suppliers						
Number of contracted suppliers	n°	2,148	1,978	1,818	170	9
Procurement of materials and services						
Goods	€m	656	292	277	364	125
Works	€m	340	228	106	112	49
Services	€m	188	136	147	52	38
Supplier origin (% of total)						
Italian suppliers	%	92.8	96.3	95.4	4	-4
Overseas suppliers	%	7.2	3.7	4.6	4	95
Award procedures ⁽¹⁾						
European tenders	%	74.9	65.5	60.9	9	14
Non-European tenders	%	10.9	15.6	21.7	-5	-30
Fixed	%	12.0	12.1	14.2	-0	0
One-off contracts ⁽²⁾	%	2.2	6.9	3.2	-5	-68
Qualification						
Companies on list of approved suppliers	n°	414	404	392	10	3
Qualified categories	n°	45	45	44	-	-
Number of audits	n°	1,214	604	743	610	101

⁽¹⁾ Based on the percentage of the value of contract awards.

⁽²⁾ The "One-off contracts" category primarily includes: sponsorship and donations, fees paid to public entities and trade bodies and contracts awarded to previously qualified suppliers by Terna Plus.

Credit providers

DEBT

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Financial debt (1)	€m	7.899	7.796	7.976 ⁽¹⁾	103	1
Equity ⁽²⁾	€m	4.054	3.829	3.555	225	6
Debt to Equity	%	194,8	203,6	224,4	-	-

⁽¹⁾ For comparative purposes, certain amounts in the financial statements for the year ended 31 December 2016 have been restated without, however, adjusting the value of equity at 31 December 2016.

⁽²⁾ The figures for equity at 31 December 2018, 2017 and 2016 include non-controlling interests in the Tamini Group and the subsidiaries, Terna Interconnectore and Awenia (acquired on 15 February 2018).

LOANS FROM THE EUROPEAN INVESTMENT BANK (EIB)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Outstanding debt on EIB loans	€m	1,725	1,727	1.612	-3	0

Reports and complaints

IMPLEMENTATION OF THE CODE OF ETHICS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total reports received ⁽¹⁾	no.	2	1	2	-	-
<i>Areas of operation for which reports received ⁽²⁾</i>						
- Treatment of employees	no.	2	-	1	-	-
- Supplier management	no.	-	1	1	-	-
- Environment and Safety	no.	-	-	-	-	-
- Corruption/ Corporate loyalty	no.	-	-	-	-	-
- Terna's Compliance /Other	no.	-	-	1	-	-
<i>Outcome of reports</i>						
- Without grounds	no.	2	1	2	-	-
- Action taken ⁽³⁾	no.	-	-	-	-	-
- Under investigation	no.	-	-	-	-	-

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⁽¹⁾ The reports received in 2017 were sent to the Audit department. The report received in 2017 was sent to the Ethics Committee. Of the 2 reports in 2016, 1 was received by the Audit department and 1 by the Ethics Committee.

⁽²⁾ Each report or infringement may relate to any number of areas of operation.

⁽³⁾ Action may take the form of a sanction and/or another form - such as, for example, the revision of procedures, internal controls, etc. - with the aim of avoiding a repetition of the event giving rise to the report.

ENVIRONMENTAL COMPLAINTS

	Unit	2018		2017		2016		Change	% change
		RECEIVED	DEALT WITH	RECEIVED	DEALT WITH	RECEIVED	DEALT WITH	18-17	18-17
Total complaints received	no.	26	24	25	20	34	29	2	8
Environmental aspect of complaints received									
- Waste	no.	-	-	1	1	1	1	-	-
- Noise	no.	12	11	13	9	14	11	1	9
- Biodiversity	no.	-	-	-	-	-	-	-	-
- Landscape	no.	-	-	-	-	2	1	-	-
- Electrical and magnetic fields	no.	8	8	4	3	8	7	-	-
- Lighting	no.	-	-	-	-	-	-	-	-
- Vegetation management	no.	4	3	3	3	6	6	1	33
- Other	no.	2	2	4	4	3	3	-	-

Litigation**ENVIRONMENTAL LITIGATION**

	Unit	2018	2017	2016	Change	% change
					18-17	18-17
Pending	no.	85	96	96	-11	-11.5
In progress	no.	7	8	6	-1	-12.5
Settled	no.	18	8	17	10	125.0

SUPPLIER LITIGATION

	Unit	2018	2017	2016	Change	% change
					18-17	18-17
Pending	no.	29	23	22	6	26.1
In progress	no.	6	4	0	2	50.0
Settled	no.	0	3	2	-3	-100.0

CUSTOMER LITIGATION

	Unit	2018	2017	2016	Change	% change
					18-17	18-17
Pending	no.	15	15	17	0	0
In progress	no.	0	1	1	-1	-100.0
Settled	no.	0	3	0	-3	-100.0

LITIGATION WITH EMPLOYEES

	Unit	2018	2017	2016	Change	% change
					18-17	18-17
Pending	no.	11	10	12	1	10.0
In progress	no.	3	5	11	-2	-40.0
Settled	no.	2	7	2	-5	-71.4

Electricity service

Grid

ELECTRICITY SUBSTATIONS

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
380 kV						
Substations	no.	164	164	161	-	-
Power transformed	MVA	115,258	114,008	110,708	1,250	1.1
220 kV						
Substations	no.	150	150	150	-	-
Power transformed	MVA	31,417	31,317	30,837	100	0.3
Lower voltages (≤ 150 kV)						
Substations	no.	567	557	544	10	1.8
Power transformed	MVA	3,914	3,890	3,911	24	0.6
TOTAL						
Substations	no.	881	871	855	10	1.1
Power transformed	MVA	150,589	149,215	145,456	1,374	0.9

POWER LINES (*)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
380 kV						
Length of circuits	km	12,496	12,487	12,314	9	0.1
Length of lines	km	11,315	11,305	11,238	10	0.1
220 kV						
Length of circuits	km	11,915	11,915	11,698	0	0
Length of lines	km	9,549	9,549	9,363	0	0
Lower voltages (≤ 150 kV)						
Length of circuits	km	50,031	50,123	48,832	-92	-0.2
Length of lines	km	46,806	46,852	45,765	-46	-0.1
TOTAL						
Length of circuits	km	74,442	74,525	72,844	-83	-0.1
underground cables	km	1,945	1,880	1,804	65	3.5
submarine cables	km	1,454	1,463	1,422	-9	-0.6
200, 400 and 500 kV direct current	km	2,077	2,077	2,066	0	0
Length of lines	km	67,671	67,706	66,366	-35	-0.1
underground cables	km	1,945	1,880	1,804	65	3.5
submarine cables	km	1,454	1,463	1,422	-9	-0.6
200, 400 and 500 kV direct current	km	1,757	1,757	1,746	0	-

(*) The figures for 2017 are different from those previously published following the emergence of more up-to-date figures.

Quality of service

GRID EFFICIENCY

	Unit	2018	2017 ⁽¹⁾	2016	Change 18-17	% change 18-17
Power supplied	GWh/yr	321,910	320,458	314,261	1,452	0.5

⁽¹⁾ The figure for 2017 has been recalculated with the final data for that year and is, therefore, different from the figure shown in the 2017 Sustainability Report. The figure for power supplied in 2018 is provisional.

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TECHNICAL QUALITY

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
<i>Service continuity indicators</i>						
ASA (Average Service Availability) ⁽¹⁾	%	n/a	99.99974	99.99973	n/a	n/a
SAIFI + MAIFI (System Average Interruption Frequency Index) Terna ⁽²⁾	no.	n/a	0,26	0,22	n/a	n/a
SAIFI + MAIFI (System Average Interruption Frequency Index) Terna Rete Italia ⁽²⁾	no.	n/a	n.d	n.d.	n/a	n/a
AIT (Average Interruption Time) Terna ⁽³⁾	min.	n/a	1.36	1.41	n/a	n/a
AIT (Average Interruption Time) Terna Rete Italia ⁽³⁾	min.	n/a	n.d	n/a	n/a	n/a
RENS (Regulated Energy Not Supplied) Terna ⁽⁴⁾	MWh	n/a	855	399	n/a	n/a
RENS (Regulated Energy Not Supplied) Terna Rete Italia ⁽⁴⁾	MWh	n/a	n.d	n/a	n/a	n/a

⁽¹⁾ ASA measures the availability of the NTG. It is calculated as the ratio of the sum of energy not supplied to users connected to the NTG (ENS) and the energy fed into the grid. At the date of preparation of this document, the figures for 2018 are not yet final and have not been approved by the regulator (ARERA).

⁽²⁾ The number of short and long outages. It is calculated as the ratio of the number of users connected directly to the NTG involved in the outages and the number of users of the NTG. At the date of preparation of this Report, the figures for 2018 are not yet available.

⁽³⁾ The average duration of electricity system (NTG) outages in a year. It is calculated as the ratio of the energy not supplied in a certain period (ENS) and the average power absorbed by the electricity system in the period in question. The figures for 2018 are not yet available at the time of publication of this Report.

⁽⁴⁾ The indicator also includes energy not supplied to directly connected users due to events on other grids not forming part of the NTG and a share of the energy not supplied due to events of force majeure or major incidents (a "major incident" is any outage where the energy not supplied exceeds 250 MWh). The share included in the RENS indicator is a percentage that declines as the amount of energy not supplied in the individual major increases. The lower the indicator, the better the service performance. The final figure for RENS for 2018, to be provided by the regulator (ARERA), is not yet available at the time of publication. The RENS indicator for 2017 is provisional whilst awaiting confirmation of the related amount by ARERA.

People

Size and composition of the workforce

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WORKFORCE TRENDS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total employees	no.	3,843	3,508	3,468	335	9.5
Employees recruited during the year	no.	420	243	186	177	72.8
Employees leaving during the year	no.	85	203	51	-118	-58.1
- men	no.	76	187	45	-111	-59.4
- women	no.	9	16	6	-7	-43.8
- below the age of 30	no.	16	6	11	10	166.7
- between the ages of 30 and 50	no.	16	14	11	2	14.3
- over the age of 50	no.	53	183	29	-130	-71.0
Turnover rate ⁽¹⁾						
TOTAL	%	2.4	5.9	1.5	-3	-58.6
- men	%	2.2	5.4	1.4	-3	-59.8
- women	%	0.3	0.5	0.2	0	-44.4
- below the age of 30	%	0.5	0.2	0.3	0	163.6
- between the ages of 30 and 50	%	0.5	0.4	0.3	0	13.0
- over the age of 50	%	1.5	5.3	0.9	-4	-71.4

⁽¹⁾ The turnover rate shows the ratio of employees leaving the Company to the number of employees at 31 December of the previous year.

COMPOSITION OF THE WORKFORCE

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total employees	no.	3,843	3,508	3,468	335	9.5
By type of contract						
- permanent	no.	3,842	3,508	3,466	334	9.5
- fixed-term	no.	1	0	2	1	-
By type of employment						
- full-time	no.	3,822	3,478	3,440	344	9.9
- part-time	no.	21	30	28	-9	-30.0
By gender						
- men	no.	3,326	3,076	3,062	250	8.1
- women	no.	517	432	406	85	19.7
By age						
- below the age of 30	no.	885	706	622	179	25.4
- between the ages of 30 and 50	no.	1,681	1,553	1,539	128	8.2
- over the age of 50	no.	1,277	1,249	1,307	28	2.2
Average age of employees and years of service						
Average age	yrs	41.79	42.58	43.5	-	-
Average years of service ⁽¹⁾	yrs	15.3	16.4	17.5	-	-

⁽¹⁾ In the case of employees joining Terna as a result of the acquisition of a business unit, the average for years of service takes into account previous employment.

COMPOSITION OF THE WORKFORCE BY CATEGORY

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total	no.	3,843	3,508	3,468	335	9.5
Senior managers	no.	57	61	64	-4	-6.6
Middle managers	no.	614	550	549	64	11.6
Office staff	no.	2,124	1,873	1,830	251	13.4
Blue-collar workers	no.	1,048	1,024	1,025	24	2.3

COMPOSITION OF THE WORKFORCE BY TYPE OF QUALIFICATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
University degree	%	32.5	28.6	26.1	4	13.7
High-school diploma	%	51.2	53.1	52.3	-2	-3.6
Vocational qualification	%	10.9	11.9	13.4	-1	-8.5
Elementary/Middle school	%	5.5	6.5	8.2	-1	-15.5

Personnel development

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TRAINING

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Average hours of training						
- per employee ⁽¹⁾	hrs	55	50	61	5	10
By category ⁽²⁾						
- senior managers	hrs	29	17	31	12	71
- middle managers	hrs	32	36	49	-5	-11
- office staff	hrs	59	43	48	16	37
- blue-collar workers	hrs	64	73	90	-9	-12
By gender ⁽³⁾						
- men	hrs	53	50	61	3	6
- women	hrs	47	32	31	15	47
Proportion of employees involved ⁽⁴⁾	%	100	100	99	0	
<i>Hours provided</i>						
Total	hrs	203,556	178,856	203,066	24,700	14
- hours led by internal trainers	hrs	140,509	106,900	132,126	33,609	31
<i>Hours of training by type of course</i>						
- education	hrs	15,199	9,273	5,214	5,926	64
- context and Business Model	hrs	58,782	41,588	42,150	17,194	41
- training	hrs	129,575	127,995	155,703	1,580	1
<i>Participants in courses on 231 Model</i>	no.	1,795	2,102	423	-307	-15

⁽¹⁾ Ratio of total hours of training to the average number of employees.

⁽²⁾ Ratio of total hours of training by category to the average number of employees by category.

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

⁽⁴⁾ Percentage of employees who have attended at least one training course during the year.

REMUNERATION

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Average cost per employee ⁽¹⁾	€	80,475	79,733	78,271	741	1
Senior managers included in Long-Term Incentive (LTI) plan ⁽²⁾	no.	72	65	50	7	11
Variable pay as a percentage of fixed pay ⁽³⁾	%	11	11	12	0	-1
MBO	no.	315	212	210	103	49

⁽¹⁾ The term "employee" refers to each employee of the Company including senior managers.

⁽²⁾ The figures for 2018 and 2017 include both senior managers and middle managers involved in the programme.

⁽³⁾ The amounts regard the incentives paid to all employees, including senior managers, and exclude fringe benefits.

ORGANISATIONAL CLIMATE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total summary dismissals	no.	34	17	20	17	100
Absences per employee ⁽¹⁾	hrs	53	47,5	52,1	5	12
Absentee rate ⁽²⁾		6,937.4	6,239.9	6,831.4	698	11

⁽¹⁾ This refers to non-contractual forms of absence (illness, injury, leave, strikes, unpaid leave) during the year.

⁽²⁾ This refers to the number of days of absence due to illness, strikes, injury and leave out of the number of days worked during the same period, multiplied by 200,000. To aid comparison with other sources, this indicator has also been calculated as a percentage of days worked. Under this method of calculation, the absentee rate is 3.5 in 2018, 3.1 in 2017 and 3.4 in 2016. The causes of absence taken into account do not include maternity leave, marriage leave, study leave, trade union activities, other forms of paid leave and suspensions.

AVERAGE YEARS OF SERVICE OF EMPLOYEES LEAVING THE COMPANY ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total leavers	yrs	23.3	32.5	23.1	-9.3	-0.3
Men	yrs	24.8	34.1	24.5	-7.5	-0.4
Women	yrs	13.7	21.1	12.3	0.1	0.2
Below the age of 30	yrs	0.6	0.5	0.9	1.2	0.2
Between the ages of 30 and 50	yrs	6.9	5.8	4.7	-0.6	0.0
Over the age of 50	yrs	35.7	36.2	38.4	-9.3	-0.3

⁽¹⁾ In the case of employees joining Terna as a result of the acquisition of a business unit, the average for years of service takes into account previous employment.

Employee engagement

UNIONISATION OF EMPLOYEES

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Unionisation rate	%	46.1	49.9	50.2	-3.8	-8

UNION AGREEMENTS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Union agreements signed during the year	no.	9	14	27	-5.0	-36

FLEXIBLE EMPLOYMENT CONTRACTS AND TERMS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Interns and apprentices working at Terna	no.	29	33	33	-4.0	-12
Incidence of part-time contracts	%	0.5	0.9	0.8	-0.3	-36
Incidence of overtime	%	9.6	8.8	8.1	0.8	9

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EMPLOYEES OF CONTRACTORS AND SUBCONTRACTORS ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Days worked	no.	559,247	561,348	516,348	-2,101	-0.4
Full-time equivalents (FTEs)	no.	2,542	2,552	2,347	-10,0	-0.4

⁽¹⁾ The figures take into account the duration of contracts and the variable nature of the related workforce, and relate to the different types of contract awarded by Terna, ranging from major works to those for the cutting back of vegetation located under power lines. The number of days worked and FTEs are estimated on the basis of the average daily attendances at the largest sites and the value of the works contracted out at smaller sites. Further information about the types of contract used by contractors is not available. The figures for 2017 and 2016 differ from the published in previous reports as the method of estimation has changed.

Health and safety

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OCCUPATION INJURIES SUFFERED BY EMPLOYEES - GRI-ILO DEFINITIONS ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Injury rate		1.28	0.81	1.00	0.5	59
Lost day rate ⁽¹⁾		34.40	27.62	31.28	6.8	25
Occupational disease rate ⁽²⁾		0	0	0	-	-
Number of injuries	no.	40	24	28	16	67
- of which serious, where the initial prognosis is more than 40 days	no.	0	1	0	-1	-100
- of which fatal	no.	0	0	0	-	-

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

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

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

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

⁽²⁾ As in previous years, there were no cases of occupational disease among Terna's employees in 2018. Terna's operations do not entail the types of work, as defined by law, associated with the potential occurrence of occupational diseases. Terna's occupational disease rate therefore remains at zero.

OCCUPATION INJURIES SUFFERED BY EMPLOYEES - BY GENDER

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Number of injuries	no.	40	24	28	16.0	67
- of whom men	no.	39	23	27	16.0	70
- of whom women	no.	1	1	1	0.0	
Injury rate - male employees		1.42	0.87	1.07	0.55	63
Injury rate - female employees		0.28	0.32	0.35	-0.04	-13
Lost day rate - male employees		38.87	26.05	31.15	12.82	49
Lost day rate - female employees		0.28	40.99	32.81	-40.71	-99

AUDITS AND INSPECTIONS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Periodic health inspections	no.	2,959	2,968	2,882	-9	
Medical examinations by appointed doctor	no.	233	255	248	-22	-9
Inspections and audits ⁽¹⁾	no.	72	66	72	6	9

⁽¹⁾ Audits conducted by personnel responsible for Prevention and Protection and by managers responsible for Transmission Operations.

HOURS OF OCCUPATIONAL HEALTH AND SAFETY TRAINING

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total	hrs	44,105	43,658	48,692	447	1.0
Senior managers	hrs	106	-	70	106	-
Middle managers	hrs	2,466	2,156	2,046	310	15
Office staff	hrs	16,331	14,737	15,251	1,594	11
Blue-collar workers	hrs	25,202	26,765	31,325	-1,563	-6

OCCUPATION INJURIES SUFFERED BY EMPLOYEES OF CONTRACTORS AND SUBCONTRACTORS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Occupational injuries suffered by contractors' employees	no.	21	9	8	12	133
- of which serious	no.	2	1	0	1	100
- of which fatal	no.	1	0	0	1	-
Injury rate ⁽¹⁾		0.99	0.42	0.41	-	-

⁽¹⁾ The number of injuries resulting in the loss of at least one day divided by the number of hours worked during the year, multiplied by 200,000 (corresponding to 50 working weeks x 40 hours x 100 employees). To aid comparison with other sources, this indicator has also been calculated using a multiplication factor of 1,000,000 instead of 200,000 (thereby resulting in an injury rate 5 times the ILO injury rate). Based on this method of calculation, the injury rate is **4.9 in 2018, 2.1 in 2017 and 2.0 in 2016**. The figures for 2017 and 2016 differ from those published in previous reports as the method of estimation has changed. In addition to the information provided in the table, for the sake of completeness it should be noted that, in 2017, a contractor's employee was taken ill. The resulting fatality, even though occurring during working hours, was due to natural rather than occupational safety causes.

Equal opportunities

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EQUAL OPPORTUNITIES FOR MEN AND WOMEN

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Women out of total employees						
- women out of total	%	13.45	12.3	11.7	1.1	9
- women out of total, net of operating personnel	%	18.5	17.4	16.6	1.1	6
- women in senior management roles out of total senior managers	%	14.04	16.4	15.6	-2.4	-14
- women in senior and middle management roles out of total senior and middle managers	%	19.7	17.5	17.3	2.2	12
% growth in employment						
- annual change: women	%	19.68	6.2	3.6	13.5	220
- annual change: men	%	8.13	0.5	4.1	7.6	1.559
Leavers ⁽¹⁾						
- women leaving the Company	%	2.08	3.9	1.5	-1.9	-47
- men leaving the Company	%	2.47	6.1	1.5	-3.6	-60
Hires ⁽¹⁾						
- women joining the Company	%	21.76	10.1	5.1	11.7	116
- men joining the Company	%	10.6	6.6	5.6	4.0	61
Management positions						
- senior female managers out of total women	%	1.55	2.3	2.5	-0.8	-33
- senior male managers out of total men (excluding blue-collar workers)	%	2.15	2.5	2.7	-0.3	-14
Promotions ⁽²⁾						
- promotions to middle management as % of previous category - women	%	5.85	0.0	0.7	5.9	-
- promotions to middle management as % of previous category - men	%	12.46	1.2	3.2	11.3	959
Pay gap between women and men ⁽³⁾						
- senior managers	%	78.9	79.4	70.6	-	-
- middle managers	%	93.9	96.6	96.4	-2.73	-3
- office staff	%	97.7	97.3	97.7	0.41	-
% pay gap between women and men ⁽⁴⁾						
- senior managers	%	74.3	72.1	67.3	2.21	3
- middle managers	%	95.0	99.0	98.3	-4.07	-4
- office staff	%	93.6	94.0	94	-0.47	-1

⁽¹⁾ The percentage of leavers (hires) for women and men shows the ratio of employees by gender leaving (hired by) the Company during the period to the total number of employees by gender at 31 December of the previous year.

⁽²⁾ The figure is based on the ratio of promotions to middle manager during the year to the number of personnel categorised as office staff in the previous year, calculated by category (men/women). Promotions of blue-collar workers to an administrative position or of middle managers to senior management are not taken into account as the numbers are immaterial on an annual basis.

⁽³⁾ The figure is based on the annual basic pay of women in the different categories as a percentage of the annual basic pay of men in the same categories. The figure has not been calculated for blue-collar workers as there are no women in this category.

⁽⁴⁾ The figure is based on the total annual pay of women in the different categories as a percentage of the total annual pay of men in the same categories. In addition to basic pay, total pay also includes productivity bonuses, various forms of incentive and the value of benefits received during the year.

Environment

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Waste

WASTE MANAGEMENT ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
WASTE PRODUCED	tonnes	6,774.2	4,801.5	4,941.6	1,972.8	41
WASTE RECOVERED	%	86	87	93	-2	-2
<i>Non-hazardous special waste</i>						
<i>Machinery, equipment, pylons, conductors and cables</i>						
- quantity produced	tonnes	2,073.0	1,818.6	2,526.8	254.4	14
- quantity sent for recovery	tonnes	2,136.0	1,764.9	2,509.6	371.2	21
<i>Packaging</i>						
- quantity produced	tonnes	365.2	356.4	317.7	8.7	3
- quantity sent for recovery	tonnes	365.4	354.3	321.2	11.2	3
<i>Other</i>						
- quantity produced	tonnes	847.9	375.8	254.6	472.1	126
- quantity sent for recovery	tonnes	357.6	236.9	190.0	120.7	51
TOTAL NON-HAZARDOUS SPECIAL WASTE						
- quantity produced	tonnes	3,290.0	2,550.8	3,099.1	739.2	29
- quantity sent for recovery	tonnes	2,863.1	2,356.0	3,020.8	507.0	22
<i>Hazardous special waste</i>						
<i>Machinery, equipment, pylons, conductors and cables</i>						
- quantity produced	tonnes	2,014.9	1,608.6	1,044.4	406.4	25
- quantity sent for recovery	tonnes	2,024.1	1,351.2	1,028.4	672.9	50
<i>Oils</i>						
- quantity produced	tonnes	1,347.0	534.4	558.3	812.6	152.1
- quantity sent for recovery	tonnes	803.0	396.3	474.5	406.6	103
<i>Lead batteries</i>						
- quantity produced	tonnes	37.2	36.8	28.6	0.4	1
- quantity sent for recovery	tonnes	36.5	36.8	28.6	-0.3	-0.8
<i>Waste consisting of materials containing asbestos</i>						
- quantity produced	tonnes	0.0	0.0	0.0	0.0	-
<i>Other</i>						
- quantity produced	tonnes	85.1	70.9	211.2	14.2	20
- quantity sent for recovery	tonnes	72.5	47.8	29.1	24.7	52
TOTAL HAZARDOUS SPECIAL WASTE						
- quantity produced	tonnes	3,484.2	2,250.6	1,842.5	1,233.6	55
- quantity sent for recovery	tonnes	2,936.1	1,832.1	1,560.7	1,104.0	60

⁽¹⁾ Only special waste produced during production processes is included, not waste produced by services (urban waste). Effluents and waste from septic tanks, produced by substations not connected to the sewer network, are not included; the quantity for effluents and waste from septic tanks was 388 tonnes in 2018, 617 tonnes in 2017, 789 tonnes in 2016. Waste sent for disposal may differ from the mere disparity between waste generated and recovered due to temporary waste storage.

Biodiversity

BIRD DETERRENTS ON THE NTG

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Lines involved	km	237.6	221.8 ⁽¹⁾	212	15.8	7
Total deterrents installed	no.	15,503	14,728	14,472	775	5.3

⁽¹⁾ The figure for the length of lines concerned in 2017 was recalculated after additional evidence emerged after publication.

OVERHEAD POWER LINES IN PROTECTED AREAS ⁽¹⁾

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Lines impacting on protected areas	km	6,138	6,024	5,512	114	2
Lines with an impact as a percentage of total lines operated by Terna	%	10	10	10	-	-

⁽¹⁾ To calculate the percentage of lines impacting on protected areas, the Company has used "ATLARETE" data, which may contain differences compared with the data presented in the tables showing indicators of the number of lines.

Quantities and emissions

TOTAL DIRECT AND INDIRECT GREENHOUSE GAS EMISSIONS ⁽¹⁾

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Leakages of SF ₆	CO ₂ in tonnes	54,846.1	67,371.4	54,101.9	-12,525.3	-18.6
Leakages of refrigerant gases (R22, R407C, R410A)	CO ₂ in tonnes	427.9	489.4	478.5	-61.5	-12.6
Petrol for motor vehicles	CO ₂ in tonnes	36.8	39.9	37.7	-3.1	-7.8
Diesel for motor vehicles	CO ₂ in tonnes	6,295.0	6,269.0	5,730.6	26.0	0.4
Jet fuel for helicopters	CO ₂ in tonnes	605.6	582.2	499.5	23.4	4.0
Natural gas for heating	CO ₂ in tonnes	316.0	419.9	458.8	-103.9	-24.7
Fuel oil for heating and generators	CO ₂ in tonnes	471.8	621.3	684.6	-149.5	-24.1
TOTAL DIRECT EMISSIONS	CO₂ in tonnes	62,999.2	75,792.9	61,991.7	-12,793.7	-16.9
<i>Indirect CO₂ emissions in tonnes</i>						
Electricity	CO ₂ in tonnes	64,050.5	72,489.3	74,715.5	-8,438.8	-11.6

⁽¹⁾ The conversion of direct energy consumption and leakages of SF₆ (sulphur hexafluoride) and refrigerant gases into CO₂ equivalent emissions has been carried out using the parameters indicated in the IPCC Fifth Assessment Report (AR5) and the Greenhouse Gas Protocol (GHG) Initiative. The conversion of indirect electricity consumption is carried out taking into account the share of total Italian electricity production represented by thermoelectric production in 2018. Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.

QUANTITIES AND EMISSIONS OF SF₆

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Quantity of SF ₆	kg	619,167.2	610,939.6	588,113.3	8,227.6	1
- in operating equipment	kg	575,912.7	565,664.1	543,780.8	10,248.6	2
- in cylinders	kg	43,254.5	45,275.5	44,332.5	-2,021.0	-5
SF ₆ leakage rate	%	0.38	0.47	0.39	-0.09	-20
SF ₆ greenhouse gas emissions	kg	2,333.9	2,866.9	2,302.2	-533.0	-19

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CARBON INTENSITY - TONNES OF EQUIVALENT CO₂ / REVENUE (€M)

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Ratio of total emissions (direct and indirect) to revenue	CO ₂ in tonnes / (€m)	57.8	66.0	65.0	-	-

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REFRIGERANT GASES - QUANTITIES AND EMISSIONS

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Quantity of R22	kg	39	59	73	-20	-34
Leakages of R22	kg	0	0	0	0	-
Quantity of R407C	kg	2,821.9	2,770.3	2,846.4	52	2
Leakages of R407C	kg	173	174	205	-1	-1
Quantity of R410A	kg	9,526.6	8,612.8	7,869.7	914	11
Leakages of R410A	kg	76	107	76	-31	-29
Quantity of other refrigerant gases	kg	1,354.6	1,715.1	1,687.7	-360	-21

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INDIRECT CO₂ EMISSIONS FOR AIR TRAVEL BY EMPLOYEES ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total emissions	CO ₂ in tonnes	1,560	2,699	1,379	-1,139	-42

⁽¹⁾ The conversion factors indicated in the Greenhouse Gas Protocol Initiative were used to quantify the CO₂ resulting from air travel by employees. The reduction in 2018 is partly linked to implementation of the Group's policies encouraging use of the train for business trips.

QUANTITIES AND EMISSIONS FOR MOTOR VEHICLES ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Total motor vehicles	no.	1,436	1,344	1,323	92	6.85
Nitrogen oxide (NOx) emissions ⁽²⁾	kg	7,594	7,631	8,260	-37	-0.49

⁽¹⁾ The table shows the vehicles in Terna's fleet that, in the period in question, were refuelled on at least one occasion, based on claims for fuel expenses. Consumption data for fleet vehicles is shown in the following tables.

⁽²⁾ The figure is calculated on the basis of the data provided by motor manufacturers and included in registration certificates, as well as on estimates of the mileage covered by the vehicles. The figure shown in the table for 2018 refers to **83.0% of the Company's operating vehicles** (85.3% in 2017 and 85.4% in 2016).

Consumption

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DIRECT AND INDIRECT ENERGY CONSUMPTION BY PRIMARY SOURCE

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Petrol for motor vehicles ⁽¹⁾	tonnes	11.9	12.9	12.2	-1.0	-8
Diesel for motor vehicles ⁽¹⁾	tonnes	1,963.0	1,954.9	1,787.0	8.1	0.4
Jet fuel for helicopters	tonnes	190.0	183.8	157.7	6.2	3
Natural gas for heating	000's of m ³	144.5	187.3	204.6	-42.7	-23
Fuel oil for generators and heating	tonnes	147.1	193.7	213.5	-46.6	-24
Electricity	GWh	190.2	195.5	195.1	-5.3	-3

⁽¹⁾ Only the consumption of operating vehicles is taken into account.

DIRECT AND INDIRECT ENERGY CONSUMPTION BY PRIMARY SOURCE - GIGAJOULES

	Unit	2018	2017	2016	Change 18-17	% change 18-17
Petrol for motor vehicles ⁽¹⁾	GJ	532	577	545	-45	-8
Diesel for motor vehicles ⁽¹⁾	GJ	85,057	84,705	77,431	352	0
Jet fuel for helicopters	GJ	8,470	8,194	7,031	277	3
Natural gas for heating	GJ	5,636	7,490	8,184	-1,854	-25
Fuel oil for generators and heating	GJ	6,375	8,394	9,250	-2,019	-24
TOTAL DIRECT CONSUMPTION	GJ	106,070	109,359	102,440	-3,289	-3
Electricity to substations and offices ⁽²⁾	GJ	684,672	703,738	702,287	-19,065	-3

⁽¹⁾ Only the consumption of operating vehicles is taken into account.

⁽²⁾ Allocation for the purposes of the production mix was based on the December 2018 issue of the "Monthly Report on the Electricity System", available on the website at www.terna.it.

WATER CONSUMPTION

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Water withdrawn by source	m ³	179,722	171,074	162,272	8,647	5

PAPER CONSUMPTION

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	Unit	2018	2017	2016	Change 18-17	% change 18-17
Certified paper (100% recycled)	tonnes	61	50	60	10	21

CONCENTRATION OF PCBs

	Unit	2018	2017	2016	Change 18-17	% change 18-17
PCB > 500 ppm	tonnes	0	0	0	-	-
50 ppm < PCB < 500 ppm	tonnes	0.05	0.05	0.18	-	-

Environmental costs

ENVIRONMENTAL COSTS - CAPITAL INVESTMENT AND OPERATING COSTS ⁽¹⁾

	Unit	2018	2017	2016	Change 18-17	% change 18-17
CAPITAL EXPENDITURE						
Environmental offsets	€m	7.1	7.9	14.7	-0.8	-10
Environmental impact studies	€m	3.5	4.2	2.4	-0.7	-17
Environmental activities - new plant	€m	3.9	4.8	4.3	-0.9	-19
Environmental activities - existing plant	€m	2.9	3.6	7.5	-0.7	-19
Demolitions	€m	2.2	0.8	0.9	1.4	175
Total capital expenditure	€m	19.6	21.2	29.8	-1.6	-8
COSTS						
Cost of environmental activities	€m	23.8	24.1	19.1	-0.3	-1
Total operating costs	€m	23.8	24.1	19.1	-0.3	-1

⁽¹⁾ Details of the accounting method used are provided on page 190.